



**Broadband Infrastructure Application**  
**Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 7:54:17 PM	<b>Easygrants ID:</b> 5723
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> TRILLION COMMUNICATIONS CORP.
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Ralph E Brown

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## A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
<b>DUNS Number</b>	039872192
<b>CCR # (CAGE)</b>	1VDK5
<b>Legal Business Name</b>	TRILLION COMMUNICATIONS CORP.
<b>Point of Contact (POC)</b>	RALPH BROWN 4042456393 Ext. ralph.brown@trillionusa.com
<b>Alternate POC</b>	CALVIN A. LYONS 2054811678 Ext. calvin.lyons@trillionusa.com
<b>Electronic Business POC</b>	RALPH BROWN 4042456393 Ext. ralph.brown@trillionusa.com
<b>Alternate Electronic Business POC</b>	RALPH BROWN 4042456393 Ext. ralph.brown@trillionusa.com

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
<b>Prefix</b>	Mr.
<b>First Name</b>	Ralph
<b>Middle Name</b>	E
<b>Last Name</b>	Brown
<b>Suffix</b>	
<b>Telephone Number</b>	404-245-6393



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<b>Fax Number</b>	
<b>Email</b>	ralph.brown@trillionusa.com
<b>Title</b>	Chief Executive Officer

**Additional Contact Information of Person to be Contacted on Matters Involving this Application:**

Project Role	Name	Phone	Email
Secondary Point of Contact	Mr. Antwon , Alsobrook	6789992525	antwon@a2dinc.com
Secondary Point of Contact	Mr. Larry , Morrow	6785348326	larry@a-plus.net

**Environmental Point of Contact**

Prefix: Mr. Name: Alsobrook, Antwon Suffix: Telephone Number: 6789992525 Title: President/Chief Executive Officer
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**Organization Classification**

<b>Type of Organization</b>	For-profit Entity
<b>Is the organization a small business?</b>	Yes
<b>Does the organization meet the definition of a socially and economically disadvantaged small business concern?</b>	No



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Authorized Organizational Representative	
<b>AOR Name</b>	BROWN, RALPH
<b>Result</b>	Applicant Authorized

**Project Title and Project Description**

**Project Title:** South Central Alabama Broadband Commission (SCABC - CCI)

**Project Description:** The Trillion Team has formed a Public/Private Partnership with the South Central Alabama Broadband Commission (SCABC) to implement a neutral, community-owned, all-fiber with wireless canopy, broadband infrastructure that will deliver 100% Middle Mile and 20% Last Mile Connectivity to economically distressed Lowndes, Dallas, Wilcox, Escambia, Conecuh, Crenshaw, and Macon County, Alabama.

**CCI Priority Checklist**

**The following items were selected from the CCI Priority Checklist:**

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.
2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders.
3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.
4. This project will deploy Middle Mile broadband infrastructure to community colleges.
5. This project will deploy Middle Mile broadband infrastructure to public safety entities.
6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. Any Last Mile components in rural areas do not exceed 20% of the total eligible costs of the project.
7. This project will deploy Middle Mile broadband infrastructure and the applicant has proposed to contribute 30 percent or more in non-federal cost match.

**Comprehensive Community Infrastructure Components**



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**The following items were selected from the Comprehensive Community Infrastructure Components:**

Middle Mile

Last Mile Rural

**BIP Applicants**

Have you also applied to BIP for funding in the sample proposed funded service area?

- No

If Yes, please provide the project title and Easygrants ID number:

Title of Joint BIP Application:

Easygrants ID:

**Other Applications**

Is this application being submitted in coordination with any other application being submitted during this round of funding?

- Yes

<b>Easygrants ID</b>	<b>Project Title</b>
5763	South Central Alabama Broadband Commission-SBA
5766	South Central Alabama Broadband Commission-PCC

If YES, please explain any synergies and/or dependencies between this project and any other applications.

The South Central Alabama Broadband Commission (SCABC) Cluster was formed to help eliminate the digital divide in the South Central “Black Belt” Alabama region. This is one of the most economically depressed regions in the country where most of the residents live below the national poverty level, and unemployment rates range from 11.1% to 27.4%. With such economic hardship, the region’s incumbent telcos and cable companies have resisted upgrading their existing backhaul infrastructure to serve the Cluster because of a lack of positive economic



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development in the region and a lack of broadband awareness. As a result, organizations, schools, institutions, and agencies have been unable to introduce and sustain innovative programs that require adequate access to broadband-based services to achieve economies of scale. SCABC proposes a middle mile, community-owned, service provider neutral, fiber optic network with wireless overlay, that will connect anchor institutions in the 8-county Cluster and last mile connectivity to selected proposed funded service areas within the Cluster. A variety of community programs will be available through the “always on” connection. In addition to delivering the CCI, SCABC proposes to implement Public Computer Centers (EG#5766) which will be connected through standard service from an existing provider, or if within the SCABC CCI Cluster, directly to the CCI, if funded. Through the PCCs, SCABC will implement the eCommunity Technology Center (eCTC) model, a community empowerment initiative that assists vulnerable populations with connecting to public assistance programs, provides access to information technology to improve personal income-generating capability, and provides advanced support services (distance learning, tele-health monitoring, telemedicine, e workforce development and eGovernment) for the community-at-large. The SCABC Sustainable Broadband Adoption Team (EG#5763), lead by Alabama State University, provides well-trained field teams to insure that Cluster residents understand the benefits of, and adopt broadband. As described herein, the PCC and SBA applications are designed to provide services independent of the CCI. However, the combined efforts of the CCI, the companion PCC and SBA provide a supply-side, direct-connect catalyst for change, promote immediate Cluster demand for broadband, encourage efforts to increase/sustain broadband demand, and create incentives for private sector broadband investment. Collectively, the proposals promote synergy and leverage resources to further stimulate job creation/retention and bolster economic development. This, in turn, will result in a greater impact of the BTOP initiatives than the sum of their effects individually, with an ultimate outcome of a healthier, technologically smarter Alabama. To truly achieve the highest measurable return on investment, all three, if funded, will introduce a broadband implementation model that can be replicated across America.

**Individual Background Screening**

Is the Applicant exempt from the Department of Commerce requirements regarding individual background screening in connection with any award resulting from this Application?

- No, Applicant is subject to these requirements



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If the answer to the above question is "No," please identify each key individual associated with the Applicant who would be required to complete Form CD-346, "Applicant for Funding Assistance," in connection with any award resulting from this Application:

<b>Name</b>	<b>Title</b>	<b>Employer</b>
Antwon Alsobrook	President/Chief Executive Officer	A2D, Inc.
Larry Morrow	President	APlus Community Network, Inc.

## **B. Executive Summary, Project Purpose and Benefits**

### **Essay Question**

**Executive Summary of the proposed project:**

**PROBLEM STATEMENT-** Recent media and academic articles report rural areas within the Southern Black Belt regions of Alabama are big losers as the South restructures its economy away from its manufacturing base. The Connecting Alabama Project (June 2009) states broadband is widely seen as a necessity to reverse economic decline and population loss in the many struggling rural communities hit hardest by the recession. Broadband is also recognized as the most cost-effective means of meeting the state's critical education and health care challenges. Failure to address these challenges statewide puts at risk Alabama's past progress in positioning itself for a bright competitive future in agriculture, bio-technology, aeronautics, alternative energy, tourism and other key sectors.

**PROGRAM SOLUTION -** Trillion Communications ("Trillion"), as lead applicant, in partnership with A-Plus Community Solutions, Inc. ("APLUSCSI"), and A2DInc., all minority corporations, and the South Central Alabama Broadband Commission (SBABC) proposes to provide access, and/or connect, anchor institutions to a robust, comprehensive community broadband infrastructure to stimulate the creation and retention of jobs and bolster development. SCABC comprises three Historically Black Colleges and Universities (HBCUs), a two-year technical college, medical facilities, municipalities/faith-based/non-profits, and a Federally-



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recognized tribe. The project envisions a Middle Mile CCI based on APLUSCSI's Converged Broadband Infrastructure (CBI)<sup>TM</sup> Platform Design, which is fiber optic with wireless overlay, that will deliver service-provider-independent connectivity to community anchor institutions and critical facilities, and Last Mile connections to selected commercial and residential households in eight economically distressed counties ("Cluster") in Alabama: Lowndes, Dallas, Wilcox, Escambia, Conecuh, Butler, Crenshaw, and Macon. This CBI<sup>TM</sup> solution has been developed over a 5-year period. and is based on 10 plus years experience with small and large scale projects for multiple corporations, cities and counties. It is scalable, cost-efficient, sustainable and beneficial to all institutions and citizens in the specified Cluster communities to be served.

**PROJECT ACTIONS** - The project will implement a next-generation broadband network that assures state-of-art level access with a FTTP Wireless Canopy to connect directly to anchor institutions and critical facilities within the Cluster, including the Poarch Creek Indian Reservation. The network will also connect to residences and businesses in the funded service areas within Lowndes, Escambia, Dallas and Macon Counties. The project encompasses delivery of a FTTP connection with wireless canopy to 30 Medical Organizations, 102 Schools, 191 Government Entities, 8 Emergency Response Groups, 16 Public Safety Organizations, 10 Public Computer Centers, 2 Libraries, 65 Community Support Agencies, and 6 Public Housing Facilities. It will connect directly to 15,635 households, businesses and non-critical institutions within the 8-County Cluster. In addition, the 8-County SCABC Cluster is considered 100% rural. No city, town, or incorporated area within each county has a population greater than 20K residents. The SCABC Cluster includes Lowndes, Dallas, Butler, Crenshaw, Wilcox, Conecuh, Escambia and Macon County, AL.

**APPLICANT QUALIFICATIONS/PARTNERSHIPS** - As strategic partners, the Trillion Team will leverage its substantial technical and governmental compliance management experience in projects of similar or larger size and scope. Trillion, as lead applicant, will serve as Managing Partner and Fiduciary of BTOP grant funds. A-PLUS Community Solutions, Inc. will lead Engineering and Construction Asset Management. A2D, Inc. will provide Construction Program Management and oversight of the eCommunity Sustainable Adoption Program.

Trillion will oversee an inclusive partnership structure of stakeholders, citizens and governments within the Cluster. To ensure project sustainability, the Team has formed partnerships with and garnered collective support from in-community-based organizations across the Cluster and from





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national organizations. The SCABC founding members and subgrantees, and Lowndes County, AL have executed a Public/Private Partnership ("PPP") with A-PLUS Community Solutions, Inc. to implement its Converged Broadband Infrastructure("CBI")™ throughout Lowndes County, and neighboring communities. Lowndes County has garnered the collective support of neighboring cities, counties and institutions, and the SBABC has garnered the support of the Poarch Band of Creek Indian Nation. Each Sub-Award Municipal Partner will receive the CCI assets within their respective municipal right-of-way to insure that intra-connection to the CBI™ is always on and remains free to the local community. The PPP vetted and preselected Intelligent Community Enterprise, Inc. ("ICE") to provide all necessary operations and support investments to sustain all facilities within the partnership. This partnership structure achieves project viability by sharing the risk and higher balance sheets through combined assets, experiences and revenues.

**METHODOLOGY** - The total CCI Middle Mile infrastructure cost is \$87,002,293. We secured the necessary private-based funding to cover 30% of the total cost of the project. The Trillion Team is requesting \$59,939,385 which equates to 70% of the Capital Cost of Construction. The proposed CCI will deliver direct connectivity to 15,635 FTTP sites and will pass 59,761 doors whereas competing wireless ISP's can connect and compete to deliver last mile connectivity via wireless to the remaining households and businesses. The SCABC Team will leverage future private/public funding sources to deliver FTTP connectivity to an additional 24,576 FTTP sites while expanding the middle mile network to neighboring counties in FL, GA and MS. The proposed CCI offers a sustainable community outreach program, called "eCommunity", which ensures all connected to the CCI will have no-cost access to community-support services.

The SCABC Team will establish (4) Network Operations Centers called eCommunity Technology Centers (eCTC) all donated in-kind by Tuskegee University, Alabama State University, the Lowndes County Commission, and the Poarch Band of Creek Indians (still finalizing agreements). See "Key Partners" document for more details.

**SUMMARY OF JOBS CREATED/SAVED** -The SCABC Team will generate nearly (1208) jobs (direct/indirect/induced ) during the 2 1/2 year construction period. In addition, the SCABC team estimates that the proposed CCI will contribute to a 2% net reduction in the local unemployment rate due to the ancillary community jobs created by the entry of foreign service providers, direct content providers, and non-profit community service providers. The proposed CCI will help local economic development agencies attract high-tech industry which require superior broadband



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services. As a result, the overall socio-economic health of the community will improve due to the proposed CCI, SBA and PCC Programs.

**NETWORK ARCHITECTURE** – The SCABC CCI will provide a fully-integrated, terrestrial and mobile Converged Broadband Infrastructure™ that operates using the IPv6 protocol. Use of this protocol as a standard will allow greater flexibility for managing bandwidth utilization, prioritization and quality of service across the infrastructure. It is anticipated that most residential and commercial users will initially subscribe to 2x or 3x DSL speeds to the internet and will have no-cost access to 10Mbps-100Mbps via intranet to interconnect with local institutions and facilities. In addition, it is anticipated that most anchor institutions and critical facilities will subscribe to speeds anywhere from 10Mbps to the Internet and 100Mbps-1Gbps via intranet. Regardless of the speed requirements needed, the backbone capacity of the infrastructure is established at synchronous 10Gbs. As adoption reaches 50%, the mobile design will be enhanced to maintain the 45Mbps per user capacity or increase capacity to 100Mbps.

Converged Broadband Infrastructure™ has the capacity to aggregate the services of multiple local and remote services providers over a single fiber platform to each consumer within the community. As a result, consumers will be permitted to subscribe to any service provider who is physically connected to the CBI™ community gateway (TELETOLL™) and/or any remote service provider who delivers Over-the-Top (OTT) services via a high-speed connection. This includes, but is not limited to, up to (5) ISP's, (5) Phone Carriers, and (5) Video Providers as well as unlimited VOIP Phone providers & App Service providers.

**Project purpose:**

The South's economy is in the midst of long-term restructuring in which the big losers are manufacturing-dependent rural areas. The Birmingham News published a series of articles entitled, "The Black Belt: Alabama's Third World," during the months of May, June, July, and October 2002, depicting the history of the region and the struggles experienced by the people living there today. This special report revealed the high unemployment rate, lack of economic development, and limited educational opportunities. A review of Dismantling Persistent Poverty in the Southeastern United States (University of Georgia, 2002), revealed results of a study that identified counties in Alabama with persistently the worse areas of poverty based on 2000, 1990 and 1980 Census data. The study concluded that there are 26 counties in Alabama with persistent poverty over the three census periods—and some of the poorest of all regions of the country. Seven of the eight counties in the SCABC Cluster are on that list and are in Federal Enterprise



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Zones (See SCABC-EcoDep.pdf.) The recent economic downturn has further impacted these economically distressed counties (average per capita income, \$13,544, is 63% of the national average of \$21,587, 2000 Census data) as unemployment rates have continued to soar: Escambia from 6.0% in January 2008, to 8.6% in December 2009, to 13.9% in January 2010; and Conecuh from 7.6% in January 2008, to 11.2% in December 2008, to 21.8% in January 2010. According to the Alabama Department of Industrial Relations Labor Market Information Division, January, 2010 rates are: Butler 16.6%; Crenshaw 11.1%; Dallas 21.1%; Lowndes 17.5%; Macon 14.0%; statewide 11.8%; Wilcox 27.4%, highest statewide. The national rate is 9.7%. According to Connecting Alabama, the Governor's Broadband Initiative, "High capacity broadband ... significantly improves quality of life, public safety, and access to economic opportunity for all Alabamians." Therefore, Trillion Communications, lead applicant in partnership with A-Plus Community Solutions, Inc. (APLUSCSI), and A2D, Inc, all minority and/or socially and economically disadvantaged corporations, and the South Central Alabama Broadband Commission (SCABC) proposes a robust CCI to stimulate the creation/retention of jobs and bolster development in eight economically distressed counties: Lowndes, Dallas, Wilcox, Escambia, Conecuh, Butler, Crenshaw, and Macon (referenced as Cluster). SCABC includes 3 Historically Black College/Universities, a 2-year technical college, medical facilities, municipalities/faith-based/non-profits, and the Poarch Band of Creek Indians. The project envisions a Middle Mile CCI based on APLUSCSI's Converged Broadband Infrastructure (CBI)<sup>TM</sup> Platform Design, which is provider-neutral, fiber-optic with wireless overlay, that deploys "always on" connectivity to anchor institutions, and Last Mile to selected funded service areas. GOALS are to: enable multiple service providers to compete to deliver access to fee-based broadband over a single community-owned infrastructure, to consumers residing in unserved and underserved areas; provide no-cost access to broadband-based ePrograms such as virtual workforce development, distance learning, telemedicine, e-health education, electronic records development, and health information management to enhance access to quality healthcare and education for vulnerable populations; provide always on intranet/local video connectivity to CCI connected households, businesses, schools, libraries, medical/health care providers, 2- and 4-year colleges/universities, community support organizations, including providers of outreach and support; help facilitate greater use of broadband services by vulnerable populations, and job-creating strategic facilities (e.g. eCommunity Technology Centers) located in state or federally designated economic development areas; improve access to, and use of, broadband service by public safety agencies; and stimulate the demand for broadband, economic growth, and job creation. OBJECTIVES are to provide 1) HEALTHCARE evaluation, diagnosis, monitoring, and access in times of disaster using no-cost intranet or competitively priced internet-based



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telemedicine and videoconferencing technologies at Federally Qualified Health Centers (FQHCs), Community Care Network (CCN) mobile clinics, and computers in first response vehicles to transmit data to area hospitals; provide e-health education and nutritional intervention strategies to mitigate health disparities by: a) develop/deploy electronic medical records to provide patient information to medical providers 24/7; b) mobile devices for wireless monitoring of medical conditions at homes/community centers; c) personalized health/wellness/obesity counseling over cell phones; 2) PUBLIC SAFETY: immediate reliable communications to coordinate emergency response, and video surveillance to reduce criminal activity; 3) EDUCATION/JOB TRAINING: create/retain jobs in healthcare, information technology and construction industries; entrepreneurship training; eEducation/training to prisoners to prevent repeat crimes; provide work ethic and OSHA training to promote job retention and workplace safety; train vulnerable groups to use broadband for job search, public assistance, e-learning, etc. The combined efforts of this CCI, the companion PCC (EG#5766) and SBA (EG#5763) provide a supply-side catalyst for change, promote immediate Cluster demand for broadband, encourage efforts to increase/sustain broadband demand, and create incentives for private sector broadband investment. Collectively, the proposals promote synergy and leverage resources to further stimulate job creation/retention and bolster economic development, which results in greater impact of the BTOP initiatives than the sum of their effects individually, with an ultimate outcome of a healthier, technologically smarter Alabama.

**Recovery Act and Other Governmental Collaboration:**

The Trillion Team is committed to forming federal partnerships to enhance our ability to implement, support and sustain the BTOP CCI. Examples of such collaborations include:

Delta Regional Authority – SCABC will leverage the resources of the Rural Business Opportunity Program (RBOP) at ASUSN in Brewton to enhance support service delivery to businesses and entrepreneurs. The SCABC will also work with the DRA to craft a CCI Expansion Plan that will facilitate additional private/public resources to replicate & expand the CCI across the entire Delta Region which includes portions of AL, MS, LA, AK, TN, KY & IL.

HUD/HBCU Grant \$700K Native American Housing Block Grant - Collaborations with HUD would assist in educating consumers regarding the benefits of broadband, and as appropriate, leverage costs for residential improvements to facilitate connectivity. Alabama State University, a SCABC partner, is a previous recipient of this grant.



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USDA-Rural Business Enterprise Grant \$2.5M - Broad-based rural development program that includes: acquisition or development of land, easements, or rights of way; construction, conversion, renovation, of buildings, plants, etc.; loans for start ups and working capital; training and technical assistance; distance learning for job training and advancement; and other efforts. The SCABC will encourage job growth through entrepreneurship & help start-up companies utilize the inherent technical ability of the CCI to competitively enter the global high-tech industry.

USDA-Telemedicine \$750K - DLT Program is specifically designed to meet the educational and healthcare needs of rural America through the use of advanced telecomm technologies. The grant funds user equipment that operates via telecomm to connect students and teachers or medical providers and patients at separate locations. The SCABC will utilize this funding vehicle to introduce in-home patient health monitoring services in partnership with CCI Connected Health Care Providers and place related in-home equipment to a select number of CCI-Connected households.

Workforce Investment Act \$500K - Adult Services encompass workforce investment programs and initiatives that provide adult workers with workforce preparation. The SCABC will leverage the CCI to provide no-cost access to intranet-based workforce development programs to every initial CCI-Connected Household. Regardless of what fee-based provider is chosen, homeowners interested in receiving training can log in to select in-community sites or tune-in to select VOD channels to access live work force development programs/seminars.

Ready-To-Learn \$250K - provides grants to LEAs, as well as partnerships between NPO's and LEAs or schools, to support achievement and to help the grantees expand their work and serve as models of best practices. The SCABC will assist organizations interested in this grant facilitate their service across the entire CCI to maximize the grant's effectiveness.

**Fit with BTOP CCI Priorities:**

The SCABC Cluster was targeted for this broadband initiative because: a) the counties are classified as economically distressed; b) the Cluster is 100% rural; c) surveys revealed that these are unserved/underserved areas (see Distressed Economic Areas map), in which incumbent service providers have not invested in the necessary infrastructure to deliver high speed internet connectivity (5Mbs or more), specifically, less than 30% of the proposed funded service area has bare minimum broadband access (768K – 3Mbs), even if the facilities are within the largest city



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limits. The average broadband connection is DSL-Lite for residents and T-1 for businesses and institutions. Although there are a few areas where service providers advertise 3Mbs services, surveys indicate the speeds to be limited to 768K – 1Mbs; d) the unincorporated county areas have either no-access or the bare minimum 56K-256K dial-up-based services. The project envisions a Middle Mile CCI based on APLUSCSI’s Converged Broadband Infrastructure (CBI)<sup>TM</sup> Platform Design, which is provider neutral, fiber optic with wireless overlay, to anchor institutions, and Last Mile to selected funded service areas. Service providers will be able to purchase connections wholesale, and, in turn, retail services to existing and new customers. In addition, the CCI will facilitate fee-based wireless carriers to plug-in and provide high-speed access via wireless in sparsely populated areas. It is anticipated that most service providers, institutions, businesses and residents will welcome the opportunity to take advantage of SCABC/s next generation technology.

Program development, deployment and outreach will be coordinated through four eCommunity Technology Centers (eCTCs), strategically placed within the Cluster, which are job-creating facilities that will provide “always on” intranet community programs, broadband education, awareness, training, access, equipment, and support to schools, libraries, medical/health care providers, 2- and 4-year colleges/universities, community support organizations, including providers of support services to facilitate greater use of broadband services by vulnerable populations, and job-creating strategic facilities located in state or federally designated economic development areas. Institutions will leverage internal resources to reach more people who need services over a larger geographical footprint. Everyone connected to CCI, regardless of income, race, gender or geographic location will have direct access to the resources they need, when they need them.

To improve healthcare delivery, with CCI access medical/healthcare agencies will be able to provide telemedicine and e-health education through: 1) evaluation, diagnosis, monitoring, access in times of disaster, telemedicine, videoconferencing technologies and computers at Federally Qualified Health Centers (FQHCs), Community Care Network (CCN) mobile clinics, and in first response vehicles to stay connected in remote areas, and/or to transmit data to area hospitals; provide e-health education and nutritional/obesity intervention strategies to mitigate health disparities by: a) develop/deploy health information management systems, e.g. electronic medical records to provide patient information to medical providers 24/7; b) mobile devices to monitor patient medical conditions; and c) personalized health/wellness/obesity counseling over cell phones.



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Once connected to the intranet, postsecondary institutions, school systems, libraries, agencies and support organizations may develop and share program content, and exchange information via a 100Mbps synchronous connection. Also, they may provide direct intranet-based educational and job-related services to CCI-connected institutions, business, and residents. Services include e-learning, education and workforce training services such as: computer literacy training to use broadband for job search, public assistance, access Medicaid/Medicare programs, e-learning, academic tutorials, historical, cultural, career opportunities, program content for entrepreneurship training and to create/retain jobs e.g. healthcare, information technology and construction industries; work ethic and OSHA training to promote job retention and workplace safety, etc. Specific outreach will be made to vulnerable populations, who will benefit from the broadband impact on healthcare delivery, public safety, education, employment, job creation/retention, and overall improvements in economic development. Needs of the Poarch Band of Creek Indians will be met by specific program content at an eCTC on the PCI Reservation.

The project will improve access to, and use of, broadband service by public safety agencies by providing immediate, reliable communications to coordinate emergency response, and video surveillance to reduce criminal activity. SCABC will interconnect Public Safety Agencies to provide priority-based, secure access via direct fiber and mobile connections. Traditional connections route data streams vertically from the community to the internet and back, while the CCI routes data horizontally community-to-community, allowing absolute connectivity at the local level. Accordingly, officers will be able to communicate locally and regionally. See details in the Technical Summary.

This CCI systematically provides access to high capacity broadband that will sustain and increase demand, promote economic growth, job creation and retention, which will significantly improve quality of life, public safety, and access to economic opportunity for the Cluster.

**Is the applicant seeking a waiver of the Buy American provision pursuant to section x.Q of the NOFA?**

- No

**Is the applicant delinquent on any federal debt?**

- No



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If Yes, justification for delinquency:

**Are you seeking a waiver of any requirement set forth in the NOFA that is not mandated by statute or applicable law?**

- No

**Is the applicant a current recipient of a grant or loan from RUS?**

- No

## C. Partners

**Are you partnering with any other key institutions, organizations, or other entities for this project?**

- Yes

If YES, key partners are listed below:

Project Role: Contractor Name: Johnson, David Phone: 4047363669 Email: info@conciseinc.com Address 1: 191 Peachtree Street Address 2: Suite 3300 Address 3: City: Atlanta State: Georgia Zip Code: 30303 Organization: Concise Telecommunications, Inc. Organization Type: For-profit Entity Small business: Yes Socially and economically disadvantaged small business concern: Yes
Project Role: Contractor Name: Kirby, Milton Phone: 7709346292 Email: milton@allied-logistics.net Address 1: 2321 Fourth Street Address 2: Suite 112 Address 3: City: Tucker State: Georgia





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<p>Zip Code: 30084          Organization: Allied Logistics, Inc.          Organization Type: For-profit Entity          Small business: Yes          Socially and economically disadvantaged small business concern: Yes</p>
<p>Project Role: Contractor          Name: Hoskins, Harvey          Phone: 6153217333          Email: dthomas@hoskinscpas.com          Address 1: 1900 Church Street          Address 2: Suite 200          Address 3:          City: Nashville          State: Tennessee          Zip Code: 37203          Organization: Hoskins &amp; Co CPA          Organization Type: For-profit Entity          Small business: Yes          Socially and economically disadvantaged small business concern: Yes</p>
<p>Project Role: Contractor          Name: Alsobrook, Antwon          Phone: 6789992525          Email: antwon@a2dinc.com          Address 1: 105 Kiram Terrace          Address 2:          Address 3:          City: Atlanta          State: Georgia          Zip Code: 30331          Organization: A2D, Inc.          Organization Type: For-profit Entity          Small business: Yes          Socially and economically disadvantaged small business concern: Yes</p>
<p>Project Role: Contractor          Name: Morrow, Larry          Phone: 6785348326          Email: larry@a-plus.net          Address 1: 1767 Millside Drive SE          Address 2: Suite 200</p>



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Address 3:  
City: Smyrna  
State: Georgia  
Zip Code: 30080-6322  
Organization: A-PLUS Community Solutions, Inc.  
Organization Type: For-profit Entity  
Small business: Yes  
Socially and economically disadvantaged small business concern: Yes

**Description of the involvement of the partners listed above in the project.**

Concise Telecom, Inc. - Cell Site Construction  
Allied Logistics, Inc. - Delivery Logistics  
Hoskins & Co. - CPA Services  
A2D, Inc. - Systems Design and Engineering Services

## D. Congressional Districts

### Applicant Headquarters

- Alabama

### Project Service States

Alabama

### Project Service Areas

Alabama - 5

Alabama - 6

### Will any portion of your proposed project serve federally recognized tribal entities?

- Yes



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Indicate each federally recognized tribal entity your proposed project will serve.

Poarch Creek Indians

Have you consulted with each of the federally recognized tribal entities identified above?

- Yes

## E. Service Area Details

Is the applicant seeking a waiver for providing less than 100% coverage of a service area?

- No

### Project Details

**Service Area Type:** Middle Mile  
**Service Area Name:** South Central Alabama  
**Rural Classification of the Last Mile Service Area:** Rural  
**Service Status of the Last Mile Service Area:** Underserved

<b>If Service Status is "Underserved" please select at least one applicable option from this list.</b>
No more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the proposed funded service area;
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

**Total Square Miles in Service Area:** 5,780  
**Total Population in Proposed Service Area:** 160,614  
**Total Number of Households in Service Area:** 61,590  
**Total Number of Businesses in Service Area:** 2,648



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**Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area:** 72  
**Unemployment Rate in the Service Area:** 17  
**Median Income in the Service Area:** 23,504  
**Estimated Percentage of Households with Access to Broadband:** 35  
**Estimated Percentage of Households Subscribing to Broadband:** 25

## F. Community Anchor Summary

<b>Community Anchor Summary</b>	
<b>Schools (k-12)</b>	102
<b>Libraries</b>	2
<b>Medical and Healthcare Providers</b>	30
<b>Public Safety Entities</b>	22
<b>Community Colleges</b>	5
<b>Public Housing</b>	6
<b>Other Institutions of Higher Education</b>	2
<b>Other Community Support Organization</b>	65
<b>Other Government Facilities</b>	191
<b>TOTAL COMMUNITY ANCHOR INSTITUTIONS</b>	<b>425</b>
<b>Historically Black colleges and Universities</b>	2
<b>Tribal Colleges and</b>	0



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<b>Universities</b>	
<b>Alaska Native Serving Institutions</b>	0
<b>Hispanic Serving Institutions</b>	0
<b>Native Hawaiian Serving Institutions</b>	0
<b>TOTAL MINORITY SERVING INSTITUTIONS</b>	2

## G. Project Benefits

### Demographics

<b>Jobs</b>	
<b>How many direct jobs-years will be created from this project?</b>	555
<b>How many indirect jobs will be created from this project?</b>	597
<b>How many jobs will be induced from this project?</b>	56

#### Methodology used to estimate jobs:

The SCABC Team has calculated the total number of direct jobs created within the detailed project plan and construction budget. The SCABC Team has also determined the total number of operations-based direct jobs that will be created via the operational cash-flow summaries. For indirect jobs created, the SCABC Team used the the Council of Economic Advisors to determine the job-years created by this overall project.

The total cost of capital construction for the SCABC CCI Application is \$87,002,393.07 which will be consumed within 24 months. Whereas 2/3 of the budget will be used the 1st year and the final 1/3 used the following year.

I. Construction Services Direct Jobs Created: Year 1 = 412, Year 2 = 120

II. Direct Network Operations Jobs Created: Year 1 = 6, Year 2 = 17

III. Indirect Jobs



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A. Equipment and Materials - \$52,871,771 over 2 years

Year 1 -  $\$52,871,771 \times .666 = \$35,212,599$  @ \$92,000/job year = 382 Jobs

Year 2 -  $\$52,871,771 \times .333 = \$17,659,172$  @ \$92,000/job year = 192 Jobs

B. Building Renovations: Year 1 - \$2,141,790 @ \$92,000/job year = 23 Jobs

C. Sales Revenues: Year 2 \$3,143,135 @ \$92,000/job year = 34 Jobs

#### IV. Induced Jobs

The Proposed CCI enables multiple service providers to compete to deliver services over a single infrastructure. As a result, the total revenue generated from Tolls @ the 2nd year is \$3,143,135 + 65% (average provider toll mark-up) = \$5,186,172.

#### **Project Impact:**

The SCABC is proposing to implement a middle mile network that is based on Private Partner, A-PLUS CSI's Converged Broadband Infrastructure™ (CBI). The CBI is an all fiber-optic network that delivers services via a 10Gbps Backbone where services are delivered via a 1Gbps ePON Architecture. As a result, at each optical signal regeneration point or NODE, services can be extended from each ePON at a density of 1x32 whereas the max distance each PON can deliver passive optical services without powered device amplification is 3 Miles. Between NODES, the infrastructure can deliver passive optical signals at a maximum range of 43 miles. As a result, the SCABC will be able to deliver live optical connections to every city and county within the SCABC target community so that services can be extended cost effectively.

The CBI is designed to transport the native service signals of up to (5) phone, (5) internet, and (5) video service providers. The video includes (2) RF with return cable providers, (2) Satellite Providers utilizing a single satellite headend, and (1) IPTV Provider. The objective is to connect every identified anchor institution directly to the fiber-optic network. This means that each connected anchor institution will have instant access to voice, video and data services over a single connection whereas each end-user can choose amongst the available service providers who have interconnected and are delivering their services over the CBI. Unlike infrastructure companies who exclusively build and lease dark fiber facilities to service providers or provide tiered internet access bandwidth or back-haul point-to-point capacity, the SCABC will aggregate the subscribed service provider services and deliver it to their target customer at the port level.



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Because the service provider will not own the end-customer's connection to the CCI, lease fiber or own facilities within the CCI, the service provider can not prevent the end-user from accessing in-community services. The proposed infrastructure is the only infrastructure that has the inherent routing capacity to ensure delivery of the 5,5,5 service providers but also ensure horizontal (in-community) access to services. These services include community video content, intranet connectivity, on-net web-content and application access, local calling and more. In addition, anchor institutions can establish VLANs amongst each other to share and exchange information at no-cost. By eliminating the cost of sharing information between agencies or facilities, the savings can be used to invest in better training, equipment and services thus increasing the quality of community services and overall community quality of life.

The SCABC will connect to 425 anchor institutions within the SCABC. The team has collected a letter of support from institutions including municipal organizations, libraries, local colleges, K-12 schools and more. In Alabama, most of the K-12 schools are connected to high-speed broadband made available by the Alabama Super Computer. However, this connection is limited to state-sponsored school whereas private schools, training institutions and other centers of education are not connected. The CCI will connect everyone as well as enable each county school system to have horizontal access to their local community.

The SCABC, through the companion SBA Application 5763 , will help each anchor institution leverage the inherent capabilities of the CBI to enhance their ability to deliver community services to the local community. For example, the medical clinic in Haynville, AL will be able to provide advance telemedicine services where elderly citizens, who will be connected directly by the CCI, can receive remote health screening or advance life vitals monitoring via devices that require constant, high-bandwidth intranet connectivity. In Lowndes County, the Lowndes County School System has agreed to use the CCI Connectivity to implement advanced distance learning programs where students who are sick, handicapped or suspended can still participate in class work by connecting remotely via computer or TV from their home. The CCI infrastructure will enable LAN Connectivity between the home and school at 10-100Mbps. In addition, the school is prepared to record classes and make them available for download by students and faculty of other school systems. The recorded video can be made available at no-cost because the cost to stream and receive is negligible as long as the instituton and end-user is connected to the CCI.

The SCABC CCI Application addresses a critical need whereas the socio-economic disparities of the region hav made it impossible for service providers to raise the necessary capital to replace



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their existing, antiquated infrastructure with next-generation broadband infrastructure. The reality is that although the services that are available today do not meet the requirements of broadband aware citizens, many households within this region simply do not understand the value of being connected and if they did, they simply could not afford to sustain the connection. The SCABC Application, in combination with the SBA and PCC Applications, seeks to address the socio-economic barriers which exist that prevent citizens from investing the necessary time and fiscal resources required to obtain a computer, learn how to use the computer, subscribe to broadband-based services, and maintain the services long enough to use broadband to impact their own quality of life. Because most of the citizens within the target community can't afford basic broadband services, the SCABC's goal is to provide no-cost access to local broadband-based services that has been collectively created by the interconnected anchor institutions throughout the community. By having access to the innovative ePrograms, access to anchor institutions, and other on-net applications and resources, the segment of the community that is typically disconnected and left out will have the opportunity to be the first to benefit directly from an open-access, community-owned infrastructure.

As more community members are connected, those who understand the value of broadband, can afford access, but are not connected to the CCI, will either force their existing providers to upgrade their infrastructure or their providers will turn to the SCABC and help us find the necessary public/private resources to continue to expand the network so that they can deliver their advanced services to their existing customers once they are converted to the new platform.

In summary, the SCABC CCI will provide the following:

- Nearly 516 Miles of 10Gbps Fiber Optic Backbone infrastructure delivering up to 1Gbps of synchronis connectivity to every anchor institution within the 7-county community of Lowndes, Dallas, Butler, Wilcox, Conecuh, Crenshaw, Escambia, and Macon, as well as the Poarch Band of Creek Indian Nation Reservation, which is the only federally recognized tribe in AL.
- Provide backhaul transport connectivity to two regional ILEC's from Mobile Alabama to Montgomery, Alabama.
- Provide backhaul access to Hayneville Telecom's Lowndes and Conecuh County Coppery based networks.





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- Provide direct connectivity to 15,000 households and businesses within 5 community clusters which include a portion of the cities of Selma, Hayneville, Tuskegee, Brewton, and Atmore.
- Enable up to (5) Voice, (5) Video, and (5) Internet service providers to actively compete to deliver services over the CCI to each end user and connected anchor institution.
- Enable anchor institutions to deliver in-community services at no-cost to connected households and businesses and with each other.
- Enable community outreach organizations and government agencies to provide advance eProgram services to each connected household.
- Provide a cost scalable platform that can be rapidly expanded to deliver connectivity to the remaining 65000 households that will not be connected to the CCI via BTOP Funding.
- Within 5 years, eliminate the digital divide within the 7 counties and begin to eliminate the digital divide within the Delta Region in a replicable community cluster growth strategy.

**Vulnerable Populations:**

Arthur Raper wrote in his 1936 study, Preface to Peasantry. that the Black Belt region has traditionally been home to “the richest soil and the poorest people”. A University of Georgia (2002) study identified 26 counties in Alabama with persistently the worse areas of poverty based on 2000, 1990 and 1980 Census data, and some of the poorest of all regions of the country. Seven of the eight counties served by this CCI are on that list. The Birmingham News published a series of articles entitled, “The Black Belt: Alabama’s Third World,” during the months of May, June, July, and October 2002, depicting the history of the region and the struggles experienced by the people living there today. This special report revealed the high unemployment rate, lack of economic development, and limited educational opportunities. A high percentage of the SCABC Cluster population (54.1%) is African American. The needs of low income, unemployed, African American, and ex-offender groups will be addressed through the “always on” community programs, e.g. telemedicine, e-learning, job search, etc. that will be available. The director of the Escambia Department of Human Resources stated in her letter of support (attached) that the public assistance programs e.g. food stamps will move to an online application process. Employers such as Wal-Mart and McDonalds require online job applications. The health/medical content will also address the needs of persons with disabilities



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and senior citizens, who may seek telemedicine programs to mitigate health issues, access Medicaid/Medicare program, etc. Outreach will be made to disabled veterans to address post-war issues of disabilities and employment. Previously, Alabama State University did not apply for a Veterans' Rural Business Opportunity Center (V-RBOP), which would have complemented the current RBOP at its Brewton campus, because the grant's broadband requirements exceeded their capacity to provide online services for distant communities. The Poarch Band of Creek Indians support this project. Their needs will be met by an eCommunity Technology Center on the reservation, with program content to address their specific needs. Although the percent of Hispanic population is low (.7%), programs will be available in Spanish to eliminate language barriers and accommodate their needs. Outreach to youth includes eEducation programs e.g. academic tutorials, historical, cultural, career opportunities, etc., particularly after school. A Juvenile Court Judge, who represents the 23 agencies on the Escambia County Children's Policy Council, indicated in his letter of support (attached) that the highest incidence of juvenile crime occurs immediately after school. All populations will benefit from the broadband impact on healthcare delivery, public safety, education, employment, job creation/retention and overall improvements in economic development.

**Level of Need:**

Within South Central Alabama Area, the infrastructure owned and operated by the incumbent service providers simply cannot deliver the broadband-based services the collective community needs and wants today and tomorrow. The SCABC is a collective of community stakeholders who have come together to insure that every anchor institution receives the connectivity it needs, at a rate it can afford, in order to effectively deliver services and resources to the communities they serve. The SCABC is submitting this CCI Application #5823 to implement a Middle Mile Next Generation Broadband Infrastructure that is service-provider-neutral, future-proof, and community-owned in order to deliver broadband connectivity to every anchor institution within the 8-target highly underserved counties but also extend last mile connectivity to at least 20% of the households and businesses within the area. By delivering connectivity directly to the end-user, the SCABC hopes to demonstrate how anchor institutions, when connected to a community-owned, next generation broadband infrastructure, can provide advanced broadband-based community services affordably. In addition, the SCABC's goal is to continue to increase its membership in order to leverage the collective weight of the community to secure the required funds to grow the CCI infrastructure to provide 100% connectivity to every household and business within the target area, thus replacing the existing, antiquated, last mile infrastructure from incumbents with a community-owned infrastructure. However, unlike traditional service provider centric models, the SCABC will utilize the Converged Broadband



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Infrastructure™ model that facilitates the delivery of up to (5) Voice, (5) Video and (5) Data wire line last mile providers whereas they are permitted to interconnect to the CCI at one location and allowed to activity compete to sell their fee-based services to everyone connected to the CCI. Because the service provider does not own the infrastructure, their cost to deliver services will decrease yet their service offering will increase. This will result in low cost and better service.

Before formalizing a consortium, several of the founding community stakeholders contacted multiple providers to determine what connectivity they could get, when, and at what price. The result, most were unable to deliver any connection beyond a T-1 or Bonded T-1, the timeline for delivery was anywhere between 3 – 9 months, and the cost was 1-1/2 times the cost of the same circuit in metro service areas. Only the school system's in each county were able to get the connection they wanted via the Alabama Super Computer, a private network funded by the Alabama Regional Education Network (AREN). The AREN backbone consists of one 10-Gigabit Ethernet connection, two Gigabit Ethernet connections and two OC3 (155Mbps) connections in a two-ring design. The three Ethernet connections form the northern ring between Huntsville, Birmingham, and Montgomery (the 10-Gig is between Huntsville and Birmingham). Two additional OC3 connections form the southern loop by connecting Mobile to both Birmingham and Montgomery. Although the schools within the area have access to the internet via the AREN backbone, all other institutions such as government agencies, local colleges and universities, medical, work force development, and more have to rely on connectivity from commercial carriers.

Below is an overview of the incumbent carriers that deliver connectivity to institutions and residential/business customers in each of the 8 SCABC Counties:

1. Lowndes County, Alabama

1. Hayneville Telephone Company – Headquartered in the City of Hayneville, is an independent phone company that delivers wireline phone, internet, mobile and resold DirectTV Satellite services. Their internet connections are limited DSL-Lite within the city limits and Dial-up in unincorporated areas to residential customers. Businesses and institutions are only able to subscribe to T-1 or a bonded T-1 connection.

2. Southern Cable – Headquartered in the City of Hayneville, provides cable tv services to customers within the city limits. The cable system is incapable of delivering cable modem internet services.

2. Dallas County, Alabama



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3. Wilcox County, Alabama
4. Butler County, Alabama
5. Conecuh County, Alabama
6. Crenshaw County, Alabama

1. Troy Cable Company – Headquartered in Troy (neighboring Pike County) provides Cable TV and Cable Modem Internet Services to cities within Crenshaw County and Pike County. Unfortunately, their services is limited to 1Mbps – 1.25Mbps service within the city limits only. The system is incapable of increasing beyond the current bandwidth bands and facilities do not exist beyond city limits.

2. Windstream Communications – Has office facilities in Luverne, AL and provides DSL/T-1 services over AT&T/ALTELL antiquated phone infrastructure. The service is limit to city limits whereas increases in bandwidth is not technically feasible.

3. AT&T – Same as Windstream.

7. Macon County, Alabama

1. Charter Communications Corporation – Provides Cable TV, DSL/T-1 Internet and phone services within the City limits of Tuskegee and Notasulga. The rest of the county receives phone/Dial-up or only phone. In 2006, the City of Tuskegee and Macon County Commission tried to work with Charter to help them bring in next generation broadband infrastructure. Unfortunately, negotiations ended once it became clear that federal funding did not favor such a Public/Private Partnership effort. As a result, Charter has not made any additional investments into expanding their existing infrastructure to deliver DSL beyond the City limits nor increase the bandwidth services within the City Limits.

2. AT&T - Provides Phone and DSL/T-1 Internet Services within the City Limits of Tuskegee, Shorter and Notasulga. The rest of the county receives phone/dial-up or only phone services.

8. Escambia County, Alabama -

Dark Fiber - There are several providers who own Dark Fiber along I-65 and I-85. Unfortunately, most of the incumbents are not leveraging these assets because the cost to cross multiple LADA infrastructures to get connectivity to their landlocked networks is too expensive. As a result, although fiber exists, increasing backbone connectivity to each city that has at least DSL/T-1 Connectivity is too expensive for most incumbent service providers. In addition, due to the lack of broadband awareness in this highly rural, economically vulnerable community, incumbent service providers are having a difficult time justifying the cost required to retain



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additional backbone connectivity to their networks. As a result, there is no incentive to overbuild an antiquated network when residential demand is weak.

Lack of Competition – Although there are 8 counties listed as the service areas of this CCI Application, neither county includes a city that has more than 50,000 residents. The largest city, Selma, is considered urban, however, due to the socio-economic challenges of the community, and the fact that is 35 miles from the nearest dark-fiber backbone, the ability for new service providers to enter that market alone, build-out a new infrastructure, and compete against 30+ year legacy incumbents is not feasible under the traditional service provider model. The rest of the counties are sparsely populated where the average distance between cities is 20-30 miles in a county. The cost to deliver high-bandwidth connectivity using copper-based networks is too high and unsustainable. As a result, existing providers will never be able to increase bandwidth within the city limits nor extend connectivity outside without completely overbuilding with new technology.

If you take into consideration that incumbents, by virtue of the economical and geographical landscape, can sustain a virtual monopoly, the cost to deliver and subsequent sale price for DSL-Lite services is higher than the comparable full DSL or Cable Modem services offered in larger MSA's. As a result, few are able to afford such services.

The SCABC is proposing a CCI that can bridge all of these socio-economic, technical, and geographical barriers by 1st overlaying a 10Gbps backbone network that delivers live connectivity to every city within the 8 target counties. At each city connect point, the infrastructure will terminate into a Last Mile NODE that is capable of delivering voice, video and data services over a single fiber-to-the-premise connection. From each Last NODE, the infrastructure can deliver premise connectivity up to 3 miles away. Maximum connectivity between nodes is 43 miles. This means, the CCI can deliver live triple-play connectivity with future-proof scalability. With such rapid scalability, incumbent service providers are interested in interconnecting and using CCI to move bandwidth around to maximize connectivity of their existing infrastructure. In areas where the CCI will not deliver connectivity to the premise, the existing service providers will continue to do so until the CCI is expanded using supplement funds. As soon as an area is backfilled with the SCABC CCI, the incumbents will switch and began competing over an open access CCI



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The Proposed SCABC CCI provides a sustainable model that leverages the active participation and collective investment of community stakeholders, citizens, local and foreign service providers, private investors, and state/federal government agencies to help eliminate the digital divide within a contiguous service area within 6-8 years. Relying on incumbent service providers is no longer an equitable solution. It takes the combine resources of everyone. The SCABC has presented the following compelling degree of need :

1. The existing infrastructure owned by incumbent providers is antiquated thus incapable of meeting the bandwidth needs of anchor institutions, citizens and businesses within the target service area.
2. The incumbent service providers can not justify the required investment necessary to overhaul their infrastructure to deliver the services the community needs today and tomorrow.
3. New service providers are unable to justify the investment required to enter the target service area if they are required to build-out their own infrastructure and compete head-to-head with legacy providers.
4. Institutions either cannot get the connectivity they need because it does not exist, or cannot get it because it is simply unaffordable.
5. All of the 8 counties are considered 100% rural. This means there are extreme geographic challenges that make it technically impossible to deliver advanced broadband services to 100% of the community using existing copper-based infrastructure. Fiber is the only way to go.

## **H. Technology**

### **Technology Type**

**Indicate the technology that will be used to deliver last mile services. The following items were selected:**

Wireline - Fiber-optic Cable

Wireless - Terrestrial Fixed

Wireless - Terrestrial Mobile



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Other:

**Technology Questions**

**Methodology for Area Status:**

After a complete analysis of the 8-County Cluster and the incorporated cities within them, it was determined that although each incorporated city has either one or two incumbent telephone companies and at least one cable tv company, outside of the city limits, the cable company is unable to deliver services. In addition, the telephone companies simply do not have the infrastructure to deliver at least 768K service beyond the incorporated city limits. The Trillion Team, with overwhelming support from local stakeholders such as municipal governments, citizens, institutions and state agencies have all documented the lack of access to facilities in unincorporated areas of each county as well as disproportionate affordability within incorporated areas. (See Letters of Support and Surveys).

To determine if the selected counties (in-which each served as an individual contiguous service area) had 100% broadband access in the largest cities within the service area, then the penetration of broadband access would be 31%. This equates to a total of 75,396 households, businesses and institutions within all 8-counties divided by the total number of households, businesses and institutions in Selma, Hayneville, Tuskegee, Brewton, and Atmore (22,444). If we consider that every incorporated city within the defined eight counties has 100% access to broadband, then of the 33,580 residents, business and institutions, only 44% are connected.

To validate this assessment, community volunteers surveyed the infrastructure along main county roads, state roads and city streets to find out which areas had the physical facilities that were capable of delivering broadband and compared them to the estimate above. The result confirmed that most incorporated cities had at least one telephone provider trying to deliver DSL and a Cable TV provider trying to deliver Cable TV. However, this was limited to cities that had at least 500 households. Even with that ratio of cities, most did not have 100% connectivity. Those citizens who could get access, suffered from poor quality of service, absorbent rates, and no competition.



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Unserved areas of the 8-County area were defined as areas that were at least three miles outside of the city limits of an incorporated city of 500 households or more. Note that each DSL-based Central Office can deliver only 640Kbps download and 90Kbps upload at 3.4 Miles away. No additional physical infrastructure exists beyond a simple telephone line. Without access to existing service providers' actual penetration schedules, the Trillion Team utilized community surveys to document service availability, cost and quality, physical inspections of infrastructure, and research from service provider websites. Please see the attached customer survey forms for a detail community layer view of the availability of services throughout the 8-county region.

**Description of Network Openness:**

The broadband infrastructure architecture is a framework that is fully compliant with the NOFA's non-discrimination and network interconnection obligation. A holistic architecture and engineering approach was used throughout every phase of network design. The current design has been proven to meet what we have identified as a 5-5-5 service provider capability. Through this capability, we are able to allow on the architecture five (5) voice carriers, five (5) Internet or Application service providers, and five (5) video providers simultaneously with all current technologies. The video providers are further subdivided into two (2) standard RF or cable TV providers and (2) Satellite digital TV providers and one (1) IPTV provider. The infrastructure has the bandwidth to carry more IPTV providers. However, field testing has been completed with one IPTV provider. Further technical design specifications are included in our System Design Summary.

From a business perspective, the Converged Broadband Infrastructure™ (CBI) is a fully network neutral and open access business framework. The CBI includes a unified connectivity component that can be easily configured for all known service provider types. The CBI is operated by an independent organization that is not a service provider, who operates the infrastructure in a non-discriminatory manner. The CBI is owned by the community. Thus, it is focused on ensuring that all citizens, business and individuals, receive the connection necessary to encourage growth and economic prosperity.

The neutral nature of the CBI creates an open environment that encourages competition. Competition has historically lowered prices while increasing the quality of service. The end result is that CBI is a platform designed to meet the need of all users, including but not limited to citizens, governments, schools, medicals, service providers and businesses. The CBI has resulted in a draft broadband infrastructure standards definition that is based on nine (9) core parts: 1)





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public-private-partnerships, 2) real estate developer participation, 3) 21st century franchise agreements, 4) integrated economic development, 5) education and work force retooling/training, 6) two way government to citizen communication, 7) open universal connectivity, 8) virtual community grouping for sharing and exchange, and 9) public safety and utility interoperability.

**System Design:**

The proposed CCI infrastructure is simple, flexible and comprehensive. The core of the CCI design was developed over a 5 year period and is based on 10+ years experience with small and large scale projects for multiple corporations, cities, counties and multi-governmental communities. The CCI Design is alone in its class as a future-proof, scalable, cost-efficient, and benefit to ALL citizens in the community. The proposed design is created to eliminate the digital in this region within 5 years.

The proposed CCI is an integrated mobile and wireline infrastructure design that is based on the Converged Broadband Infrastructure™ (CBI). The CBI is a unique, superior and fresh approach to an old problem based on more than 15 years of proven deployments in underserved communities. Each component has been performance tested in both the lab and the field with carrier grade equipment capable of operating 24x7x365. Longevity is achieved through design, manufacturer's warranty, maintenance and asset management with a portion of the revenues used for maintenance, spares and disaster planning. The Maximum Utility™ application allows detailed asset management of each components maintenance schedule.

The bandwidth capacity is modular in design facilitating a per node upgrade. The 10Gbps middle mile backbone routing and switching equipment can be upgraded in place with no network outage. The fiber and wireless components have redundant hot swap functionality. The entire network architecture is far superior to the partially upgraded infrastructure throughout most of America. The maximum symmetrical bandwidth capability to the end-user is 1Gbps for land line end components and 45Mbps for mobile end components. This capability far exceeds the current application requirements but is required in an architecture that can simultaneously and scalably support five (5) separate Internet Service Providers, five (5) voice providers, two (2) RF Cable TV providers, two (2) Satellite TV Providers and one (1) IP TV provider.

Highly optimized high bandwidth (10 Gbps) fiber optic links are interconnected with overlapping routes and an integrated wireless (WiMAX) overlay. The design meets or exceeds SONET reliability standards while providing class of service (CoS) and quality of service (QoS) found only ATM based networks. All MEF™ models are supported with multiple AND simultaneous QoS service mapping and scheduling models. Standard E-PON and G-PON for



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fiber end users and a multi-sector WiMAX antenna design maintains high end user bandwidth throughout the infrastructure.

With only ten (10) primary network equipment components, the maintenance is held to a minimum. By standardizing the physical layer to optical and radio, training and support requirements are reduced. The standard IP transport layer for both fiber and wireless further reduces training requirements while increasing the job opportunities.

The backbone switch/routers are configured with fully redundant Route Control Processors (RCP). Each switch/router can have five Network Processor Boards (NPB) and provide an almost limitless growth capability. The NPBs come in 4 configurations: 2 Port 10Gig Module, 4 Port 10Gig Module, 20 Port 1 Gig Module and a 40 Port 1 Gig Module. The current design has two 2-port 10Gig modules and two 20-Port 1 Gig modules installed. For future growth, modules can be replaced with the 4 port 10Gig and 40 Port 1Gig Modules. As network usage increases, a simple change from small to large chassis which has 10 slots for NFB modules. Modules are fully interchangeable between the small and large chassis, giving an almost unlimited growth capacity.

Every location is connected through a redundant design. We use operations, administration and management (OAM) protocols such as BDF and CFM to ensure connectivity at the lowest level of the OSI model. BDF is a protocol used to detect faults in the bidirectional path between two forwarding engines, while maintaining a very low latency. This includes the physical interfaces, subinterfaces, data links. BFD works independently of the type of media used, data protocols, or routing protocols. CFM uses a set of messages to provide diagnostic and fault localization end-to-end for Ethernet networks. Ethernet CFM can monitor an Ethernet network comprised of multiple LANs. By using these protocols together, we can assure less than 50ms recover times on all links. The Multipath Communications Network Architecture™ (MCNA) is a standard method of configuring and integrating this set of standards and protocols to achieve optimum routing, reliability, guaranteed delivery, route aggregation, resiliency against disaster, and on-demand capacity increases. MCNA includes several primary IP based network principles: Border Gateway Protocol (BGPv4), Virtual Router Redundancy Protocol (VRRP), Multi Protocol Label Switching (MPLS) and IEEE 802.1Q based virtual LANs (VLAN). The routed network is also designed in a fully redundant fashion with full routes maintained in both RCPs for quick recovery. Other protocols such as OSPF graceful restart and MPLS fast re-route guarantee Layer 2/3 redundancy throughout the network.



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Optimized, carrier-grade platforms meet and exceed service providers strenuous five nine's requirements for reliability, superior density and scalability, minimum power consumption, maximum space utilization and universal deployability. The CBI design is cost effective and fully redundant. It is designed with hardware redundancy (Power Supplies, RCPs, NPBs), Link redundancy (BDF and CFM) and Route redundancy (OSPF Graceful restart and MPLS FRR). These features, along with Hierarchical QOS guarantees a future proof, first class network based on open standards, standard components, hierarchical QoS and CoS, wire line and wireless integration deliver broadband services in less populated markets.

**Is the applicant seeking a waiver pursuant to section IX.C of the NOFA so as to sell or lease portions of the award-funded broadband facilities during their life?**

No

## I. Project Budget

Project Budget		
	Federal Grant Request	Match
Last Mile	9,097,351	4,087,216
Middle Mile	50,934,300	22,883,526
<b>Total</b>	<b>60,031,651</b>	<b>26,970,742</b>

**Project Budget Total:** \$87,002,393

**Match Percent:** 31.0%

**Projects Outside Recommended Funding Range:**

- There are no projects outside the recommended funding range.

Outside Leverage	
<b>Applicant is providing matching funds of at least 20% towards the total eligible project costs?</b>	Yes
<b>Matching cost detail</b>	Matching Cash - Construction Activities - \$25,688,308 or 30%



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	<p>1. \$25,688,308 - ClearSight Funding, LLC has agreed to provide the necessary cash match for the proposed CCI Application #5723. They have reviewed the executed Partnership Agreements, Cash Flow Projections, Construction Budgets, Expansion and Growth Strategies, Investment Exit Strategies, and overall business case and is prepared to make a project-based investment to cover the required 30% cash match. The terms and conditions of this commitment is outlined in the attached Letter of Commitment for funding. ClearSight will retain equity ownership of the capital assets that is installed by the Trillion Team and subsequently be transferred to the municipal partners that make up the SCABC. Upon recovery of the initial cash match and return, equity ownership of the assets will be released to the sub-recipients according to right-of-way ownership and/or final partnership agreements.</p> <p>In-Kind Match - Construction Activities - \$1,331,500 or 2%</p> <p>1. \$250,000 - A-PLUS CSI has agreed to donate all engineering design and operating software licensing for the proposed CCI network. See attached Letter of Contribution. Total value is less than 1% of the total project cost. APLUS Contribution is due to the Public/Private Partnership whereas APLUS will be a long-term infrastructure partner of the SCABC.</p> <p>2. \$250,000 - Alabama State University has donated the full usage of the Kittel Hall Facility located at 164 Southern Normal Dr, Kittel Hall, Brewton, AL 36426 (no-cost, life-time access). The 12,500 facility purchase is valued at \$20/SF and will be renovated to house the Brewton eCTC and Escambia, Conecuh, Butler and Crenshaw Counties Infrastructure Mgmt Staff. Total value is less than 1% of the total project cost. ASU's contribution will enable it to participate in future community development grants where the inherent technical ability of the CCI will facilitate advanced education and medical based ePrograms that will be lead by ASU.</p> <p>3. \$264,000 - The Lowndes County Commission has waived the lease rate of \$1.10/SF @ 4000 SF of floor space within their existing Health Clinic Facility located at 100 Oak Street, Hayneville, AL 36040 for five years. Total value is less than 1% of the total project cost. As a</p>
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	<p>founding municipal partner, Lowndes County benefits from increased job presence in the county and by receiving residual revenue from the proposed CCI network.</p> <p>4. \$198,000 - The Poarch Band of Creek Indian Nation Council (PCI) has waived the lease rate of \$1.10/SF @ 3000 SF of floor pace with their existing Operations Facility located at 5811 Jack Springs Road, Atmore, AL 36502 for five years. The total value is less than 1% of the total project cost. As a founding municipal partner, PCI benefits from increased job presence within the reservation and by receiving residual revenue from the proposed CCI network.</p> <p>5. \$300,000 - Tuskegee University has waived the lease rate of \$1.00/SF @ 5000 SF of floor space of one of its campus facilities located at 1200 W. Montgomery Rd., Tuskegee Institute, AL 36088 for five years. Total value is less than 1% of the total project cost. Tuskegee's contribution will enable it to participate in future community development grants where the inherent technical ability of the CCI will facilitate advanced technology-based ePrograms that will be lead by Tuskegee.</p> <p>6. \$6,500 - Habakkuk Enterprises International (HEI) assisted in the development of the CCI application by providing grant writing services, assisting with the formation of the SCABC and assisting with executing several Public/Private Partnerships. HEI contributed a total of 100 hours of consulting time at a rate of \$65.00 per hour. HEI's contribution was intended to help the greater South Central Alabama community have access to the broadband based services the community needs. HEI will also serve as the PM for the eCommunity Program as outlined in the SCABC PCC (EG#5766) and SBA (EG#5763).</p> <p>7. \$40,500 - A2D, Inc led the efforts in the development of the CCI application. This included, but is not limited to, partnership coordination, construction budgeting, project management timeline development, contractor and vendor pre-negotiations, service provider review and integration, and key program development and review. A2D contributed a total of 270 hours of consulting time at a rate of \$150.00 per hour. A2D will play during construction, operations and</p>
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	<p>within the greater community via the eCommunity Program.</p> <p>8. \$22,500 - Access Now LLC (ANI) contributed research, literature review, needs assessments, data extrapolation and compilation, grant writing, proofreading, and editing of the CCI Application. ANI contributed a total of 15 days consulting at a rate of \$1500.00/day for a total of \$22,500. ANI's contribution was provided to ensure that the greater Brewton area had access to broadband which would enable ANI to provide ancilliary eProgram-based community empowerment support via the proposed CCI.</p> <p>Cash Investment - Operations Activities -1. \$1,000,000 - ClearSight Funding, LLC has agreed to provide the necessary operating capital to Intelligent Community Enterprises, Inc to cover any incurred operating losses during intial network start-up until enough revenues are generated to sustain operations. ICE will issue ClearSight Funding, LLC an equity revenue share at a specified rate of return to cover all capital outlays. The investment period will be for 84 months whereas clear terms and conditions are outlined in the attached Letter of Commitment for funding. Total funding match goes to long-term operating cost and is not included in the construction budget as outlined in the application. However, to demonstrate long-term sustainability, the commitment establishes the SCABC's ability to sustain the network. ICE will receive 40% of the gross revenues generated from the toll fees charged to competing service providers.</p>
<b>Unjust enrichment</b>	<p>Trillion Communications Corporation is not receiving nor is it applying for any Federal support for non-recurring costs in the area for which we are seeking an award.</p>
<b>Disclosure of federal and/or state funding sources</b>	<p>The Trillion Team has not solicited nor secured any Federal or state funding for the proposed CCI Application #5723 or related activities. This includes but not limited to all Universal Service Funds.</p> <p>The Trillion Team nor any of the subrecipient municipal partners has received, or has requested, for projects to which the proposed application relates. This includes funding from Schools and Libraries Program, Rural Health Care Program and Pilot Program, and the High Cost Program.</p>



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<b>Budget reasonableness</b>	<p>The total cost to build out the 8-county SCABC Cluster is \$87,002,393. This will deliver 100% Middle Mile Connectivity to every anchor institution within the area. The Proposed CCI will also provide direct connectivity to 15,635 households and small businesses. The total cost per connected household is \$5,565. However, when considering that the network was designed to deliver enough scalable bandwidth to establish the 8-county area as 100MB nation-ready where everyone can have affordable access to fiber-based or wireless based broadband with no new investment to the Middle Mile infrastructure, the total cost to pass 75,396 doors is only \$1,154 per door passed. When comparing that cost to other doors passed estimates and considering the sheer size of the territory being covered, our proposed cost per door is reasonable and justifiable.</p> <p>To increase the net value of the proposed network, with additional investments into the Last Mile portion of the network, a wireless last mile can deliver broadband within a 4 mile radius of every proposed Terminal (Node) (See Attached Terminal Maps). For example, if the SCABC invested an additional \$2M in wireless, the total cost per door connected (65% additional penetration of 54,479 households) would be \$1,634. That's 20% less than the the National Exchange Carrier Association (NECA), June, 2006 report that estimated delivery of DSL per door to be \$2,017. Note that DSL can only deliver a 1.5 - 3Mbps connection. With a fiber backbone delivering a dedicated fiber connection per Last Mile Wireless Node, our proposed CCI will have the ability to deliver a shared initial 45Mbps connection, which can be easily upgraded to 100Mbps based on density. To compare our fiber cost, Verizon is deploying its FiOS platform in very dense northern communities at \$700 per door passed. This is still within reason to our cost of \$1,151.46 fiber door passed in a 100% rural service area.</p> <p>The Trillion Team's CBI can deliver a synchronous 1Gbps FTTP Last Mile connection to each customer today with a multi-path, redundant, and synchronous 10Gb's Middle Mile backbone. To ensure maximum coverage over the short-term, additional investments in expanding the</p>
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	<p>wireless last mile overlay can be made to facilitate the delivery of a shared 45Mbs service until the community is overbuilt with FTTP (paid for by future public/private investments).</p> <p>The CBI is designed to be a one time, 50-year investment that has the capacity to deliver the services of (5) ISP's, (5) Phone and (5) Cable Providers as well as Wireless Providers (VVD &amp; Mobile). Our CBI model is replicable and provides the greatest value to any unserved and underserved urban and rural community in America.</p>
<p><b>Demonstration of need</b></p>	<p>The proposed CCI project is economically unattainable without a federal grant. The region is at the heart of 26 counties in Alabama identified as those with persistent poverty based on three consecutive census periods (1980, 1990, 2000). There have been 31,861 jobs lost between 1999-2003, with 78% of these losses in textiles and apparel. The recent economic downturn has further impacted these counties as unemployment rates have doubled or tripled between January 2008 and December 2009. The combination of these economic tsunamis has created an environment where broadband access is almost a luxury. The incumbents are not expanding or adding services and banks and other lending agencies are not inclined to discuss loans in this economic climate. Without a catalyst, no broadband investment will occur.</p> <p>The Trillion Team has developed a comprehensive technical and business plan. We have presented the plan to several funding agencies for pre-qualification. Although each lending organization indicated that the budget is appropriate and the costs are reasonable, there does not exist an institution that will fund a broadband project of this scale and magnitude. Our design is technically feasible (as certified by local professional engineers) and the project can be completed timely if the funds are awarded, however this project does not meet the standard return on investment requirements of traditional lending agencies.</p> <p>Finally, there has never been a precedence established for obtaining funding to support and encourage the creation of a middle mile project</p>





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	<p>in an economic depressed region. Typically middle mile projects are undertaken based on an existing customer base that has been validated through a standard marketing analysis. The proposed middle mile project is specifically focused on creating a better broadband investment climate in the region. Successful funding of this project will create a win-win-win environment for the Service providers, the region and the people who will be the consumers. This region has not had any significant investment for the past 30 years and all research indicates that without federal funding assistance will not have investment for the next 10 years.</p>
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**Funds to States/Territories**

States	Amount of Federal Grant Request
Alabama	60,031,651

**Funds to States/Territories Total:** \$60,031,651

## J. Historical Financials

Matching Funds			
	2007	2008	2009
<b>Revenue</b>	152,737,051	121,321,524	140,554,568
<b>Expenditures</b>	4,152,910	3,114,365	2,921,549
<b>Net Assets</b>	13,741,750	13,093,781	17,434,380
<b>Change in Net Assets from Prior Year</b>	-3,003,887	647,969	4,340,599
<b>Bond Rating (if applicable)</b>			



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## K. Project Readiness

### BTOP Organizational Readiness

Trillion Communications Corporation has successfully managed the implementation and roll-out of infrastructure projects of the same fiscal size and scale as a subcontractor to the nation's largest telephone company, AT&T. Trillion has partnered with A-PLUS Community Solutions, Inc. and A2D, Inc. who have assisted 10 municipal service providers and traditional service providers design, build and operate their networks throughout Georgia, Alabama and the Caribbean. APLUS has overlayed its Converged Broadband Infrastructure (TM) Design and Business Model that enables multiple service providers to connect and deliver services over a single, community-owned, all fiber-optic with wireless canopy network. A2D has a proven track record of project managing the implementation of fiber-base networks in rural and urban markets from the service provider demark to the end premise. With its proven record, the Trillion team can successfully manage the efforts of multiple subcontractors, vendors and suppliers with installing the network. As sub-recipient partners, the Trillion Team is able to count on the municipal support of the SCABC. The SCABC has agreed to help with the necessary permitting, right-of-way planning, utilities locating, community impact awareness and support, service provider franchise renegotiating, institutional connection support and more. The municipal partners of the SCABC have also agreed to donate in-kind personnel resources required to help construction activities within their individual right-of-ways. The Trillion Team will set up teams to manage local construction activities via clusters. Contractors and suppliers will report to these project leads recruited and trained from local resources. Every mile of construction, electronic device and facility will be documented to maintain complete transparency. The Trillion Team will utilize advance GPS technology to map and inventory all installed assets. These digital as-buils will be integrated into a database structure and made available to Intelligent Community Enterprises, Inc (ICE) who will serve as the long-term private operator of the proposed network. ICE is an infrastructure management company that specializes in managing broadband infrastructure in rural communities. It is independent and will ensure that the network remains open and readily available to any service provider interested in accessing dark fiber, pass through connectivity or overlay connectivity where they can compete to deliver their services to the SCABC network. ICE will leverage its proprietary infrastructure management and service provider provision/quality of service tools to assist locally trained technicians to effectively manage the SCABC network. ICE has secured the necessary investment required to cover the cost of operations until the SCABC is able to generate enough revenues to cover debt services and the ICE operations contract.



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**Construction and Vendor Contracts**

The Trillion Team, which includes Trillion Communications Corp (Applicant), A-PLUS CSI (APLUS), and A2D, Inc. (A2D), has selected the following key vendors and subs to facilitate the build-out of the proposed CCI.

1. APLUS and A2D are part of an executed PPP Agreement with the SCABC (sub-awardee) where APLUS and A2D will provide professional services during construction. In addition, both have invested time and resources toward the success of this effort.
2. ECI-Telecom (manufacturer) - will provide the routing and switch electronics (CESR Platform). ECI-Telecom has agreed to provide lowest possible pricing. (See Attached Letter from ECI-Telecom)
3. BKTel (manufacturer) - will provide the RF Overlay EDFA and Transmitter electronics. BKTel has agreed to provide lowest possible pricing. (See Attached Letter from BKTel)
4. Enablence Trident-7 Architecture (manufacturer) - will provide the FTTP electronics. The Trident 7 Platform is the only platform that meets the proposed design. (see Attached Letter from Enablence)
5. The Trillion Team will utilize a competitive bid process to select local subs and suppliers. Qty. of each will depend on final project time lines and qualified local and regional contractor/supplier availability. The Team estimates that it will employ nearly 396 subcontractor related jobs, 382 supplier related jobs, and 23 building renovations related jobs. See attached detailed budgets for cost breakout beyond the standard template budget sheets

**Customer Base**

The Trillion Team, as part of the executed Public/Private Partnership, will be transferring assets to the various municipal partners of the SCABC. Intelligent Community Enterprises, Inc (ICE) will provide direct operations management of the installed network on behalf of the SCABC. Neither ICE nor the SCABC are service providers. Service providers will be allowed to deliver services over the proposed network. The physical connection to the premise will be owned by the SCABC and managed by ICE. However, the service provider will retain pass through control of the services that are delivered and has the ability to discontinue or modify fee-based services if required. Service providers who use the proposed network to deliver extra bandwidth capacity to their existing networks will retain their existing service area footprint until the SCABC overbuilds their area. The incumbent service provider will then have the option of switching to the new platform and retaining their existing customers. The proposed network will deliver



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15,635 FTTP connections to 100% anchor institutions and 20% residential. The remaining 59,761 households and businesses will continue to be served by existing provider networks and future CCI connected wireless and wire-line Last Mile providers. The SCABC plans to expand the proposed platform to deliver 100% Last Mile Connectivity within the next 5-8 years ensuring that everyone has future proof broadband access.

**Licenses, Regulatory Approvals and Agreements**

1. Lot Leases - The Trillion Team will negotiate lease agreements with public/private property owners to place environmentally controlled terminals on 10X10 lots (minimum).
2. Building Renovation Permit - Brewton, Lowndes, Poarch, and Tuskegee eCTC's will require building permits for electrical, framing, plumbing, & hvac. Permit not applied for at this time.
3. Franchise Agreements - The SCABC municipal partners have agreed as part of the Public/Private Partnership to allow public-easement access to the proposed infrastructure where competing service providers will be charged a toll-fee per service/per month/per customer. A percentage of the toll fee will be allocated as franchise fees and paid directly to each municipal partner that owns right-of-way.
4. State Video Franchise Agreement - Not required.
5. State DOT Permits - Team will seek permits to cross or build alongside state highways and federal interstates. Permit not applied for at this time.
6. Tower Leases - Team does not propose installing any wireless radios on existing towers, but it will install a select number of wireless radios on municipal-owned water towers and structures. Leasing space on municipal facilities will be deferred due to the PPP agreement.
7. TW Telecom Dark Fiber Lease -Team will secure dark fiber leases from TW Telecom which will provide local loop access through Montgomery, AL to interconnect Macon County to the other 7-Proposed county service areas. Lease is under negotiation.

**SPIN Number**

## **L. Environmental Questionnaire**

**Project Description**



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The Trillion Team is deploying all fiber to the home with wireless overlay network to each community identified. The Trillion Team has secured partnerships and or franchise agreements with each community municipal agency to gain access to the public right-of-way to deliver each community cluster's broadband infrastructure. The Trillion Team plans to acquire existing commercial facilities and renovate the interior space of each building in order to meet the operational requirements of the Network Operations Center and Public Computer Center offices. All infrastructure buried cable will be installed via direct burial conduit, vibratory cable plow, aerial or installed within concrete/asphalt surfaces via sawed-in-place microDuct. All underground conduit will be installed no more than 24" below surface. All rivers and streams will be crossed via aerial cabling which will be hung on existing electrical or telecom poles. Where feasible, all wireless radios will be installed on existing buildings, telephone poles and existing towers. All towers that require new construction will conform to the environmental requirements of NOFA and the USDA. At this time, the Trillion Team does not require newly constructed towers. Finally, the Trillion Team will install several 2-bay, environmentally controlled, NEMA 4 Enclosures that will house each fiber/wireless node. The enclosures will be installed on concrete pads and located within the Public Easements or within an existing facility's campus

**Property Changes**

The SCABC will secure access to private property to install up to 18 Nodes that will be within self sustained, temperature controlled, NEMA-4 Enclosures that require a dedicated land plot of 10ftx10ft with a 6ft wire fence surrounding it. The Enclosure will be located on the property whereas power from the local utilities can be fed to the directly to a meter and then fed into the Enclosure with minimum disruption to the property. The Enclosure sit on a 1ft bed of gravel whereas the plot was cleared of any brush and trees, underground power lines and telecom lines installed, leveled and then backfilled with gravel.

There will be no changes to land of the proposed Network Operations Facilities other than the necessary installation of underground fiber optic and power cabling to the Facility.

**Buildings**

The SCABC will be installing a Network Operations Center in (4) Four donated facilities located in different parts of the 8-County Region. The facilities include:



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Lowndes eCTC – 105 Hayneville, Al, 33333 – Facility is currently owned by the Lowndes County Commission whereas it is used as a community medical clinic.

Tuskegee eCTC – 105 I, 33333 – Facility is currently owned by Tuskegee University whereas it is currently not being used by the University.

Brewton eCTC – 164 Southern Normal Dr Brewton, AL 36426 – Facility is currently owned by Alabama State University whereas it is currently not being used by the University.

Poarch eCTC - Macon County eCTC – 105 I, 33333 – Facility is currently owned by the Poarch Band Creek Indian Nation whereas a portion of the facility is being used as ...

All infrastructure that delivers connectivity to and from each facility, to and from interconnected NODEs and to and from existing carrier’s facilities will be installed underground in previously disturbed right-a-ways and private easements.

**Wetlands**

The SCABC has identified that there will be no disturbance of registered wetlands for the installation of facilities. The underground fiber infrastructure will be located in previously disturbed utility right-of-way whereas disturbance of any wetlands is in accordance to previously establish local and state DOT requirements. Where required to cross lakes, streams, or marsh areas, the SCABC Team will utilize existing aerial poles, bridges, and directional boring as to not disturb protect areas.

**Critical Habitats**

No project site(s) will directly or indirectly affect any threatened, endangered or candidate species or is within or near critical habitats.

**Floodplain**

No facility(ies) or site(s) are located within a 100 or 500-year floodplain.

**Protected Land**



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The State of Alabama Historical Commission website was reviewed to determine any impact to historical sites. No historical sites will be impacted by any construction work proposed or planned by this project.

**Coastal Area**

The project is not within any boundaries of a coastal zone management area (CZMA). The SCABC CCI Application #5723 does not propose to install any infrastructure or facilities within the Coastal Areas of Alabama. According to the National Oceanic and Atmospheric Administration’s website, Alabama’s coastal zone extends inland to the continuous 10-foot elevation contour located in Baldwin and Mobile Counties. The SCABC is delivering infrastructure only within Macon, Lowndes, Dallas, Wilcox, Conecuh, Crenshaw, Butler, and Escambia Counties.

**Brownfield**

The SCABC is implementing a Middle Mile CCI that will deliver connectivity throughout the 8-county region. None of the Proposed (4) four Network Operations Centers or NODES will be located within a brownfield site. However there are sites that exist within proximity to the infrastructure that would be installed. Below is a list of the registered sites.

1. LANGDALE MILL, 5910 19TH AVE , VALLEY, AL 36854, Macon County. The site has been cleaned and considered safe for reuse.
2. GENERAL ELECTRIC COMPANY , 1 PLASTICS DRIVE, BURKVILLE, AL 36752, Lowndes County. On this site, hazardous waste is managed under the Resource Conservation and Recovery Act whereas the waste has contaminated the land, water or air and must undergo "corrective action."
3. MOWBRAY ENGINEERING CO. , JCT OF 2ND & BEELAND STS, GREENVILLE, AL 36037 – This site has received physical cleanup activities which have all been completed.
4. TR MILLER MILL COMPANY, INC., PO BOX 708/ 215 DEER ST, BREWTON, AL 36427 Escambia County - Cleanup is complete for this corrective action site. –
5. MIKE SIMPSON FERTILIZER CO. , HIGHWAY 21, ATMORE, AL 36502, Escambia County - The property is being assessed for the presence or potential presence of environmental



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contamination, often referred to as "environmental due diligence" or environmental site assessment.

6. HUXFORD POLE AND TIMBER COMPANY, 14200 HIGHWAY 21, HUXFORD, AL 36543, Escambia County - Cleanup is complete for this corrective action site.





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**Uploads**

The following pages contain the following uploads provided by the applicant:

Upload Name	File Name	Uploaded By	Uploaded Date
Service Offerings and Competitor Data	CCI+++Service+Offerings+Competitor+Data-5723.xls	Brown, Ralph	03/26/2010
Network Diagram	01-SCABC-CCI-Figure-A.pdf	Brown, Ralph	03/26/2010
Network Diagram	02-SCABC-CCI-Figure-B.pdf	Brown, Ralph	03/26/2010
Network Diagram	03-SCABC-CCI-Figure-C.pdf	Brown, Ralph	03/26/2010
Network Diagram	04-SCABC-CCI-Figure-D.pdf	Brown, Ralph	03/26/2010
Network Diagram	05-SCABC-CCI-Figure-E.pdf	Brown, Ralph	03/26/2010
Network Diagram	SCABC-systemdesign-Fig1-6.pdf	Brown, Ralph	03/26/2010
Build Out Timeline	CCI+++Build-out+Timeline-5723.doc	Brown, Ralph	03/26/2010
List of Community Anchors and Points of Interest	CCI+++Anchor+Detail+and+POI.xls	Brown, Ralph	03/25/2010
Management Team Resumes and	SCABC-CCI-5723-ORGCHART.pdf	Brown, Ralph	03/26/2010



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Organization Chart			
Management Team Resumes and Organization Chart	02-SCABC-CCI-5723-ManagementTeam.pdf	Brown, Ralph	03/26/2010
Management Team Resumes and Organization Chart	03-SCABC-CCI-5723-ManagementTeam.pdf	Brown, Ralph	03/26/2010
Management Team Resumes and Organization Chart	01-SCABC-CCI-5723-ManagementTeam.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	a2d_SCABC-inkindletterofsupport.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	accessnowllc-CCI In-Kind Letter Mar 20 2010.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	habakkukIn-Kind Letter SCABC.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	cityoftuskegee.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	creekindianenterpriseletterofsupport.pdf	Brown, Ralph	03/26/2010
Government and	ADECA Support.pdf	Brown, Ralph	03/26/2010



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Key Partnerships			
Government and Key Partnerships	southcentralalabamadevelopmentcommission.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	sydur121.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	greaterbrewtonchamberofcommerce.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	alabamabroadbandinitiativeadvisoryboard.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	alabamatechnologynetwork.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	CobianSupport.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	corningletterofsupport.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	ecitelecombestpricingpdf.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	enablenceA2Dinc.pdf	Brown, Ralph	03/26/2010



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Government and Key Partnerships	cqsupportletter.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	ecitelecomMade in USA.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	BKTelbestpricing.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	surveyofneed.pdf	Brown, Ralph	03/26/2010
Government and Key Partnerships	Concise Letter of Support.pdf	Brown, Ralph	03/04/2010
Government and Key Partnerships	Hoskins Company Letter of Support.pdf	Brown, Ralph	03/04/2010
Government and Key Partnerships	Allied Logistics 3-4-10.pdf	Brown, Ralph	03/05/2010
Government and Key Partnerships	Rep John Knight.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Gov Riley Support Ltr.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	City of Brewton Mayor support (CCI, PCC, SBA).pdf	Brown, Ralph	03/16/2010



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Government and Key Partnerships	Coastal Gateway Support-CCI.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	DHR-Escambia BTOP CCI.PDF	Brown, Ralph	03/16/2010
Government and Key Partnerships	Escambia Cty Industrial Dev Authority - CCI.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Family Guidance Center Letter of Support.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Health Services Inc Letter of Support.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	JC Workforce Development.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Senator Davis Letter of Support Miles.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Jeff Davis Community College.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Lowndes County Public Schools Letter of Support.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	SWAWD Letter of Support ltr.pdf	Brown, Ralph	03/16/2010



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Government and Key Partnerships	Senator Marc Keahey Letter of Support.pdf	Brown, Ralph	03/16/2010
Government and Key Partnerships	Town of Fort Deposit Letter of Support.pdf	Brown, Ralph	03/16/2010
Historical Financial Statements	Trillion Audited Files_2007_to_2008.pdf	Brown, Ralph	03/18/2010
Historical Financial Statements	Trillion Audited Files 2009 Draft.pdf	Brown, Ralph	03/18/2010
Budget Narrative	CCI++Budget+Narrative-CCI-5723.doc	Brown, Ralph	03/26/2010
Detailed Budget	CCI++Detailed+Budget-CCI-5723.xls	Brown, Ralph	03/26/2010
Pro-forma Forecast	CCI++Pro+Forma+Financial+Projections-CCI-5723.xls	Brown, Ralph	03/26/2010
Subscriber Estimates	CCI++Subscriber+Estimates-5723.xls	Brown, Ralph	03/26/2010
Dashboard Metrics	CCI++Key+Metrics+Dashboard-5723.doc	Brown, Ralph	03/26/2010
Service Area Data	CCIService+Areas-mccall.xls	Brown, Ralph	03/26/2010
Network Maps	06-SCABC-CCI-MAPFigure-A-N.pdf	Brown, Ralph	03/26/2010



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Network Maps	07-SCABC-CCI-TERMINALFigure-1.pdf	Brown, Ralph	03/26/2010
Network Maps	08-SCABC-CCI-TERMINALFigure-2.pdf	Brown, Ralph	03/26/2010
Network Maps	09-SCABC-CCI-TERMINALFigure-3.pdf	Brown, Ralph	03/26/2010
Network Maps	10-SCABC-CCI-TERMINALFigure-4.pdf	Brown, Ralph	03/26/2010
Network Maps	11-SCABC-CCI-TERMINALFigure-5.pdf	Brown, Ralph	03/26/2010
BTOP Certifications	BTOP Authorizations and Certifications.pdf	Brown, Ralph	03/17/2010
SF-424 C and D	sf424-cci-5723.pdf	Brown, Ralph	03/26/2010
Supplemental Information	BTOP Authorizations and Certifications.pdf	Brown, Ralph	03/19/2010
Supplemental Information	01-SCABC-CCI-5723-ConstructionCostmatrix-v1.pdf	Brown, Ralph	03/26/2010
Supplemental Information	02-SCABC-CCI-5723-Detail-Performa-v1.pdf	Brown, Ralph	03/26/2010
Supplemental Information	03-SCABC-CCI-5723-ICE-Direct-Operations-Performa-v1.pdf	Brown, Ralph	03/26/2010
Supplemental	PBCI_PPPAgreement_v3-nbg.pdf	Brown, Ralph	03/26/2010



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Information			
Supplemental Information	LCC_PPPAgreement_v5-nbg.pdf	Brown, Ralph	03/26/2010
Supplemental Information	12-SCABC-CCI-PSAP-Figure-6.pdf	Brown, Ralph	03/26/2010
Supplemental Information	13-SCABC-CCI-TWTELECOMINTERCONNECT.pdf	Brown, Ralph	03/26/2010
Supplemental Information	FCCBroadbandProviderMap.pdf	Brown, Ralph	03/26/2010
Supplemental Information	SCABC-EcoDep.pdf	Brown, Ralph	03/26/2010
Supplemental Information	BREWTON-ECTC-FLOODMAP.pdf	Brown, Ralph	03/26/2010
Supplemental Information	BREWTON-ECTC-FLOODMAP.pdf	Brown, Ralph	03/26/2010
Supplemental Information	LOWNDES-ECTC-FLOODMAP.pdf	Brown, Ralph	03/26/2010
Supplemental Information	POARCH-ECTC-FLOODMAP.pdf	Brown, Ralph	03/26/2010





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Supplemental Information	TUSKEGEE-ECTC-FLOODMAP.pdf	Brown, Ralph	03/26/2010
Supplemental Information	a2d-inkindletterofcontribution.pdf	Brown, Ralph	03/26/2010
Supplemental Information	A+-inkindletterofcontribution_v2-nbg.pdf	Brown, Ralph	03/26/2010
Supplemental Information	SCABC-CCI-5723-MATCHFUND-LOI.pdf	Brown, Ralph	03/26/2010
Supplemental Information	SCABC-CCI-5723-eCTCRenovationPlans.pdf	Brown, Ralph	03/26/2010