

Connect Arkansas

State Broadband Data and Development Grant Program

Abstract

Connect Arkansas (CA) will fulfill the requirements of the State Broadband Data and Development Grant Program through partnerships with broadband providers, public institutions and private businesses specializing in data collection. These partnerships with state and private vendors will be paired with subscriber data from broadband providers to determine which address ranges and census blocks currently have access to broadband. Relationships with broadband providers built through previous work by CA will be leveraged to obtain information regarding mobile and fixed wireless coverage areas. Additionally, CA will partner with state and local government agencies to determine the locations of all community anchor institutions across the state.

Verification of broadband data will be accomplished through the use of third party, verifiable data pertaining to broadband usage in Arkansas. A separate form of verification will be completed by executing several rounds of survey gathering pertaining to broadband usage. Broadband provider infrastructure data in census blocks larger than two square miles will also be crucial to the data verification process. This infrastructure data will be used to more accurately determine which address ranges currently have access to broadband services.

Connect Arkansas will improve accessibility of the collected broadband service data to the public through a web-based, searchable mapping application similar to Google maps. This application will allow the user to input their address and determine, based on data gathered from providers, if they have access to broadband and which provider(s) currently operate in their area. Several layers of selected, non-proprietary data will also be included for greater ease of use and to streamline the decision making process

Confidentiality of provider data will be maintained at all times according to the guidelines put forth by NTIA in the State Broadband Data and Development Grant Program.

Arkansas State Broadband Data & Delivery Program Narrative

1. EXECUTIVE SUMMARY

Connect Arkansas (CA) respectfully submits a grant request of \$3.8 million dollars for broadband mapping in Arkansas and a grant request of \$500,000 dollars for broadband planning activities within unserved and underserved counties in Arkansas through the Broadband Data and Development NOFA as part of the American Recovery and Reinvestment Act of 2009. These monies will go toward a \$4,023,864 five year budget for broadband mapping and a \$617,958 two-year budget for broadband planning activities. Connect Arkansas has secured \$885,000 (\$760,000 for mapping and \$125,000 for planning) that is the equivalent of a 20% match on the submitted budget through this proposal. Connect Arkansas will raise through public and private support the \$223,864 balance of the mapping budget (\$4,023,864 five year mapping budget minus \$3.8 million grant from NTIA).

Arkansas began to recognize the importance of Broadband Deployment and Usage early in the millennia. In 2005, the state convened the Arkansas Broadband Initiative comprised of public, private and academic sector leaders to discuss this subject and develop policy. It was necessary to develop a "Broadband Coverage Map" to survey and assess the supply of broadband access. Initially, it was thought that a state agency could pull this information together, however the service providers were reluctant to turn over their service areas to an entity that might be subject to Freedom of Information requests. Dr. John Ahlen, President of the Arkansas Science and Technology Authority, approached Arkansas Capital Corporation (ACC) and asked whether it would be willing to establish "Connect Arkansas" for the purposes of developing a broadband coverage map and to coordinate expanded broadband coverage and adoption efforts in Arkansas. ACC is a private, non-profit company with a 52-year history of collaborating with the public and academic sectors and is respected by all groups. ACC agreed and in 2007 the Arkansas legislature passed Act 604 in which ACC was given permissive language to form Connect Arkansas. From the fall of 2007 to summer of 2009, Connect Arkansas: 1) filed for 501(c)(3) nonprofit status as an entity addressing broadband accessibility mapping and public education on the use and viability of utilizing high speed internet for all aspects of life both in rural and urban locations; 2) created a Board of Directors comprised of public, private and academic sector leaders; 3) inventoried and established relationships with service providers throughout Arkansas to collect coverage data from them; 4) developed coverage and speed maps for Arkansas, available for public viewing at connect-arkansas.org; 5) researched national best practices and developed a pilot e-community program to work directly with counties to help them develop an IT strategy specific to driving broadband coverage – this program has been implemented in four (4) counties (Desha, Faulkner, Woodruff and Columbia); 6) surveyed broadband usage patterns; and 7) provided information and research to Governor Mike Beebe's Arkansas Broadband Advisory Council, legislative testimony to state House and Senate committees, and the university led Cyber-Infrastructure council. Arkansas Governor Mike Beebe has named Connect Arkansas as the states designated broadband mapping entity.

The requested funding from the State Broadband Development and Grant Program will allow Connect Arkansas to further develop its maps. While the CA mapping efforts to date are as detailed as any one will find in the nation, Connect Arkansas will build upon lessons learned and

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expand the information it already has acquired from service providers to show information at a more granular level. Connect Arkansas maps have been used by state leaders already to help discussions regarding Telemedicine, Economic Development and expanded public access through libraries. Specifically, CA will collect and provide NTIA:

- Coverage data for facilities-based broadband providers on a census block level for the 134,664 census blocks in Arkansas that are two square miles or less in size;
- Coverage data for facilities-based broadband providers listing street segments with address ranges in the remaining 5,515 census blocks in Arkansas;
- For facilities-based providers of wireless broadband service that is not address specific, develop GIS-compatible map layers (shapefiles) depicting areas in which broadband service is available to end users;
- Weighted Average Speeds;
- Middle-Mile and Backbone Interconnection Points;
- Community Anchor Points;
- All other data required through the NOFA (spectrum, upload and download speeds, etc.)

Further, CA has begun the process, working with broadband providers, to develop a web-based, encrypted update system for service providers to utilize going forward for updates to required information.

Connect Arkansas's website currently provides the public with its coverage and speed maps. It also allows the user to conduct a speed test, which in turn allows CA to use their location and speed to verify provider data. It allows a user to input an address where they do not have access and they would like to have it in their area. Additional funding will enable CA to enhance its current website to allow the public to have a more interactive experience when viewing coverage maps. The ability to view maps at a granular/rooftop level or at a statewide level, and the ability for the user to select various layers of data to overlay and review are two main features CA will make available. CA will also create a information database for the public to utilize to determine which service providers operate at a specific address. Contact information for each service provider, links to their website and an opportunity for consumers to comment on the quality of service from each provider will be just some of the options. This component will empower any potential broadband consumer to view all options in their respective market and will encourage and enhance competition. The website will also host a forum/blog which will allow people to share online experiences with others and to comment on service in their area.

Connect Arkansas will also take the additional step of working with one of its partners to develop mathematically-based predictive models of why people are, or are not, online. Utilizing the levels of data gathered through service providers and its work with the general public, CA will start to develop models of how much broadband adoption there "should" be in a particular area based on predictive math models accounting for such factors as income level, age, education, family make-up, computer ownership, etc. This will assist CA, industry and public leaders in making decisions going forward regarding investment, subsidies, etc.

In addition to the Arkansas Broadband Data & Delivery Program, Connect Arkansas is requesting \$500,000 to engage in collaborative planning processes as identified in the "iDelta" Delta Regional Authority Report that will allow unserved and underserved counties to address

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broadband access issues. In many cases, the unserved and underserved counties in Arkansas also correlate to being economically depressed delta regions or sparsely populated counties. The eCommunity strategic planning process will give each county an opportunity to identify the resources they have, identify the resources they need and create a plan on how to build the demand for and access to broadband internet opportunities. CA has identified nine of the most distressed counties in the Delta Regional Authority as targets for these funds as it is an opportunity for people in these communities to improve and enhance their lives as recommended in the iDelta report.

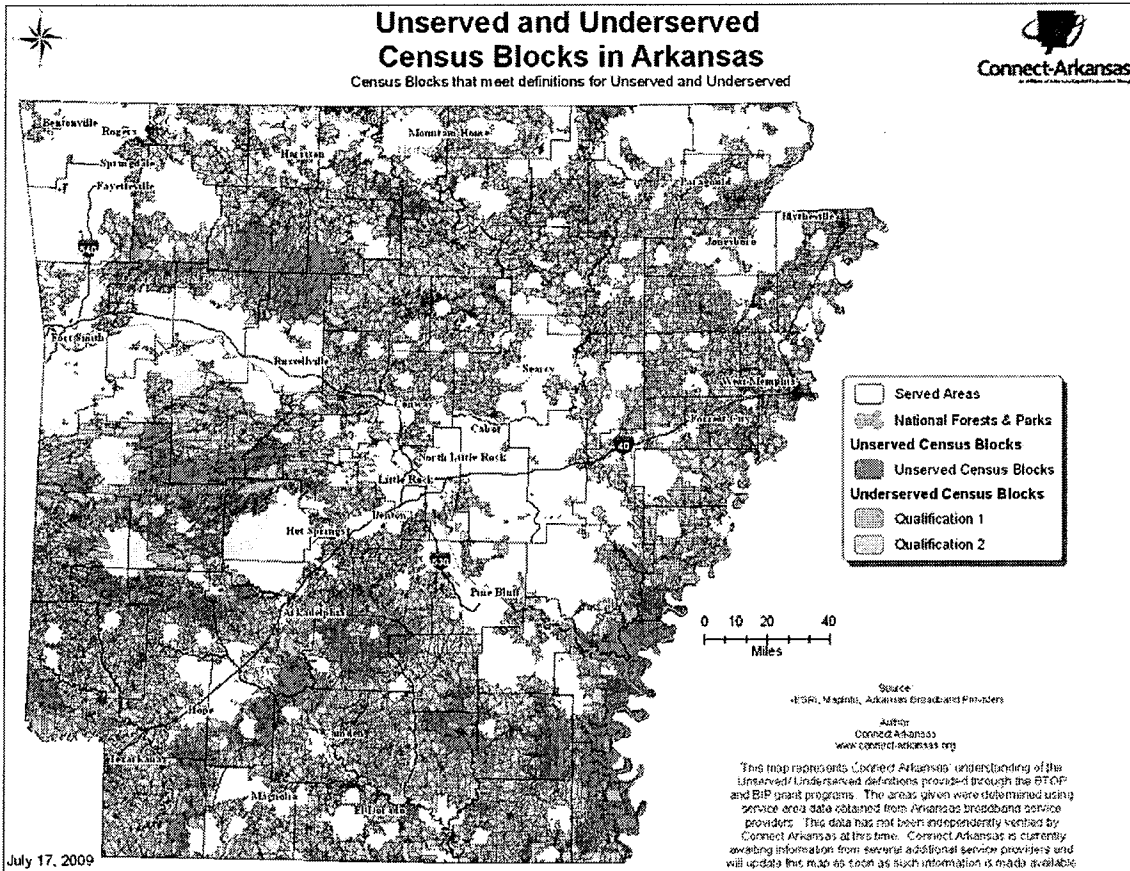
Connect Arkansas has established over 100 partnerships with both public and private sector entities throughout Arkansas to assist in the Connect Arkansas strategy. These partnerships are crucial to the overall mission of CA. As a group, we are poised to take quick advantage of the additional resources afforded by this grant to produce the data requested by the NTIA as well as to assist in the enhancement and expansion of broadband access in Arkansas as well as the improvement of adoption rates.

2. UNSERVED AND UNDERSERVED AREAS

Identified Unserved and Underserved Areas

In 2008, Connect Arkansas began developing broadband coverage maps for the state to inventory internet access areas and broadband access speeds. In July, 2009, Connect completed an initial broadband coverage map for unserved and underserved populations based on census block designations within Arkansas.

The first generation map shown below (Map 1) reveals a high percentage of unserved and underserved census blocks. The metro areas within the state show strong broadband coverage; however there are blocks within those areas that also see underserved populations.



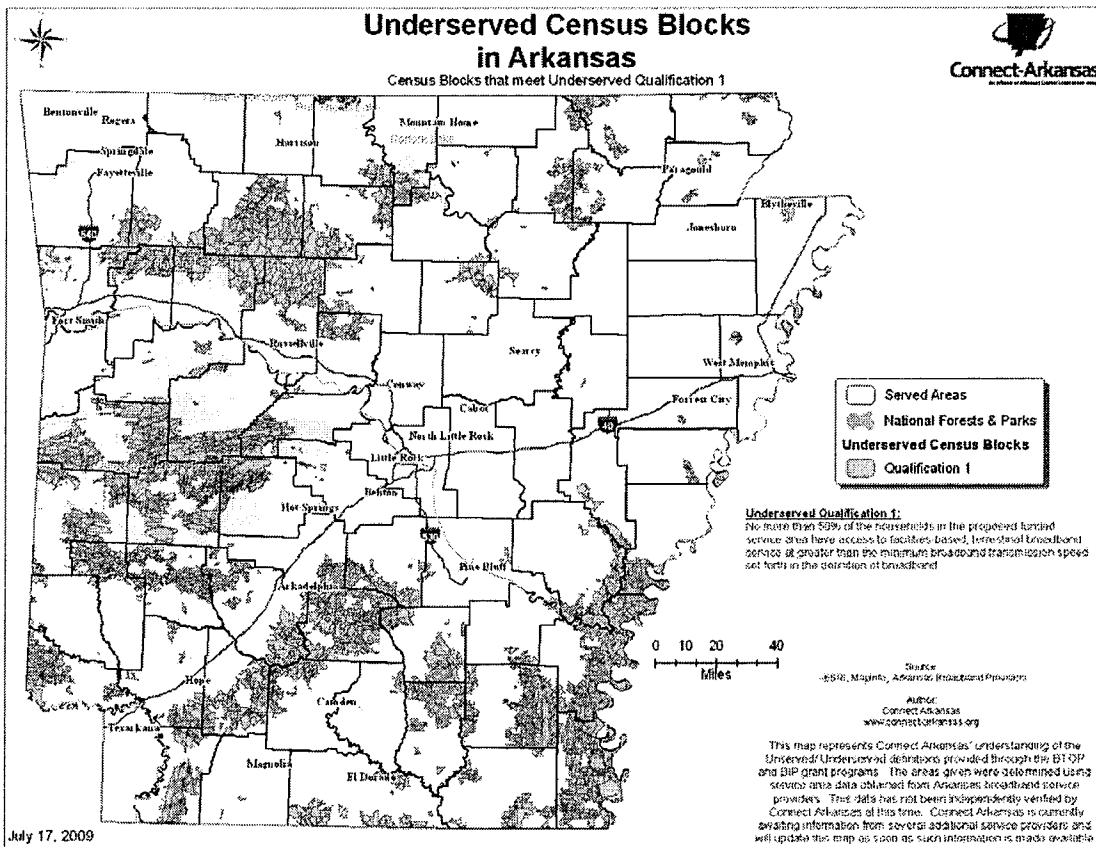
Map 1 – Composite view of all Unserved and Underserved Census Blocks in Arkansas

Arkansas’s unserved census blocks are seen in areas of the state that are either located in national forest or park areas or are located in historically low wealth locations. While two major unserved areas are located in the Ozark and Ouachita National Forests, large tracks of unserved areas are also located in South Arkansas and the Arkansas Delta regions. In total, 9,425 census blocks fall within the unserved definition, which equals a population of 36,922 or 14,702 households. These unserved areas, according to the U.S. Census Bureau, have a poverty rate at or above 25-30% with some of the counties associated in these regions seeing the proliferation of generational poverty and further economic downturn. It is these counties that CA wishes to focus on with the enclosed \$500,000 grant request.

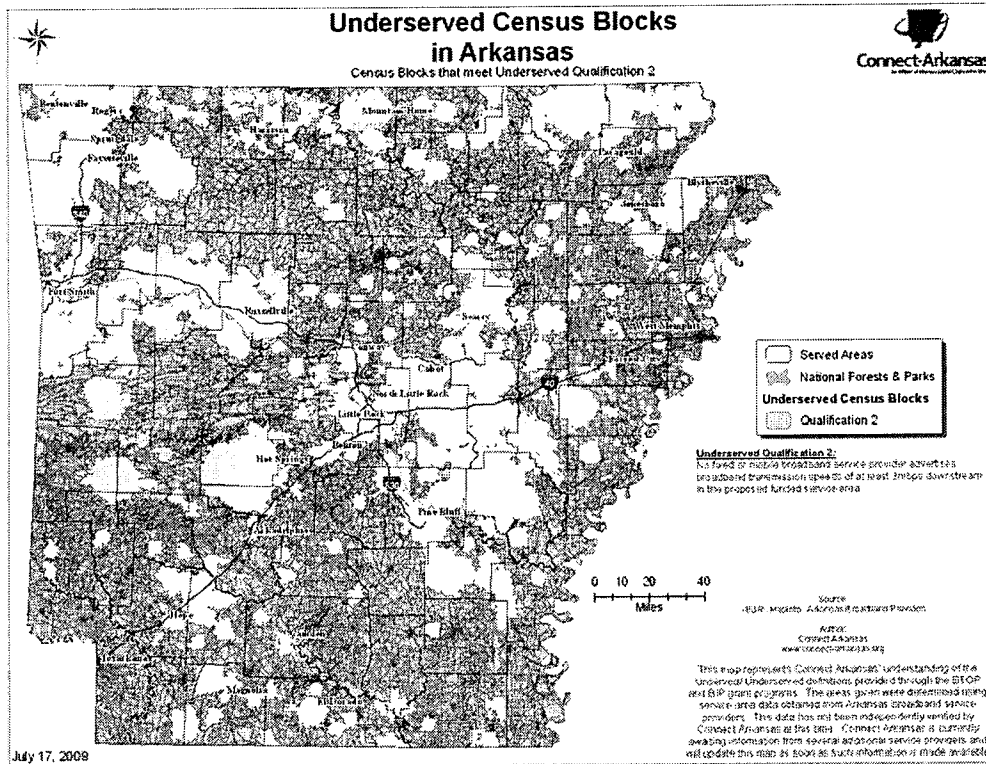
In addition to the poverty rates, this region is losing population and has a low educational attainment rate. The population decline is evident through an average of 7% decline per county of young (20-34 year old) residents. Meanwhile, this region is challenged with education completion rates. The average drop out rate is 30%, and they only have a 10% college completion rate. This leaves the region with an average median household income rate of \$30,000 a year.

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For Arkansas's underserved census blocks, Connect Arkansas's base-line map distinguishes from NTIA's underserved qualification 1 and qualification 2. According to the National Telecommunications and Information Administration's State Broadband Data and Development Grant Program Notification definitions, qualification 1 states that "No more than 50 percent of households in the service area have access to facilities-based terrestrial broadband service at greater than the minimum broadband transmission speed." Qualification 2 states "no fixed or mobile broadband service provider advertises broadband transmission speeds of at least three megabits per second downstream in the area."



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Maps 2 & 3 – Underserved in Qualifications 1 & 2 Census Blocks

Based on both definitions, the underserved maps (see Maps 2 & 3) show large portions of the state falling into one of the underserved categories. While the majority of the underserved populations are located in the rural regions of the state, large portions of defined census blocks are also to be found in urban locations.

The underserved areas under qualification 1 show 11,386 census blocks which equals a population of 58,453 or 23,240 households as being underserved. Meanwhile, under qualification 2, 63,847 census blocks are considered underserved affecting 700,708 individuals or 270,104 households. Combined, qualification 1 and 2 underserved regions represent almost 70,000 census blocks or 300,000 households as underserved by broadband access.

Maps 1-3 noted above have been created by CA using data that it has already gathered through its established relationships with Arkansas service providers. With the additional funding afforded by this grant, CA can continue to gather and refine data and will be able in the near future to provide a map using the third underserved qualification, that being where the “rate of broadband subscribership for the area is 40% of households or less”.

Prioritization of Efforts for Unserved and Underserved Areas

Connect Arkansas will make mapping the data for underserved and unserved areas of Arkansas a priority. This will ensure that the data is available as soon as possible for community leaders and service providers to begin understanding the challenges in those areas and start developing solutions and public policy. Once CA develops its predictive models based on coverage, usage,

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cost and demographics, those will be especially useful to assist providers, communities and public policy makers.

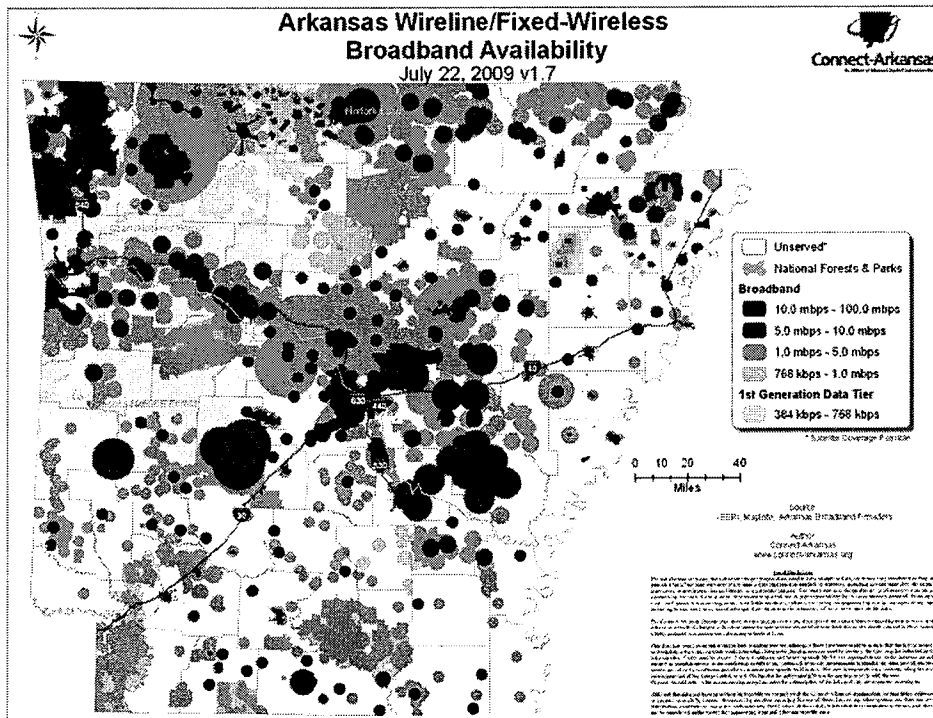
With the additional \$500,000 broadband planning grant, CA will conduct its “e-community strategy” within nine Delta Regional Authority counties that fall within these definitions. This e-Community approach has been through a pilot program in four Arkansas counties already and it is in harmony with the recent “iDelta” report issued by the Delta Regional Authority. It will work with public and private sector leaders within each county to assess their current broadband coverage and determine what, if any, shortcomings exist, determine what the community “take-rate” for broadband is and then begin to devise strategies that will drive public usage of broadband. While ultimately, CA would like to utilize this planning strategy with all 75 counties in Arkansas, unserved and underserved areas of Arkansas will receive priority.

3. FIVE REVIEW CRITERIA

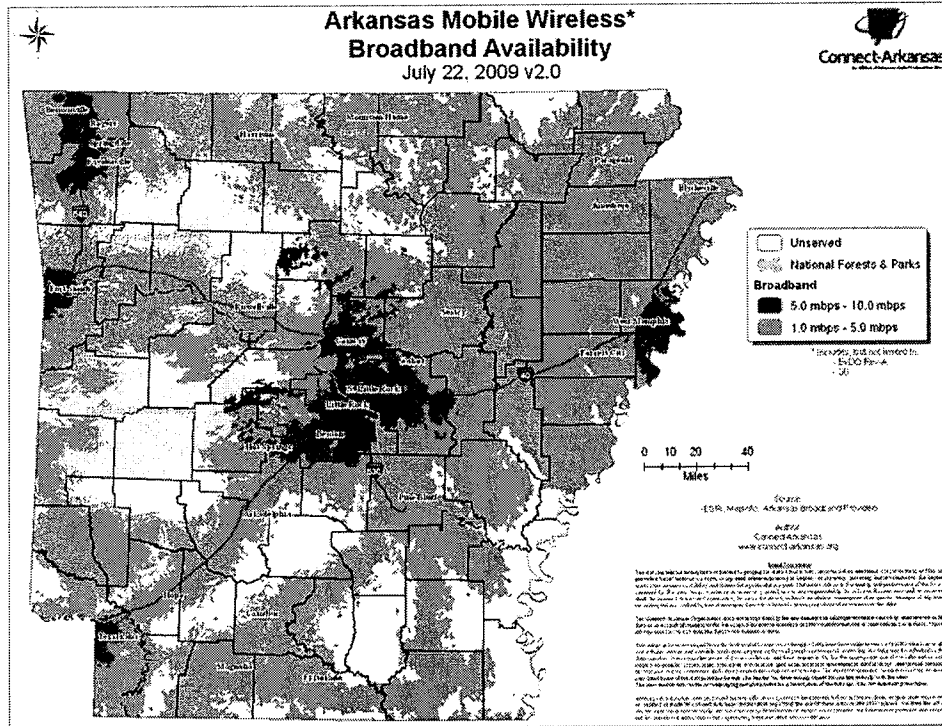
3.1. Data

(a) Data Gathering:

Since early 2008, CA has collected wireline/fixed-wireless broadband coverage and access speed information from service providers. Map 4 (below) displays the current access areas and speeds in Arkansas based on this collected information. In addition to wireline/fixed-wireless, CA has also collected data on mobile wireless broadband access in Map 5 (below). Both maps correlate with Map 1 broadband unserved and underserved areas.



Map 4 – Arkansas Wireline/Fixed-Wireless Broadband Availability



Map 5 – Arkansas Mobile Wireless Broadband Availability

These first-generation CA maps (maps 4 and 5) are available to the public through CA’s website, connect-arkansas.org. The depth of the data on this map varies from service provider to service provider. Several providers were able to supply detailed information at the street level while other providers were able to provide generalized boundaries of their service area. CA’s strategy was to generate a first-generation map utilizing these various levels of data and then work with the providers to refine the data going forward. This process had two primary benefits to CA, first it allowed CA to produce an initial map that would allow decision makers in Arkansas to begin to understand where coverage issues exist and second, it allowed CA to initiate a relationship with service providers in Arkansas and demonstrate that their confidential information will be treated respectfully. Establishing service provider relationships, executing the Non-Disclosure agreements, identifying the appropriate people to work with within the service providers organization is a time-consuming process. CA has an advantage over many of the applicants that will apply for these funds because it has already accomplished these steps.

Having established these relationships and received initial coverage and speed data from the providers, CA will utilize the resources provided by this grant to develop second-generation maps that will provide the granular level data desired by the National Telecommunications and Information Administration as well as state officials.

Under the Technical Appendix Clarification provided by the NTIA, for each facilities-based provider of broadband service in Arkansas, CA will provide a list of all census

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blocks of no greater than two square miles in area in which broadband service is available to end users. In Arkansas, there are forty-seven facilities-based providers of broadband service. In total, there are 141,178 census blocks within the state. Of that number, 134,664 are two square miles or less (95% of state). Utilizing CA's established relationship with these providers, CA will be able to determine whether coverage exists in these blocks, from which providers, at what weighted average speed, spectrum used, and all other data sought by NTIA through the NOFA. For the remaining 6,515 census blocks in Arkansas that are larger than two square miles, CA will provide a list of all street segments with address ranges in such census blocks as contained within the U.S. Census Bureau's TIGER/Line files or equivalent per the Technical Appendix Clarification.

This updated information will primarily come from service providers but will be supplemented through established working partnerships between CA and the Arkansas Geographic Information Office (GIO), CT&T and the Gadberry Group (Gadberry).

Connect Arkansas's will work with GIO primarily in two respects. First, CA will utilize GIO's road centerline files to determine address ranges with access to broadband within the 6,515 Arkansas census blocks that are larger than two square miles. Second, CA will work with GIO for mapping of public schools, libraries, hospitals, colleges and universities, emergency response entities (i.e. E.M.T. stations, police and fire departments) and all public buildings owned or leased by state, county or local municipalities. The Arkansas Geographic Information Office acts as the functional arm of the Arkansas Geographic Information Systems Board. GIO pursues activities that result in coordinated, cost-effective programs for spatial data development and distribution. In fulfilling this role, GIO coordinates with cities, counties, state, federal governments, and the private sector to reduce the duplication of effort. The GIO office coordinates the completion and maintenance of shareable statewide framework data and applications of geographic information system technologies.

Connect Arkansas's work with Gadberry will utilize their geo-demographic data by cross-referencing it with broadband service providers coverage and speed data. This will significantly contribute to the overall accuracy of the information and will be an additional layer of verification. The Gadberry Group is one of the leading data providers of U.S. household geo-demographic data that correlates census and postal data. One example being that Gadberry group will cross-reference addresses from warranty cards for computers and modems with service provider coverage data.

Connect Arkansas will also work with CT&T as an additional source of coverage information and verification. CT&T will be particularly helpful in those 6,515 census blocks that are larger than two square miles. CT&T has access to data and mapping related to the physical cable, fiber and copper lines across a provider's network. After the physical infrastructure data is mapped, Connect will apply a buffer around the broadband lines that will serve to indicate access. This information will be useful in not only determining coverage area but also as a layer. CT&T is a leading utility consulting firm that was established in 1982. Starting with a group of formally trained individuals in the

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telecommunications consulting and drafting services, CT&T has become a leader in the design, drafting, splicing and development of total turnkey projects for communications companies. Due to their strong relationships with broadband service providers, CT&T is poised to collect and assimilate datasets on known infrastructure information which in many cases they constructed.

Given the mix of address and infrastructure data sets, the information obtained through this combined effort will give a nearly 100% accurate representation of accessible broadband in Arkansas in the timeframe required.

i. Availability by Shapefile or Wireless Services not provided to a specific address: Connect Arkansas has been collecting wireless provider data since 2008, so the collaborative information sharing between CA and the wireless service providers is already established. Additional data collection and data updating will continue to occur. As dictated by the Technical Appendix Clarification, each polygon will indicate the authorized maximum downstream and upstream speeds available.

Mobile wireless provider propagation shapefiles are produced by each carrier on a regular basis where CA will continue to streamline the collection of the shapefiles. Knowing that mobile wireless coverage is produced using propagation tools by professional RF Engineers, the accuracy of the data collected from the wireless providers will be near 100% as well.

In an effort to further extend the accuracy of data provided by fixed wireless providers, CA will utilize its own propagation tool for fixed wireless datasets. This method will replace previously used “buffer” methods of obtaining and mapping data.

Satellite providers, as far as CA is aware, do not maintain a map of service areas for the state of Arkansas. Our solution to the problem of determining coverage area for satellite broadband is to utilize 3rd party demographic data from Gadberry Group. This data is independently verifiable and therefore highly accurate for use in determining availability of satellite broadband coverage areas in the state.

ii. Residential Broadband Service Pricing in Provider’s Service Area: Per the Technical Appendix Clarification, awardees are no longer required to report average revenue per user. Weighted Average Speed must still be determined to the extent that it may be reported across a provider’s service or local franchise area, by Metropolitan or Rural Statistical Area.

CA will still seek, to the extent that it has access to the information, to determine average revenues per user because CA believes that information will be very useful in understanding broadband adoption patterns in Arkansas. CA will look at and collect information on the “weighted average speed” that service providers offer consumers. To calculate this information, Connect will need to obtain a database of subscriber service addresses from the provider along with a list of each speed tier available in the provider’s service or local franchise area. CA will also utilize the data it acquires

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through surveys and speed tests conducted through the connect-arkansas.org website.

In addition to obtaining the subscriber information, CA will need the service providers to provide consumer's data tier subscriptions. This data will allow Connect to see if each subscriber has a data tier, which will allow Connect to ascertain which speed tiers are available in the reported area.

Once the speed tiers are obtained in each county, Connect will be able to calculate the weighted average speed. Connect intends to use the calculation formula provided by the NTIA in the technical appendix noted within the State Broadband and Development Program NOFA.

iii. Broadband Service Infrastructure in Provider's Service Area: Per the Technical Appendix Clarification, awardees are no longer required to map last-mile connection points unless they are needed to verify the required network services area availability data. In the unlikely event that last mile data must be collected and for the collection of middle mile data, Connect Arkansas has a well developed plan. CA will utilize its strong relationships with broadband service providers throughout the state to obtain the provider's database that contains latitude and longitude information about the locations of remotes, junction boxes, wireless towers and subscriber end points (i.e. addresses).

In addition to physical infrastructure location identification, additional information shall be gathered in regards to last mile facility type, additional infrastructure and number of end users affected. Together, this information will give a clear and accurate picture of the infrastructure in place concerning last mile data.

In regards to middle mile and backbone interconnection points, Connect Arkansas will again work with the state's service providers to obtain information regarding their infrastructure. Middle mile data will focus on the ISP's connection points to backbone infrastructure (main office routers) and Central Offices. Like the last mile data, middle mile data will include data concerning additional infrastructure such as facility type, broadband speed, elevation and end user data.

This is an activity that CA's working relationship with the aforementioned CT&T will prove particularly useful. CT&T is a leader in the design, drafting, splicing and development of total turnkey projects for communications companies in Arkansas. They are intimately aware of the broadband infrastructure of a significant portion of Arkansas and will be an invaluable partner in mapping middle mile data and last mile data.

iv. Community Anchor Institutions: As noted earlier, to obtain information about community anchor institutions such as schools, libraries, medical and healthcare providers, public safety entities, community colleges and institutions of higher education and other community support organizations, CA plans to work with the Arkansas Geographic Information Office (GIO) to obtain data currently collected as

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well as with the Arkansas Secretary of State's office, State, County and Local governmental entities to identify the agencies and their address data. Once the address data is obtained, Connect and GIO will co-produce this data for the broadband maps as well as state and public accessible maps offered through GIO on their GeoStor application. CA and GIO will go beyond the requirements of this provision to include state and local emergency response locations and public infrastructure as well.

(b) Accuracy and Verification

Connect Arkansas intends to verify the accuracy of the mapping information through several methodologies.

- As noted above, CA will be utilizing the consulting services of the Gadberry Group to verify the data provided by the service providers. Through this partnership, Connect and Gadberry intend to collect and combine small physical areas that are identified by zip+4 address codes with subscriber data directly from providers to infer broadband access. To further explain, if Connect obtains a zip+4 address code (such as 72201-0001) that contains a small collection of households (+/- five households), then the subscriber data indicates that two of those households currently subscribe to broadband, then there is a high probability that the additional three homes within the zip+4 also have access to broadband services. Once the zip+4 and service provider data is combined, CA will be able to map all the census blocks within the state that either subscribe or have the availability to subscribe to broadband internet services. This information can then be assigned to census blocks in order to determine unserved and underserved areas of the state.

Connect Arkansas also intends to utilize Gadberry's data set of tier 1 data that is verifiable through independent sources. This data set consists of people in Arkansas that have reported usage of some form of broadband access via warranty cards on broadband equipment purchased and surveys.

- Additionally, Connect Arkansas has piloted four eCommunity (Desha, Faulkner, Woodruff and Columbia counties) sites aimed at developing and implementing technology and internet strategic plans. Through their "Expanding Broadband Use in Arkansas" BTOPI proposals this eCommunity program is planning to roll out to the additional 71 counties throughout the state. As part of the eCommunity strategic planning process, household surveys are conducted throughout the county to gather detailed information from citizens about their use of the internet and their access to broadband services.

This eCommunity survey will provide an additional verification process for data collection and mapping as the surveys will be given to and taken by actual consumers. The consumer data will allow Connect to cross verify the information with the service provider's information as well as the zip+4 cross reference.

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By utilizing the following questions in the household survey, Connect can verify broadband access and speeds based on actual addresses supplied within the survey. The following are sample questions currently being utilized in the four county pilot programs:

- Do you use the internet? If so, how often?
- Do you have broadband internet access at home?
 - If so, is the price reasonable or unreasonable?
 - If not, why do you not have broadband internet at home?
 - If you could subscribe to broadband internet, what would encourage you to subscribe?
- What is your:
 - Gender
 - Income level
 - Age bracket
 - Zip Code
 - Occupation

The eCommunity household survey also allows Connect Arkansas to gather additional data on household use of the internet, educational needs regarding the internet and demographic information of who is utilizing the internet.

- Through the Connect Arkansas website (connect-arkansas.org), CA has been asking people to conduct “speed tests” of their broadband service. In order to initiate the test, a user must enter their address and zip code. CA will select areas of Arkansas and make a concentrated effort to encourage residents to participate in this test. CA’s past experience has utilized various local volunteer groups to push this effort. This data can be collected and used as an additional cross-reference to the data collected from service providers and other sources. This website is also hosted on several other websites, one of particular note being the State of Arkansas homepage. Users can also use the website to report lack of service in their area.
- CA will develop an understanding of not only what the broadband infrastructure looks like in Arkansas but also what it is capable of. CA can then overlay that information with the service areas and speeds provided by service providers. In the event that it appears that stated coverage or speeds are inconsistent with what CA understands the infrastructure could support, subsequent investigation would follow.

(c) Accessibility

Connect Arkansas has already developed and released “First-Generation” coverage and speed maps for Arkansas. These maps are available to the public through CA’s website connect-arkansas.org which can also be accessed by links through numerous state agency websites, in particular the State of Arkansas homepage. With the resources provided by this grant, CA intends to increase the functionality of the map by creating a web-based

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application based on Google maps that will be a simple and easy-to-learn tool for broadband information within Arkansas. Users will be allowed to click on different layers to obtain detailed broadband access information as well as to scroll from a state view down to a granular level.

Through the creation of the interactive maps, web users will be able to intuitively seek the information they require on broadband availability in Arkansas. Users will be able to input their address to determine the broadband accessibility at their home or point of interest. Additionally, users will be able to request various layers of information by clicking on the information they need. Data layers will include (but are not limited to) wireline broadband coverage, wireless broadband coverage (includes mobile and fixed coverage), public access points and community anchor institutions. Additionally, users will be allowed to obtain a list of service providers available in the user's selected areas within the state. The service provider data will also include contact information to the provider. Users will also have the ability to comment on service providers in their area and participate in forum discussions. They also will be able to correct errors in the map, for example, if google maps has their address attached to the house next door to theirs, they will be able to move the pin and indicate the proper location.

Since the first Arkansas state broadband data maps were released in February 2009, Connect Arkansas developed plans to continue to provide to the public both the Arkansas Wireline and Fixed-Wireless Availability maps along with the Arkansas Mobile Wireless Broadband Availability map. Both maps will incorporate the more detailed data obtained through this program. The intent with both maps is to continue to create coverage maps utilizing actual infrastructure buffer data. The buffer data is intended to represent coverage areas for all the providers within the state and the coverage maps will be categorized by access speeds as defined by the FCC and this NOFA.

To streamline the data collection and dissemination of CA's broadband coverage data and maps, CA will leverage the software development capabilities of Gadberry for the creation of the web-based mapping application. Gadberry offers the engineering and programming expertise needed to create the user friendly layered maps needed to upload onto Connect Arkansas's servers.

In addition to online access to the broadband data maps, CA will disseminate the information through the Connect Arkansas eCommunities program and through local and state partners. Additionally, CA will provide hard copy data maps by request and submit an annual report for use by state and local leaders as well as service providers and the community-at-large. Finally, CA will continue to testify before state legislative panels updating them on the status of broadband coverage and adoption in Arkansas.

(d) Security and Confidentiality

From the outset, CA understood that the security and confidentiality of the data obtained from service providers was of utmost concern. That, in fact, was one of the most significant reasons that Arkansas Capital Corporation (ACC) was asked to create and manage CA because service providers believed that ACC would ensure that the information was protected. As noted earlier, CA has a distinct advantage over most

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entities in this respect because it has already spent the last year and a half entering into confidentiality agreements with state service providers as well as its sub-contractors. Steps are already being taken to expand those agreements to allow CA to share the information gathered for this program with the NTIA. In addition to confidentiality agreements, Connect Arkansas also agrees to follow the posted guidelines for nondisclosure agreements set forth in the NOFA.

The following sample Nondisclosure Agreement is an example of the standard confidentiality agreement that currently exists between a service provider and CA.

Sample Nondisclosure Agreement for Connect Arkansas:

THIS NONDISCLOSURE AGREEMENT (herein the "Agreement") is dated and effective as of _____ - _____, 2008 ("Effective Date"), between Connect Arkansas ("Connect," "you," and "your"), and <Full Company Name> ("<INSERTCO>", "we," and "us") a <State Headquarter> corporation, located at <Address>, <City>, AR <12345>.

RECITALS

A. This non-disclosure agreement is entered into between <INSERTCO> and Connect under Arkansas law, including Arkansas Act 604 of 2007, Ark. Code Ann. 4-112-105. Connect acknowledges that it may receive, from or on behalf of <INSERTCO> or its Affiliates, certain information, including trade secret information, considered to be confidential, valuable and proprietary by <INSERTCO>, for the purposes described in Act 604 (the "Project"). "Affiliates" means any company or other entity, now or in the future, directly or indirectly, in whole or in part controlled by, controlling or under common control with <INSERTCO>.

B. Such information includes, but is not limited to, voice, video and broadband (or other) network facility locations, and information related to the services provided through these network facilities, technical, financial, marketing, staffing and business plans and information, strategic information, proposals, requests for proposals, specifications, drawings, prices, costs, customer information, procedures, proposed products, processes, business systems, software programs, techniques, services and like information of, or provided by, <INSERTCO> or its Affiliates, or any of their third party suppliers, and also includes the fact that such information has been provided by the Discloser, the fact that the parties are discussing the Project and any terms, conditions or other facts with respect to the Project (collectively the "Information"). Information provided to you before execution of this Agreement and in connection with the Project is also subject to the terms of this Agreement.

IN CONSIDERATION of state law, the mutual promises and obligations contained herein and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties agree as follows:

1. You will protect Information provided to you from any use, distribution or disclosure except as permitted herein. You will use the same standard of care to protect Information as you use to protect your own highly confidential and proprietary information, but not less than a reasonable standard of care.
2. You will use Information solely in connection with the Project and for no other purpose. You may provide Information only to your employees, directors, officers or representatives who: (a) have a substantive need to know such Information in connection with the Project; (b) have been advised of the confidential and proprietary nature of such Information; and (c) have personally agreed with you in writing to protect from unauthorized disclosure all confidential and proprietary information, of whatever source, to which they have access in the course of their employment. You will not disclose Information to your corporate affiliates, consultants, independent contractors, agents or other third parties except upon specific prior written authorization by <INSERTCO> and subject to written terms and conditions no less restrictive than the provisions stated in this Agreement.

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3. Information provided to you in written or other tangible or electronic form will be marked with a confidential and proprietary notice, or if provided orally or visually will be designated as confidential and proprietary at the time of such disclosure or within a reasonable period thereafter. In addition, any information provided to, or received by, you (including information visually observed by you while on <INSERTCO>'s premises) that is by its nature and content reasonably distinguishable as the confidential and proprietary information of <INSERTCO> but is not specifically marked or orally designated as confidential and proprietary by <INSERTCO>, will be treated as Information subject to the obligations of this Agreement.
4. <INSERTCO>'s Information does not include:
 - a) any information we publicly disclose;
 - b) any information we in writing authorize you to disclose without restriction;
 - c) any information you already lawfully know at the time we disclose it to you, without an obligation to keep it confidential;
 - d) any information you lawfully obtain from any source other than us, provided that such source lawfully disclosed such information; or
 - e) any information you independently develop without use of or reference to the Information.You will bear the burden of proof in showing the applicability of one or more of the foregoing exclusions.
5. If you are required to provide Information to any court or government agency pursuant to written court order, subpoena, regulation or process of law, you must first provide us with prompt written notice of such requirement and cooperate with us to appropriately protect against or limit the scope of such disclosure. To the fullest extent permitted by law, you will continue to protect as confidential and proprietary all Information disclosed by you in response to a written court order, subpoena, regulation or process of law.
6. You may make tangible or electronic copies, notes, summaries or extracts of Information only as necessary for use as authorized herein. All tangible or electronic copies, notes, summaries or extracts must be marked with the same confidential and proprietary notice as appears on the original. All Information provided orally or visually by <INSERTCO> and reduced by you to tangible or electronic notes, summaries or extracts must be marked by you as <INSERTCO>'s confidential and proprietary Information.
7. All Information remains at all times <INSERTCO>'s property. Upon <INSERTCO>'s request, all or any requested portion of the Information (including, but not limited to, tangible and electronic copies, notes, summaries or extracts of any Information) will be promptly returned or destroyed, and you will provide written certification that the Information has been returned to <INSERTCO> or destroyed.
8. You will not identify <INSERTCO>, its Affiliates or any other owner of Information in any advertising, sales material, press release, public disclosure or publicity without prior written authorization by <INSERTCO>. No license under any trademark, patent, copyright, trade secret or other intellectual property right is either granted or implied by disclosure of Information to you.
9. Without limiting the generality of the foregoing provisions concerning confidentiality, you acknowledge and agree that the Information disclosed by <INSERTCO> does or may include customer proprietary network information ("CPNI") subject to the requirements of Section 222 of the 1996 Telecommunications Act and rules promulgated pursuant to that section. You shall not use any such CPNI for any reason other than in connection with the Project. You shall not allow the use of, access to, or disclosure of such CPNI to any other party, including your affiliates unless required to make such disclosure under force of law. You shall take all necessary steps to maintain the confidentiality of such CPNI while in your possession.
10. The term of this Agreement and your obligations hereunder commence on the Effective Date and extend with regard to all Information until five (5) years after the date of final disclosure of Information hereunder. Thereafter, your obligations hereunder survive and continue in effect with respect to any Information that is a trade secret under applicable law.
11. This Agreement is not a commitment by <INSERTCO> to enter into any transaction or business relationship with you, nor is it an inducement for you to spend funds or resources. No such agreement will be binding unless

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and until stated in a writing signed by both parties. All Information is provided to you 'as is,' and <INSERTCO> makes no warranties or representations with respect to its content, accuracy or completeness.

- 12. You acknowledge and agree that any breach or threatened breach of this Agreement is likely to cause <INSERTCO> and its Affiliates irreparable harm for which money damages may not be an appropriate or sufficient remedy. You therefore agree that <INSERTCO> or its Affiliates are entitled to receive injunctive or other equitable relief to remedy or prevent any breach or threatened breach of this Agreement. Such remedy is not the exclusive remedy for any breach or threatened breach of this Agreement, but is in addition to all other rights and remedies available at law or in equity.
13. No forbearance, failure or delay by <INSERTCO> in exercising any right, power or privilege is waiver thereof, nor does any single or partial exercise thereof preclude any other or future exercise thereof, or the exercise of any other right, power or privilege.
14. If and to the extent any provision of this Agreement is held invalid or unenforceable at law, such provision will be deemed stricken from the Agreement and the remainder of the Agreement will continue in effect and be valid and enforceable to the fullest extent permitted by law.
15. This Agreement is binding upon and inures to the benefit of the parties and their heirs, executors, legal and personal representatives, successors and permitted assigns, as the case may be. You may not assign this Agreement except by prior written consent of <INSERTCO>, and any attempted assignment without such authorization is void.
16. This Agreement shall be deemed executed in the State of Arkansas, U.S.A., and is to be governed and construed by Arkansas law, without regard to its choice of law provisions. The parties agree that non-exclusive jurisdiction and venue for any action to enforce this Agreement are properly in the applicable federal or state court in Arkansas.
17. This Agreement is the entire agreement between the <INSERTCO> and Connect ('the parties') hereunder and may not be modified or amended except by a written instrument signed by both parties. Each party has read this Agreement, understands it and agrees to be bound by its terms and conditions. There are no understandings or representations with respect to the subject matter hereof, express or implied, that are not stated herein. This Agreement may be executed in counterparts, and signatures exchanged by facsimile or other electronic means are effective for all purposes hereunder to the same extent as original signatures.

IN WITNESS WHEREOF, the parties' authorized representatives have signed this Agreement:

<INSERTCO>

CONNECT ARKANSAS

By: _____
(Authorized Signature)

By: _____
(Authorized Signature)

Name: _____
(Print or Type)

Name: _____
(Print or Type)

Title: _____

Title: _____

In regards to addressing the program requirements for transparency, Connect Arkansas plans to follow the stated compliance regulations associated with the American Recovery and Reinvestment Act. Starting with cooperating with the NTIA and the FCC in obtaining and submitting data as required by the posted deadlines, Connect Arkansas will work with the NTIA and FCC in obtaining and submitting the data needed to complete a nationwide map of available broadband coverage.

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Secondly, Connect Arkansas will comply with all reporting requirements for this program. Quarterly reports will be submitted by Connect Arkansas to the NTIA ten calendar days after the close of the quarter in which work under this grant was completed. Quarterly reports will begin with the quarter in which the award is made until the five year reporting period closes in 2013.

Lastly, Connect Arkansas commits to being fiscally transparent with awarded funds through the State Broadband Data and Development Program. Financial statements and audits will be provided as needed to comply with the regulations of the ARRA program.

3.2 Project Feasibility

Connect Arkansas was established in 2007 by Arkansas Capital Corporation in response to a legislative request through Act 604 to ensure the creation of a competitive broadband, or high speed internet, infrastructure that will not only improve personal lives, but also the economic capabilities of all Arkansans. Since 2007, Connect Arkansas has focused on addressing broadband accessibility mapping and public education on the use and viability of utilizing high speed internet for all aspects of life both in rural and urban locations.

(a) Applicant Budget: CA requests a grant of \$3.8 million to implement a five-year \$4,023,864 million statewide broadband data acquisition and mapping program. Connect Arkansas as it exists today represents well over \$760,000 in monies contributed through public and private sources since 2007. CA submits that amount as matching for the \$3.8 million dollar grant. The remaining balance of \$223,864 will be raised by CA through public and private sources. Further, Connect Arkansas requests a grant of \$500,000 to be used toward a \$625,000 budget directed at broadband planning. Per the NOFA, 67% of the grant funds for broadband mapping (\$2,546,000 of the \$3.8 million) will be used by the end of year two with the balance utilized by the end of year five. For the broadband planning request, 100% of all funds (\$500,000 grant request and \$125,000 matching) will be utilized by the end of year two. It is important to note that Act 604, the enabling legislation that allowed ACC to create Connect Arkansas, set a goal for 100% broadband coverage to be completed by 2012. Connect Arkansas has operated on a tight timeline since its inception.

Mapping Budget:

Connect Arkansas has identified five major expense categories needed to complete the overall mapping project. Connect Arkansas proposes the following budget (see attached "Connect Arkansas Mapping NOFA Budget" spreadsheet to correlate to the following narrative):

Mapping Category One: Mapping Personnel

A GIS Manager and a compliance/bookkeeping position will be engaged for the full five year grant period for \$695,331. A second GIS position and an administrative position will be maintained for the first two years at cost of \$176,820. The total salary with fringe benefits calculated into the total comes to \$1,046,580. The fringe assumption (benefits,

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etc.) was 20%. Management by Arkansas Capital Corporation, which would include IT, H.R., Sr. Management and personnel support, is \$150,000 a year in years one and two, \$75,000 in years three and four and \$50,000 in year five for a total of \$500,000. The management amount reduces in later years in anticipation of scaling down the operation to mapping and website updates in the later years. A 5% salary increase was assumed from year to year. Total Mapping Personnel budget is \$1,546,580. Personnel start dates were also staggered over the first few months contemplating the time necessary to advertise and hire qualified individuals.

Mapping Category Two: Operations/Office Equipment/Supplies/etc.

Total budget for this category over the five year period is \$1,066,059. The \$15,000 computer budget in year one contemplates the purchase of one computer system of significant storage and processing speed to support the second GIS position and ESRI software (the GIS manager already works for Connect Arkansas and that equipment has already been purchased) and two other basic computers for the administrative and compliance/bookkeeping staff. The initial \$20,000 budget for furniture will provide physical desks, chairs, files, etc. and will be limited to \$1,000 in year 2. The \$17,000 phone budget in year one covers the initial cost of purchasing an office phone system, the monthly phone budget from that point forward is estimated to be \$2,000/month. The \$179,030 five-year rent total was calculated assuming a need for 1,800 square feet of office space at a rate of \$18 psf. A \$140,000 total budget for independent third-party audits was applied. While this might appear high, applicant is still uncertain as to what extent and how often NTIA will be auditing these records therefore CA budgeted on the high end for this expense. The five-year legal expense line item is \$165,769. This contemplates the continued necessity of legal counsel when working through confidentiality issues and negotiating with service providers as well as contract review. The ESRI Software licenses are a significant piece of this budget (\$90,830); however this software is an integral part of this mapping effort. For all line items in this budget, a 5% inflation rate was assumed from year to year. The balance of the line items (plotter lease, office supplies, postage, T1 line, Insurance, Printing costs, dues, and board meeting costs) amount to \$348,616. All of these costs are based on our prior costs over the last two years of operation.

Mapping Category Three: Mapping Activities

While the staff has been maximized for this program, the utilization of sub-contracted partnerships is critical to the successful completion of this program. Connect Arkansas will leverage the resources of The Gadberry Group, CT&T and the Arkansas Geographical Information Office to obtain various sets of data, assist in providing verification to provider coverage data, help map public facilities and provide market analytics to assist in user patterns. Additionally, consultant services will be obtained to provide the web services needed to disseminate the information to the public. In total \$980,762 will be utilized over five years for these purposes.

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The Gadberry Group (\$422,000) will provide user data in support of the mapping project, will help develop market analytics by using the acquired data and will provide programming support for the back-end data maps and encrypted data web-site. CT&T (\$48,000) will assist CA with mapping and will help develop any infrastructure data needed. GIO (\$100,000) will provide address and public anchor point data as well as centerline data for census blocks larger than two square miles. Fixed Wireless Propagation Software (\$50,000 over first two years) will allow CA to analyze the data provided by WISPs. Website expenses of \$177,443 will ensure that the public has access not only to the data, but can look at it from a variety of data points. A \$10,000 line item for engineering consultant is for those occasions when CA would need to get an expert opinion on infrastructure capacity during the first two years of operations. The \$30,000 media outreach for data verification is to create Public Service Announcements that will then be used to drive people to get online and conduct speed tests so that the collected data can be verified. The travel budget of \$46,800 over five years is for travel throughout Arkansas for verification purposes as well as to work with local service providers. The training budget of \$36,263 over five years is to ensure that GIS staff can receive continuing education on their software, that any conferences regarding compliances may be attended and that CA can continue to investigate best practices as they are developed. The \$55,256 for annual reports assumes \$10,000/year to produce that work for the public as well as policy makers. As above, a 5% inflation rate was assumed.

Mapping Category Four: Indirect Expenses and Pre-Application Costs

CA had assumed a 10% annual indirect expense charge. Over the five year period this amounts to \$374,855. Further, the NOFA allows for some pre-application costs to be recovered, CA recorded \$55,608 in expenses for this category.

Mapping Category Five: Already Incurred Start-up Costs

As already noted in this grant application, CA has been in operation since mid-2007. It has established the 501(c)(3) entity Connect Arkansas, assembled a board of directors comprised of private, public and academic sector leaders, researched best practices throughout the United States and developed a broadband mapping strategy (as well as a broadband education strategy), engaged service providers to provide their service data to CA for mapping, sometimes working several months through their legal departments to get the provider comfortable with CA's non-disclosure agreement, work with providers staff to pull the data that was needed and coordinate with stakeholders throughout Arkansas. As of February, CA has publicly released a coverage map that in some states entities have charged in excess of \$2 million dollars to help develop. CA believes a fair market value of this work to date is easily \$760,000 and submits that amount in the budget as its 20% matching contribution to the overall effort. Connect Arkansas will continue to seek additional funds from the state legislature and Governor over the five year period.

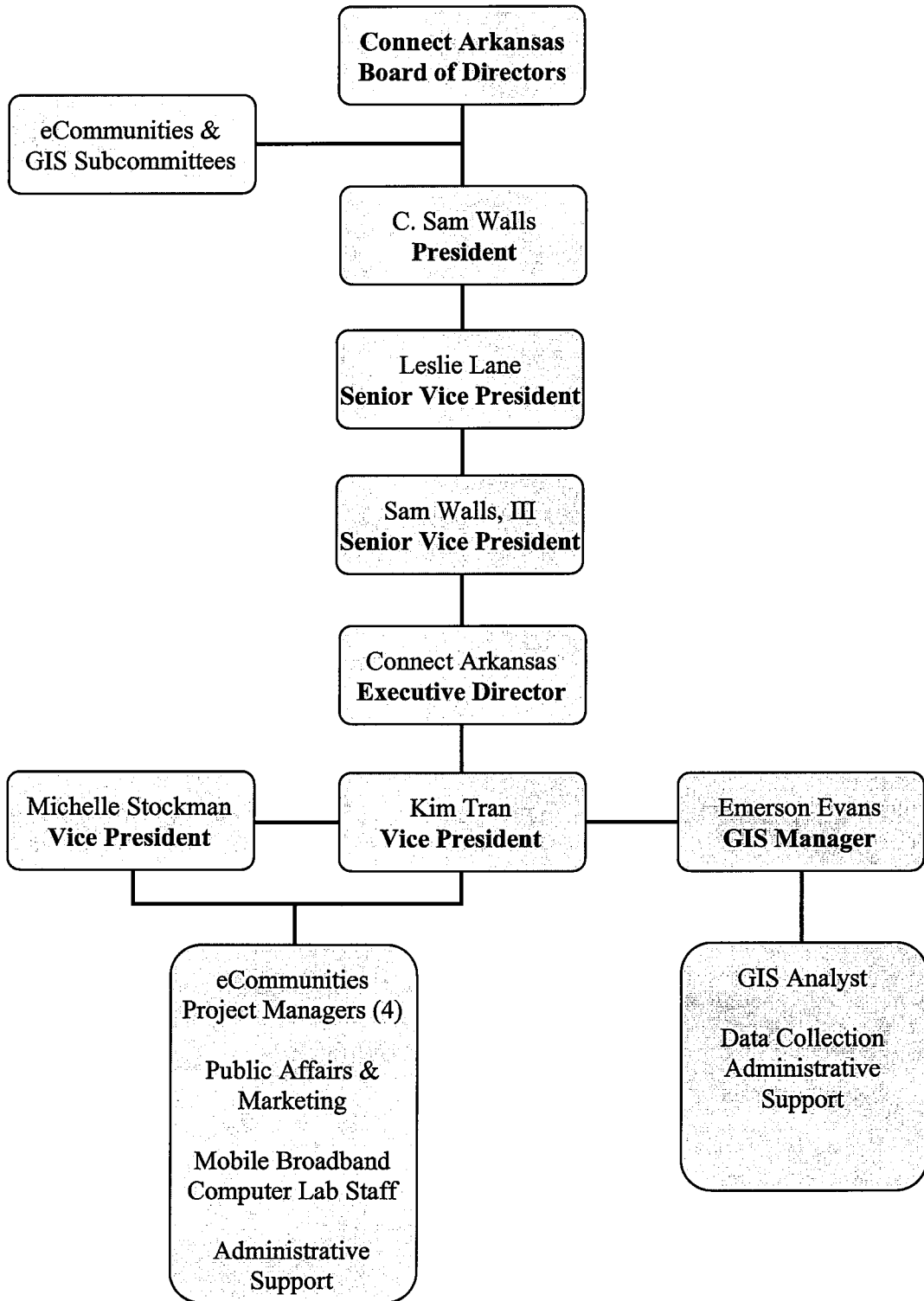
In addition to the broadband mapping noted above, Connect Arkansas requests an additional \$500,000 toward a \$617,958 budget to engage in community planning

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initiatives through their eCommunities program. The eCommunities has budgeted \$303,400 to engage nine selected unserved and underserved counties within the Delta Regional Authority counties to engage in “iDelta report” recommended strategic planning processes. Of that amount, over \$117,958 (the budget amount needed over the \$500,000 grant) will be provided as Gift-In-Kind through community volunteer efforts in the respective counties and fulfills the 20% matching requirement. Additionally, \$209,100 will be utilized to employ an eCommunity Project Manager to engage and guide each eCommunity through the strategic planning process.

(b) Applicant Capacity: The Arkansas State Broadband Data and Development Program is led by Connect Arkansas, a 501(c)(3) nonprofit managed by Arkansas Capital Corporation (ACC). As discussed earlier, ACC is a private company that has a 53-year history of collaboration with state government. ACC was specifically asked to organize and manage Connect Arkansas because it was trusted by the private sector service providers as well as the public and academic sector representatives. Further, because ACC has been involved in other federal programs in the past (Small Business Administration, USDA, ARRA and New Market Tax Credits) it is very comfortable with compliance and reporting requirements associated with federal programs. Connect Arkansas has been named by Arkansas Governor Mike Beebe as the designated broadband mapping entity for Arkansas.

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(Exhibit 1 - Connect Arkansas Organization Chart)

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The Arkansas State Broadband Data and Development Program include the expertise of our Board of Directors:

Greg Ashcraft, CFO
South Arkansas Telephone Company

Rep. Bill Abernathy
District 22

Elizabeth Bowles, President
Aristotle

Dr. John Ahlen, President
Ark. Science and Technology Authority

John Carver, President
CT&T

Claire Bailey, Director
Dept. of Information Systems

Maryce Cunningham, Gov. Relations
Suddenlink

Phil Billingsley, Dir. of Bus. Dev.
Information Network of Ark.

Eddie Drilling, President
AT&T Arkansas

Sen. John Paul Capps
District 29

John W. Harvey, Dist. Sales Manager
Nuvox Communications

Tom Chilton, Tech. Dev. Man.
Ark. Dept. of Econ. Dev.

Bill Hegman, General Manager
Southwest Arkansas Telephone Co-op

Susan Norton, C.I.O.
Fayetteville Public Schools

George Hopkins
Attorney

Andrew Parker, Liaison
Office of the Governor

Jeff Jones, Public Affairs Manager
CenturyTel

Dr. Mark Petterson
Univ. of Ark. Coop. Ext. Service

Wendy Wheeler, Government Affairs
Verizon Wireless

David Phillips, Dir. of Telecom.
UA Community College at Hope

Wendy Jones, Regional Manager
Cisco Systems

Ann Purvis, Administrator
Ark. Dept. of Finance and Admin.

J.T. Meister, Vice Pr. – Gov. Affairs
Windstream Communications

James Winningham, Dep. Commiss.
Arkansas Insurance Department

Joe Molinaro, Executive Director
Ark. Cable Telecom. Assoc.

Rex Nelson, Sr. Vice President
Communications Group

Len Pitcock, Dir. of Gov. Affairs
Cox Communications

Paul Waits, President
Ritter Communications

C. Sam Walls, CEO
Arkansas Capital Corp.

Ricky Williams, Owner
Genesis Broadband Wireless

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Connect Arkansas currently includes the following staff (staff will be added with additional funding):

C. Sam Walls, President: C. Sam Walls is a native Arkansan who has spent the last thirty-seven years engaged in private enterprises in a variety of sectors. Those activities have included a significant amount of time involved in entrepreneurial activity. He joined Arkansas Capital Corporation in May 1989 at a time in which the organization needed to be revitalized. During his tenure, Arkansas Capital Corporation has added seven affiliate companies and participated in putting over \$900 million dollars into Arkansas companies. Today, Arkansas Capital Corporation is a highly-respected organization that is proactively engaged in building Arkansas based enterprises through access to capital, entrepreneurial education and business development. In particular, Arkansas Capital Corporation has been a leading advocate for the teaching of entrepreneurship within the K-16 educational system and for promoting broadband access and education for Arkansas. Over the last ten years, Mr. Walls and Arkansas Capital Corporation have been at the forefront in promoting the utilization of entrepreneurship and, more recently, broadband as an integral part of the Arkansas economic development process. For the past several years, Mr. Walls has been annually referred by a leading business publication as one of the most influential businessmen in Arkansas.

Current Titles and Boards

- Federal Reserve of Saint Louis (Little Rock Branch)
- Arkansas Capital Corporation-Chief Executive Officer & Secretary-Treasurer
- Arkansas Capital Relending Corporation-President
- Arkansas Economic Acceleration Corporation-President
- Arkansas Economic Acceleration Foundation-Chairman
- Commerce Capital Development Company, LLC-President
- Connect Arkansas-President
- Diamond State Ventures-Chairman
- Heartland Renaissance Fund-Chief Executive Officer
- Accelerate Arkansas-Member

Leslie Lane, Sr. Vice President: Leslie Lane, Senior Vice President of Connect Arkansas, is a Financial Services Executive with fourteen years of experience in economic development, finance, and portfolio management. He has a strong management, marketing, and financial analysis background and extensive experience in innovating and structuring financing packages. Leslie has been quoted in numerous business publications and brings additional expertise in the areas of Strategic Planning, Product Development, Marketing Analysis, Financial Analysis & Modeling, Due Diligence, Sourcing Deal Flow, Portfolio Management, and Private Equity Markets.

From 1997-2005, Leslie Lane served as Vice President of Finance at the Arkansas Science and Technology Authority. During this time, he managed a state sponsored investment portfolio and oversaw all aspects of the transactions, evaluating investment opportunities, analyzing business plans, creating financial projections, performing competitive industry analysis and generating financial reporting documents. In this

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capacity, he also collaborated and continues to collaborate with the Arkansas Development Finance Authority and Arkansas Department of Economic Development to foster a private equity industry in Arkansas.

In addition to serving as Senior Vice President of Connect Arkansas, through AEAFF, Leslie manages the entrepreneurship educational activities associated with the Foundation including: Donald W Reynolds Governors Cup, YES for Arkansas and the Arkansas Venture Forum. Through the Heartland Renaissance Fund, he also manages a cumulative \$70 million investment portfolio.

Over his lifetime, Leslie Lane has been the recipient of the University of Arkansas at Little Rock 2004 CyberPartner Award, 2003 "Forty Under Forty" Designation by Arkansas Business Publishing Group, 2002 National Tibbetts Award by the Small Business Administration, and 2001- 2003 Public Official of the Year Award by the Arkansas Technology Transfer Society. He is also a Co-founder of the Arkansas Venture Capital Conference.

Sam Walls III, Sr. Vice President: Sam Walls is the Senior Vice President of Connect Arkansas and President of the Arkansas Economic Acceleration Foundation (AEAFF), both of which are affiliates of the Arkansas Capital Corporation Group.

Born and raised in Little Rock, Arkansas, he attended college at Southern Methodist University in Dallas, Texas, and returned to Little Rock to attend the University of Arkansas at Little Rock William H. Bowen School of Law. Upon graduating from law school in 1996 and passing the state bar, he worked for the Baptist Health Foundation as their Director of Planned Giving. Two years later, he was recruited by The Hartford to represent that company with their Arkansas clients, primarily stockbrokers. In 2002, he left The Hartford to work for Arkansas Capital Corporation. His primary role at Arkansas Capital Corporation is to support the growth of entrepreneurship in Arkansas. To that end, he helps use state and federal tax credits to support Arkansas businesses and the development of venture capital.

Arkansas Capital Corporation, through its affiliate Connect Arkansas, has also been a leading advocate for the preparation and education of Arkansans regarding the benefits of broadband use, as well as, for the facilitation of broadband to every Arkansas home and business. Through AEAFF, which actively engages in any and all activities that will educate, promote, the development of innovation, entrepreneurship, and venture capital formation with the State of Arkansas, Sam Walls III has been involved in the Arkansas Venture Forum, Techpreneur, Youth Entrepreneurial Showcase, Historically Black Colleges and Universities Business Plan Competition, and the Donald W. Reynolds Governor's Cup Collegiate Business Plan Competition. He recently graduated from the Leadership Greater Little Rock program and was recently named as Arkansas's "Top 40 under 40."

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Kim Tran, Vice President: Prior to joining Connect Arkansas, Ms. Tran spent over six years in an institutional and laboratory research setting at Arkansas State University and the University of Arkansas at Little Rock, where she focused on protocol design and development, statistical analysis, and research implementation. In 2005, two of the research initiatives received the 'UALR Assessment Excellence Award(s).' A former environmental and industrial chemist at General Physics and Rineco Chemical, MBA graduate and M.S. in MIS-candidate at the University of Arkansas at Little Rock, Ms. Tran provides an in-depth understanding of technology-based economic development.

More recently, she has been involved in the development of the Connect Arkansas Implementation Plan which is currently being implemented in coordination with the State of Arkansas. Through the Connect initiative, Ms. Tran has helped to collaboratively develop and deploy the e-Community IT Strategic Planning model for Connect Arkansas. Through her work with the Arkansas Economic Acceleration Foundation, Ms. Tran also participated in the development of the Implementation Plan for Entrepreneurship Centers, as well as in the standardization, protocol development and enhancement of the Y.E.S. Statewide Business Plan Competition.

Michelle Stockman, Vice President: Michelle Stockman is a Vice President for Connect Arkansas, the Program Manager of the Arkansas Economic Acceleration Foundation (both of which are affiliates of the Arkansas Capital Corporation Group) and the Business Development Manager for Arkansas Capital Corporation.

Born and raised in Chicago, IL, Michelle received her B.A. in Communications from Loyola University Chicago. She later moved to North Carolina where she received her Masters in Business and Entrepreneurship from Western Carolina University. Michelle began her career in various marketing and communications roles that eventually led her to open and run her first small business in North Carolina.

Once her business sold, Michelle turned to entrepreneurship economic development which opened the door to engaging in nonprofit management where she sustained legislative support and new business growth for NC REAL. From there she became involved in managing a multi-million dollar statewide grant program that involved over 30 private, public and non-profit organizations across a wide variety of local, county and state governments (including the e-NC Authority). She holds a Certificate in Nonprofit Management from Duke University.

Ms. Stockman was recruited to Arkansas to open and operate the state's first community entrepreneurship service support organization in Fort Smith. Through her work in Fort Smith, she managed the development and implementation of programs and services aimed at supporting entrepreneurs and their businesses. Michelle later joined the staff at Arkansas Capital Corporation Group and Connect Arkansas to apply her program and nonprofit management experience towards broadband and entrepreneurship development.

Ms. Stockman has recently been named Northwest Arkansas's "40 Under 40" by the Northwest Arkansas Business Journal. She actively participates on the Small Business

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Committee for the Fayetteville Chamber of Commerce; the Economic Development Committee for the Bentonville/Bella Vista Chamber of Commerce; Entrepreneurship Advisory Committees for NorthArk College and the Northwest Arkansas Community College; and she writes weekly business information columns for TheCityWire.com and the Southwest Times Record.

Emerson Evans: Mr. Evans is the GIS and Data Collection Manager for Connect Arkansas. Mr. Evans earned his Bachelors of Science in Geography from the University of Central Arkansas in 2006. After which he began his career at CenterPoint mapping natural gas lines as an intern for the company. Shortly after, Mr. Evans moved to Alltel Wireless Phone Company where he developed the RF engineering mapping department and developed several mapping standards for the company. In 2008, Mr. Evans was brought on board at Connect Arkansas where he began working with 70+ internet service providers to develop the benchmark broadband map for Arkansas.

Additional Non-Connect Arkansas Personnel:

Shelby Johnson: Mr. Johnson is the State Geographic Information Officer with the Arkansas State Geographic Information Office. Mr. Johnson will serve as the principal investigator for the state portion of this project. He has served as the State Geographic Information Officer of Arkansas since 1999. He directs the Arkansas Geographic Information which has an annual operating budget just under \$700,000. In this role he is responsible for developing the agency budget, following state procurement laws, and budget administration procedures. He has over 15 years of experience in GIS, and He has served several leadership roles in Arkansas including being instrumental in organizing the State Geographic Information Systems Board. Mr. Johnson has been nationally recognized through serving on the National States Geographic Information Council (NSGIC) Board of Directors from 2001 to 2005. Under Shelby's direction, the office successfully completed a Federal Geographic Data Committee (FGDC) Cooperative Agreement Program grant in 2004 aimed at establishing a coordination and education mechanism for the State's County Assessor Mapping Program. The result of that work is over 20 counties now have published cadastral data through the state clearinghouse and the program has been institutionalized. Shelby is currently serving as Principal Investigator for the FGDC Grant to build a statewide GIS Business Plan.

Learn Dalby: Mr. Dalby is the State GIS Program Manager for the Arkansas Geographic Information Office. Mr. Dalby received his Bachelor of Science degree from the University of Arkansas at Little Rock. He spent three years performing GIS research and working as the leader of the Arkansas Hazards Mitigation and Project Impact contract for the University of Arkansas at Little Rock GIS Applications Laboratory. While serving in this role, he worked with the Arkansas Department of Emergency Management and other state agencies to provide the GIS database design and analysis components of the state Hazards Mitigation plan. His work with Project Impact included coordinating with select communities to develop the GIS applications associated with their plans.

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The Gadberry Group is a privately held consulting firm founded in 2007 based in Little Rock, Arkansas. The Gadberry Group provides location-based service and information data products, for clients who demand the most current, accurate, and precise household and population data for their site location analysis. Mircobuild, Gadberry's patent-pending product, is unique because only Microbuild, uses consumer data at the rooftop level to deliver household and population counts beginning at the census block level.

CT&T was established in 1982, by a small group of formally trained individuals in telecommunications consulting and drafting services. Aggressive and fiscally conservative, competitive and innovative, CT&T is a leader in the design, drafting, splicing, and development of total turnkey projects for leading-edge communications systems that will drive the industry of tomorrow. Being an individually owned company gives CT&T incentive to maintain a staff of high quality employees and offer services that carry the communications industry into the next information age. Through management's vision, experience, and expertise of it's employees, CT&T has grown into a large consulting company and operates through a number of experienced and recognized names in the communications industry. CT&T has aligned itself with these companies to be a total service provider to all clients, understanding that individual clients have unique needs.

In addition to the current staff ready to begin this project, Connect Arkansas intends to add key additional staff to meet the data attainment and mapping requirements by the stated deadlines. Such staff includes an additional GIS position, compliance/bookkeeping, and administrative support staff, and additional contracted subject matter experts. With the additional \$500,000 broadband planning grant, Connect Arkansas will hire an e-Community organizer who will work with county leaders in nine of the most distressed Delta Regional Authority counties to develop broadband adoption strategies for their people (Ashley, Lafayette, Miller, Nevada, Hempstead, Little River, Sevier, Howard and Pike counties).

In all, the Arkansas State Broadband Data and Delivery Program is poised with the expertise, knowledge, experience and network connections to successfully develop and deliver the stated program with complete and accurate data for the NTIA.

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4. EXPEDIENT DATA DELIVERY

Connect Arkansas has already developed baseline broadband coverage and speed maps from which it can build upon. As such, CA is confident it can deliver a substantially complete set of all broadband mapping data on or before February 1, 2010 and complete the data collection on or before March 1, 2010. The project timeline includes submitting a substantially complete set of data to the NTIA no later than February 1, 2010. Additionally, the 67% of the funds for the project will be obligated by the September 2011 timeline while utilizing the remainder of the five years for maintenance and updating of data collected. (NOTE: it was CA's understanding through several of the NTIA conference calls that 67% of these funds had to be spent by end of year two. We have since had conflicting comments on this. We have proceeded as if this is a requirement because for the most part, most of the expenses are incurred in the first two years anyway) Connect Arkansas will utilize the following timelines for data capture:

Year	Milestones
2009	<ul style="list-style-type: none"> • September: Notification of project award • September – November: Hire additional staff (additional GIS position, administrative, compliance/bookkeeping), enter into contract with GIO, Gadberry and CT&T, revise current NDA's to allow for data sharing with NTIA, continue data collection
2010	<ul style="list-style-type: none"> • First Quarter: Complete 100% of the data information and submit to the NTIA by or before the February 1, 2010 deadline. If necessary, complete data set to NTIA by March 1, 2010. Data will be as of June 30, 2009 and the development/roll-out of the service provider web-based information update portal. • Second Quarter: Begin the development and beta testing of the web-based mapping application AND late second quarter begin the collection of updated coverage data from providers. • Third Quarter: Soft launch of the web-based mapping AND new data set to NTIA by September 1, 2010. Data will be as of December 31, 2009 and June 30, 2010.

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	<ul style="list-style-type: none"> • Fourth Quarter: Complete the testing and debugging of web-based mapping tools and information portals and hard launch the applications to the public and service providers. Additionally, complete the integration of all mapping data acquisition tools and maps.
2011	<ul style="list-style-type: none"> • Engage in semi-annual data updates and data maintenance (March 1st for data as of Dec. 31, 2010 and September 1st for data as of June 30, 2011. • Continue to submit quarterly reports on project progress to the NTIA.
2012	<ul style="list-style-type: none"> • Engage in semi-annual data updates and data maintenance (March 1st for data as of Dec. 31, 2011 and September 1st for data as of June 30, 2012. • Continue to submit quarterly reports on project progress to the NTIA.
2013	<ul style="list-style-type: none"> • Engage in semi-annual data updates and data maintenance (March 1st for data as of Dec. 31, 2012 and September 1, for data as of June 30, 2013. • Continue to submit quarterly reports on project progress to the NTIA.

5. PROCESS FOR REPEATED DATA UPDATING

Connect Arkansas intends to collect the requested data on a semi-annual basis from service providers in regards to broadband availability, connection speeds, infrastructure development and subscribers for up to five years or the year 2013. Additionally, Connect Arkansas will work with service providers in identifying connection points for middle mile connections. As noted earlier in this application, Connect Arkansas has already established non-disclosure agreements with Arkansas service providers. Steps are already being taken at this time to modify said agreements to allow for Connect to share the acquired information with NTIA. Building on CA's success in acquiring the service provider data to develop its first-generation coverage map, Connect is currently working with service providers to develop an efficient semi-annual system of data updates so that the updates are a seamless action between the service providers and Connect.

More specifically, Connect Arkansas will develop an online encrypted data upload site where service providers will be given login credentials with unique usernames and passwords. This web portal will be used by the service providers to post ongoing updates to the required data. Once historical data sets are established, future data sets can be compared to the older ones to generate

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new, up-to-date, information for future maps that will also show the growth rate and the rate of adoption of broadband internet access.

6. PLANNING AND COLLABORATION

Collaboration

The state of Arkansas has been promoting the need for more private/public collaborations in a variety of interests and areas across the state. Seeing a natural need for this in order to develop the broadband mapping and promotion work, Connect Arkansas has been developing the needed partnerships and collaborations since its inception in the summer of 2007.

From being organized as a collaborative partner with state agencies while becoming its own nonprofit entity, Connect Arkansas has enjoyed developing private/public partnerships across the state while gaining the trust of being a neutral entity with broadband service providers. To date, Connect Arkansas has developed over 100 partnerships amongst state agencies, service providers, local governments and private entities to raise funds, awareness and collect the data needed to connect all Arkansans to the internet.

For the Arkansas State Broadband Data & Delivery Program, Connect Arkansas has already established collaborative relationships with the Arkansas Geographic Information Office, the Gadberry Group and with CT&T for program delivery. Connect Arkansas through the Arkansas State Broadband Data & Delivery Program and the Expanding Broadband Use in Arkansas proposals plan to partner with the Arkansas State Governor's office, Arkansas Department of Information Systems, Arkansas Broadband Advisory Council, Arkansas Science and Technology Authority, Arkansas Economic Development Commission, Arkansas State Library, Arkansas University System as well as with Desha, Faulkner and Columbia Counties. Additional county partnerships will further join the eCommunity collaborative efforts with a focus on obtaining partnerships with all 75 counties.

Connect Arkansas has also already collaborated with over 70 broadband service providers throughout the state to begin to collect the necessary data required by the NTIA. The service providers include (but are not limited to):

Adelphia	Allegiance Communications
Alltel	Aristotle Internet Services
Arkansas Telephone Company	ArkansasUSA Wireless
The Net Connection, Inc.	Arkwest Communications
Arnet Computer Services	AT&T Arkansas
Bayou Cable	Black & Fowler Agency
Black Sheep Computing	Cable One
Cabletel	Blytheville TV Cable Company
Central Arkansas Telephone Coop.	Centurytel
Charter Communications	City Cable
Clinton Cablevision Services	Comcast
Community Internet	Computer Works
Cyberback Internet	Conway Corporation

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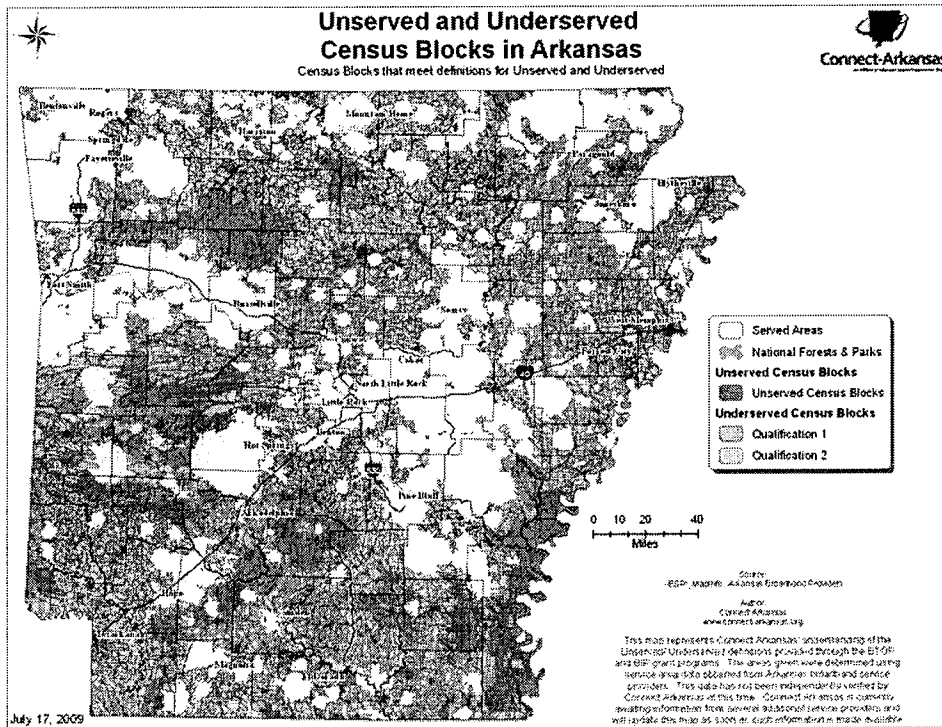
Cox Communications	COVAD
Data Technology	DirecLynx
DirectTV	Dish Network
Dlux	Dunklin Holdings
Earthlink	G5 Internet
Genesis Broadband Wireless	Grmc Net/Paragould.net
HBE Internet	HughesNet – Arkansas
IFWORLD, Inc.	Independence County Cable TV
Melbourne Cable TV	YS Cable TV
Infodash	IOCC.com
Lightning Bolt DSL	LocalNet Corp.
Madison Cnty telephone and Cable	Magazine Telephone Company
MCI Worldcom (Sprint)	Megapath
Mid-South Communications	MO-ARK Communications
Mountain View Telephone Co.	Navigator Telecommunications
Newroads Telecom	Northern Arkansas Telephone Company
Nuvox Communications	Oak Grove Heights Cable Co.
OzarkISP.net	Ozark Telephone Company of Missouri
Paragould Light Water & Cable	Paris Cable TV
PC Solutions Incorporated	Pinnacle Communications
Prairie Grove Telephone Company	RCC Wireless
Rice Belt Telephone Company	Ritter Communications
River Valley Satellite & Cable	Seark.net
South Arkansas Telephone Co.	Southwest Arkansas Telephone Coop.
Sprint	SuddenLink Communications
Cedar Valley Communications	TDS Telecom
Time Warner Telecom	Verizon
Vineyard Media	VueWireless
Walnut Hill Telephone Company	WEHCO Media

Predictive Modeling

Connect Arkansas also intends to utilize this data to help decision makers both on the public side as well as private providers. Through its experience to date, CA has done preliminary mapping in Arkansas and preliminary survey work regarding broadband adoption in areas of the state. In short, CA is attempting to answer the who, what, where and why of broadband coverage and usage. Who is online, what technology are they using to get online, where can they get online, and why are they online (or conversely, why are they NOT online). By working with the Gadberry Group, CA intends to overlay its acquired data with datasets developed by Gadberry to start developing predictive modeling. This modeling can then be used to address issues regarding where coverage is or is not and also, for those areas that have been modeled to demonstrate that there is not a viable economic model for service providers to be able to expand service to, discussions can be had as to what, if any, subsidies might be necessary to assist.

7. BROADBAND PLANNING

The Connect Arkansas Unserved and Underserved Census Block Map shows large portions of Arkansas as considered below standard access to broadband internet. Many of the regions represented on Map 6 (below) lack the knowledge, capacity and financial leveraging to address the issue of broadband access within the counties.



Map 6 – Unserved and Underserved Census Block in Arkansas

From the start in 2007, Connect Arkansas recognized that counties would need to bring their cities and towns together in an effort to collaborate in the creation of local eCommunities. eCommunities have been established to address the identification of broadband service areas, broadband connection needs, citizen training and education on broadband and strategic planning amongst other goals.

The eCommunity Community Implementation Plan includes four phases of development that have been pilot tested within Columbia, Desha, Faulkner and Woodruff counties during late 2008 and 2009. In recognizing that Arkansas has an additional 71 counties to develop eCommunities, Connect Arkansas is requesting an additional \$500,000 in planning funds to engage the counties with the most urgent need of developing collaborative local teams to engage in the strategic planning process for broadband access and usage.

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The counties for the eCommunity planning opportunities under this grant are Delta Regional Authority counties which are also included in the unserved and underserved counties as noted in Map 6. (Ashley, Lafayette, Miller, Nevada, Hempstead, Little River, Sevier, Howard and Pike Counties). Eventually, Connect Arkansas plans to engage all 75 Arkansas counties in this planning process.

Each county involved with the eCommunity process will be engaged in the three step Assessment process that includes:

Phase 1: Local Resource Inventory

1. Confirm the broadband and telecommunications resources currently available.
2. Execute non-disclosure agreement for broadband service providers.

Phase 2: Local Resource Analysis

1. Interview the identified Incumbent Local Exchange Carriers, Competitive Local Exchange Carriers (CLEC's), Internet Service Providers, Cable TV and Utility Providers.
2. Identify the broadband and telecommunications resources available in the future.
3. Development of detailed GIS maps and tools depicting broadband service areas overlaid on existing community infrastructure such as schools, libraries, hospitals, community service centers, neighborhoods and more.

Phase 3: Analysis and Summary

1. Gap analysis of needs relative to available resources

Additionally, eCommunities subsequently engage in the four phase strategic planning process that includes:

Phase 1: Preliminary Community Resource inventory

1. Identify potential partners with a tie, interest or obligation to a community within the county.

Phase 2:

A – Strategic Action Plan

1. Form Community Leadership Teams & Community kick-off events.

B – Funding Assistance

1. Develop public-private partnerships and identify potential partners with a tie, interest or obligation to a community.
2. Identify, develop and manage grants/proposals
3. Seek local funding support

Phase 3-4:

A – Strategic Action Plan

1. Identify the infrastructure and application needs of each community sector (through interviews, town hall meetings, focus groups and suveys).
2. Develop buy-in at the local and regional levels (through information campaigns,

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website, newspaper articles, town hall meetings, interviews and focus groups).

3. Development of community vision.
 4. Analysis of opportunities.
 5. Gather best practices from other communities
 6. Assess revenues, costs, benefits and risk.
 7. Identify funding options
 8. Develop an implementation plan and performance rubric.
 9. Continually build community support through an ongoing marketing plan.
- B – Funding Assistance
1. Articulate the value and return on investment to recruit partners/partnerships.
 2. Manage partnerships and assist in helping partners realize the value of the relationship.
- C – Project Management (Infrastructure Expansion)
1. Develop project estimates and plans (management of scope, quality, effort, risk and timeline).
 2. Build Teams (assembly of project resources, which may include sub-contractors and service providers).
 3. Manage project RFP's and the procurement process.
 4. Project initiation and ongoing project management.
- D – Demand Facilitation
1. Develop an applications template that can be used across the rural communities.
 2. Communicate incentives for the development and deployment of web-based applications (work with entities to build business case with achievable ROI).
 3. Build awareness of benefits through communications and public relations (to include implementation of Breaking Boundaries with Broadband).

Through the eCommunities strategic planning process, the counties are able to engage in a collaborative effort to map the resources and assets they currently possess as well as discover the issues, needs and resources the counties need to connect and utilize high speed internet access. The \$500,000 in planning funds will allow Connect Arkansas to assist the counties most in need of access for education, economic development and healthcare.

8. CONCLUSION

Arkansas Capital Corporation, manager of Connect Arkansas, has been involved in assisting the economic development of Arkansas for over fifty years. We have benefited countless individuals throughout that time and have played a role in healthcare, education, tourism and other areas. Nothing we have done to date, however, compares to the impact of assisting Arkansans to utilize the benefits of broadband internet access in their personal, education and professional lives. We are honored to have this opportunity. This investment by the federal government through Department of Commerce, United States Department of Agriculture and NTIA will have a profound impact on Arkansas for years to come.