Project Abstract

Current NTIA Funding: $2,023,874 ($1,589,208 mapping and $434,666 planning), not including the match of $505,969

Approved Activities (Description of Currently–Funded Activities):

Since 2001 e-NC has gathered basic broadband access data from providers and made the information public in an increasingly-sophisticated on-line map. Problems in collecting/verifying provider-supplied information made it difficult to meet with the objectives specified in the NTIA's State Broadband Data and Development Program (SBDD) for semi-annual submission of comprehensive/granular broadband data. With SBDD funds e-NC has undertaken a rigorous examination of alternative data collection methods to determine a cost-effective best practice approach to obtain access data that is current, accurate and verifiable. Promising web-mining methods were used to meet NTIA's first data submission deadline in November. Subsequently data were collected from providers in the state. Citizen data was gathered through two surveys that were used to cross-validate each other and test the feasibility of using heavy sampling in a carefully-constructed 19-county proxy sample in place of expensive statewide sampling. Wireless data was collected from providers and through a sophisticated wireless propagation model that is currently being validated through field sampling. An independent team comprised of four expert academics is evaluating the results obtained through these methods and will recommend to e-NC an optimal method(s) to employ in mapping going forward. Comprehensive surveys of citizens, businesses and non-profit and government organizations have been the focus of year 1 planning efforts. The Governor's Broadband Opportunities Group was established to increase awareness and input from leaders, while outreach to vulnerable populations through a statewide virtual forum is planned for early year 2. Discussions with partners have been initiated to develop a pilot lifeline program.

New Proposed Projects:

The e-NC Authority is currently requesting funding for four projects under this Amended and Supplemental Application, plus funding for improving address files, as follows:

- $1,650,950: Continued broadband data collection, validation and display for years 3, 4 and 5, with some minimal additions to year 2 data collection efforts.
- $993,036: State Broadband Capacity Building for years 2-5. Support requested will provide bridge support for programmatic, outreach, research and advocacy activities of the e-NC Authority that target vulnerable populations and underserved communities in the state. Years 3 and 4 will have major statewide broadband summits focused on statewide initiatives and highlighting local broadband deployment pilots, adoption and use best practices and sustainability options for local level programs
- $1,432,894: Technical Assistance for years 2-5 will support extension of on-the-ground technical assistance and research, update on-line training, information and toolkits/applications, work with small and home- based businesses and initiate a rigorous expert examination of best practices for measuring the impact of broadband deployment and capacity building on community and economic development.
- $268,848: Program to Improve Computer Ownership and Internet Usage for years 2-3 through a pilot Lifeline Online program that will offer qualifying citizens in an economically distressed county a comprehensive program of engagement, digital literacy training, technical support, subsidized equipment and broadband access.
- $386,074: Partner with NC Center for Geographic Information Analysis (CGIA) to identify then apply new best practices and automation tools in a statewide Address File Update.

Data Collection, Integration, Verification and Display
Current Award, Years 1-2: $1,589,208 (not including broadband planning funds)
New Funding Requested Year 2 – amended request – $ 83,874
                        Year 3 – supplemental request – $ 743,870
                        Year 4 – supplemental request – $ 421,074
                        Year 5 – supplemental request – $ 402,132
                                          Total - $1,650,950
Total Funds Requested, Years 1-5: $3,240,158

Data Gathering Methodology
The e-NC Authority's first-round NTIA SBDD mapping project was designed to overcome the known shortcomings of our existing mapping techniques. A rigorous examination of alternative data collection methods is underway to determine a cost-effective best practice approach to obtain current, accurate and verifiable broadband access data. The original project schedule has proven overly ambitious due to unanticipated delays in obtaining necessary non-disclosure agreements with some key providers, non-compliance by other providers, the need for extensive interaction with many resource-limited small providers, delays in wireless service assessment resulting from variations in the emergence of vegetation across a state that spans several climate zones, three staff (two of more than 9 years) retiring and one leaving due to a medical condition. As a result, some project milestones scheduled for year 1 will carry over to year 2, with only modest impact on the project budget. For example, delays in obtaining complete, verified datasets make it necessary to retain the services of our independent evaluators for an additional year to complete their method analysis, anticipated by mid-year 2. (January 2011)

Despite delays, preliminary results and information obtained from other states already suggest improvements to the original mapping project design. In addition, evolving specifications for the datasets sought by NTIA (i.e., geospatial format, specified street-level fields, working toward increased spatial granularity and pricing information) create a need for on-going refinement of the data collection process and mapping product. Additional programmatic efforts and the funds to support them will be needed to continue improving the quality of the data that populates NC and the nation's broadband access maps through October 1, 2014. Stringent fiscal and human resource constraints preclude the e-NC Authority from undertaking these efforts without the support of its mapping partner, the NTIA.

The following summary of results to date provides context for the proposed addendum to NC's broadband mapping plan. Data is currently collected through three distinct modalities – technology-enable independent market data by means of web-mining techniques and wireless propagation models, provider-supplied market data, and consumer-provided empirical data to permit head-to-head comparisons of methods and cross-validation of data. A preliminary assessment finds that the methods vary significantly in cost and the granularity of data obtained.

We find that no single method provides all of the information needed to develop a quality map, but it is premature to specify the set of methods to be used in coming years to collect and verify broadband access in NC – that is the goal of the mapping study underway now. As we are learning about shortcomings and strengths of the various approaches we are identifying possible solutions that could improve the quality and comprehensiveness of data obtained using specific

methods. By undertaking efforts to effect those solutions, we can optimize each method within the design of this experiment and thus improve our chances for ultimately selecting a mapping approach that is a true best practice.

Over the next six months we propose to implement a number of changes to the data collection process. The modified approach will be used to collect data for the next data pull to allow the project evaluators to document differences from our data collections in late 2009 and 2010. A combination of methods to be specified by mid 2011 will be used going forward to collect and validate broadband data. Efforts to improve data collection will include the following:

o Providers
  - Convene providers to present beta map and to discuss the mutual benefits of improved compliance and quality of data. Topsail Technologies, our database development contractor, will facilitate discussion about data security concerns. Providers will be introduced to plans for e-NC to produce a last mile roundup study that will identify potential markets. The meeting will be convened by early November 2010.
  - Develop and publish an on-line primer on data submission to improve compliance and quality of data from small providers. We will pursue possible partnerships with other states that have identified a similar need to develop a standard document. October 2010.
  - Develop a second version of the on-line primer to guide municipalities and other non-traditional providers in the submission of data. We will partner with the NC League of Municipalities and the NC wireless association in this effort. March 2011.
  - Provider data will be collected electronically by e-NC directly from the providers, two times per year through October 1, 2014.

o Consumer-Provided Data
Consumer surveys from 19 counties are providing primary data that is being used to verify information submitted by service providers. The premise that heavy sampling in a carefully drawn proxy sample could provide statistically rich results with high confidence levels and could legitimately substitute for a statewide survey was demonstrated during the first half of 2010. The proxy sample was shown to mirror the demographics, economy and geography of the state overall and no statistical difference was found in the responses to identical questions regarding broadband access between this sample and a statewide consumer survey (ECU University). Consumer surveys conducted in the 19 county proxy sample will be used for the second data pull in each of the next two years of the mapping project and then re-evaluated for possible use in the remaining years. These 19 counties will also serve as the deployment target going forward for other data collection methods (e.g. web mining) as a means of controlling costs.

Year 1-consumer surveys were conducted from a survey research center created at Business and Technology Telecenters (BTTs) that were established by e-NC in two distressed rural counties as technology resource centers in 2004. Displaced workers and students in these regions were trained in survey research methods and employed to conduct the Year 1 NC Broadband Rigor In Mapping (BRIM) consumer surveys. Beyond the 39 short-term jobs created by the NC BRIM survey, equipment and skills gained through this effort are being parleyed by the BTT into a sustainable economic development success. Foothills Connect BTT is providing survey call center services to other organizations and projects in the region/state. We plan to utilize the

survey center in subsequent consumer and business surveys that will be conducted throughout the remainder of the NC BRIM mapping and planning projects.

o   Web-mining

Some of the required data can be derived from the web in a timely and cost efficient manner, but there are gaps (no wireless data) and the level of granularity is not adequate with our current vendor. In addition, some of the smaller providers are not picked up. We have contracted with Telogical, a web-crawling vendor, to acquire information about broadband Internet availability in NC as it is advertised and/or offered to individual customers online. Data obtained from Telogical comprised the first dataset we submitted to NTIA in November 2009. Teological's availability information was found to be generalized by area, as data incorporated into Telogical's proprietary model is aggregated to the census block group, while e-NC (and the NTIA) seeks this information at granularity of at least individual census blocks. Telogical does provide pricing and speed information that would not otherwise be available.

Another data vendor, InfoUSA Marketing, Inc. has approached e-NC with the ability to provide information about broadband subscribers at the individual address level, including the technology type, subscriber IP address, and ISP company through which the service is subscribed. Preliminary comparison of these separate data products suggests that combining the two could result in a more effective and value-added dataset. Relatively high per-record cost for InfoUSA data leads to the proposal that web-mined data be collected only for service areas in the 19-counties that serve as a proxy for the entire state, and that these results be used to validate data submitted by providers. Beginning with the data pull due to NTIA on September 1, 2010, data would be mined annually using both Telogical and InfoUSA to substantially improve the granularity and completeness of results and to verify data submitted by providers. While this application requests funding to conduct web mining by both Telogical and Infogroup annually through 2014, it should be noted that one or both of these line items are subject to reduction as a result of recommendations to be developed by our independent evaluation team.

o   Wireless Data

The wireless market in NC is highly dynamic and populated by numerous small providers, many of whom have been unable or unwilling to comply with our requests for data. The e-NC Authority will continue efforts to engage the cooperation of this segment and to facilitate their semi-annual submission of data (see the preceding "Providers" section). Radio wave propagation studies using proprietary models are being conducted to validate data submitted by wireless service providers and to identify regions in the state that are unserved or underserved by fixed and/or mobile wireless. An assessment and validation of the model is underway this summer through signal strength data collected from drive tests and field sampling subjected to statistical analysis. We anticipate an on-going need to use the wireless-propagation model at least once annually (see budget). In addition, the results of the modeling and field studies will be used in year 2 to specify the locations where gaps in wireless service suggest market opportunities that will be communicated to potential providers through a data layer accessible on e-NC's map.

Process for Data Integration

Data requests will be made to providers twice each year on a schedule that supports meeting NTIA's data submission deadlines and specified formats. Several e-NC staff members are

responsible for ensuring that data submitted by providers and contractors is complete and in the format specified by NTIA. To facilitate data integration all organizations that have to submit data will be provided on-line tools/guidebooks and hands-on training (if needed) on data submission.

Verification Methodology
Three modalities of data collection comprise the NC mapping project – provider, consumer and independent technology-based. Within each modality, at least two data sources are used to compare and cross-validate broadband access at the census block level. Efforts with providers will continue throughout the project to increase data accuracy and spatial granularity. Provider data is verified through an evolving set of database-assisted internal checks, through comparison with data obtained from web-mining techniques as well as telephone and web-based consumer surveys. For wireless service, provider data is cross-validated by consumer data and through the results of GIS-modeling that is in turn validated by field sampling. Triangulation of results using mathematical modeling techniques is expected to give a more accurate depiction of broadband service in NC. Final specification of the process is expected in mid-year 2. While all methods will be employed through March 2011 it is likely that the process going forward will be modified to take advantage of costs savings approaches that may be identified by evaluators during year 2.

Display, Security and Confidentiality
The e-NC Authority does not plan to alter how it provides non-confidential data to the public or keeps confidential data secure. Topsail Technologies will be retained as the database and website development agent and MCNC (BTOP 1 awardee and BTOP 2 application pending) will continue to provide secure hosting services for NC's broadband mapping data. Funds are requested to cover these services in years 3-5. All non-proprietary data will be displayed on an interactive, GIS-based mapping tool that will be accessible at http://e-ncbroadband.org/ and will be updated every 6 months. The data layers on the NC map will match those available on the national map, with the possible addition of other layers and details needed to support NC-specific applications and broadband planning efforts. Michael Baker, a nationally respected GIS company will continue to assist e-NC in developing data layers and maintaining and hosting e-NC's online map. Beyond general display, e-NC's technical staff will continue to assist citizens, businesses, institutions and economic developers with customized mapping searches.

Innovative Aspects to Up-Dated Mapping Process and Product
Data collection and display will be improved through the implementation of the following:
- Update and enhance e-NC website to a more fully interactive, crowd-sourcing capable site to support the provider service report feature as a feedback loop
- Capture and verify reported information on free public websites, add a layer to map with public access sites, and links to information on free WiFi locations.
- Add 3G and 4G service area content to map layers
- Add information on resellers (but need discussion with NTIA on this)
- Develop methods for capturing wireless phone numbers/data for verification purposes
- Confidence intervals - work with other states to develop practice for standardizing confidence intervals around access data. We will invite CA, MN, and MA to join us.
- Best practice adoption to be determined and allowance of up to 10% of budget to be in proposed budget. (Note: e-NC requests to use some of this best practice funding to conduct an external evaluation of the data collection process during this project.)

Name: Address File Development

Total cost: $447,385 ($294,960 direct/$91,114 indirect requested from NTIA, $61,311 match)

Project Description: NC's address level collection will build on the experience and support infrastructure developed by the NC Center for Geographic Information and Analysis (CGIA). In 2008, the NC General Assembly provided $1M for development of the NC Master Address Dataset (containing 4,766,652 points) in support of the 2010 decennial census. In ten months, CGIA staff integrated address data statewide, from county and municipal governments providing data in a variety of forms including building point locations, parcels with centroids, street centerlines with address ranges, and tabular lists. Data was validated record by record, and translated to a FGDC draft-standardized database schema.

NC has 4,501 census blocks (CB) over 2 mi^2 in area (rural CB's), covering 41 percent of the state's total land area. The existing dataset contains 370,406 rural CB address points (7.7 percent of points statewide). It is not feasible to quantify the points, land, and population not captured by this dataset, but a data quality matrix created by CGIA indicates a general correlation between localities with more rural CB's and greater need for address data improvement. Cost of collection per point varies greatly at the local level by method and capacity, though these costs are typically built into operations of local interest; e-NC and CGIA will examine this and target areas of greatest need with cost-effective options identified and created as part of this project. Using simply the number of points in the existing address file, state-level costs were $0.21/point in the original collection, and would be $0.06/point in the update.

NC's address data initiative will have two platforms: (1) identification of best practices and support of local governments to improve address data quality, and (2) development of a new process for more efficient aggregation of updated local datasets into a consistent statewide address data resource. The results for both initiatives will be appropriate for sharing with other states, and will culminate in a statewide update utilizing the best possible modified approach.

(1) Improving local government address data: Local governments engaged during the NC Master Address Dataset project expressed genuine interest in improving the quality of locally developed address data. CGIA and e-NC will form a working group to engage local governments and other key stakeholders in identification and proliferation of best practices, and developing support tools for address data maintenance. This effort will focus on development and evaluation during year 2 of the NC SBDD funding period, and implementation of an updated address data collection starting in year 3 (made available for download by end of year 4).

(2) Improving aggregation of local government address datasets: The initiation of NC's first statewide address data update presents an opportunity to develop significant efficiencies in processing data provided by local governments. From one data collection cycle to the next, a large portion of data collected is consistent. CGIA will develop an automation-assisted procedure for filtering out incoming address data that is unchanged from the previous cycle, then develop and apply increased QA/QC for data that is "new" to the production database. This innovation will increase the quality of the statewide dataset, while significantly decreasing the resources required for data integration per cycle compared to the present static workflow for processing/validating each unique local address every update cycle.

Name: Building State Broadband Capacity in North Carolina
The e-NC Authority is requesting operating funding to ensure that North Carolina (NC) has a
state broadband authority to be the lead broadband policy and planning efforts and help the state
retain a cutting-edge broadband focus in coming years.

Funds Awarded: $44,482 (year 1, broadband planning)
The original SBDD award covers a portion of e-NC personnel costs that are directly attributable
to specified year 1planning activities, plus indirect costs to e-NC's fiscal agent, the NC Rural
Center. Beyond this, the current NTIA funding does not include any additional operating support
for the e-NC Authority beyond its mapping responsibilities. Most of NC's original SBDD
planning grant funds the e-solutions broadband adoption and use survey by Strategic Networks
Group and three bi-annual citizen surveys by East Carolina University.

Funds Requested : $993,036 total, over years 2-5

Problem: The problem this request addresses is simple: available state funding is not sufficient
to maintain e-NC programmatic efforts at a level sufficient to meet the goals and objectives
outlined in the SBDD NOFA or NC's strategic broadband plan.[1] The e-NC Authority believes
that all states must have a designated and high-functioning state broadband authority in order to
maintain the necessary focus on broadband and guide broadband efforts within each state. While
e-NC is one of the longest running state broadband authorities in the country, with a proven
record of accomplishment, e-NC nevertheless faces budget constraints that threaten its ability to
fully operate and serve the state.

A one-time start-up endowment from MCNC, a private non-profit organization, supported most
of e-NC's operations and programmatic activities since its inception in 2001, supplemented since
2005 with direct appropriations from the NC General Assembly. Currently, e-NC receives state
funding of just under $470,000 a year towards a total annual operating/programs budget of
approximately $1 million. It was the last remnants of the now depleted original endowment that
have made up this funding shortfall in recent years, plus some of our own fund raising. Severe
budget constraints face our state and thus reduce the possibility that the state will be able to
cover the full cost of e-NC's operations/programs in the short-term to nil. The relationship that e-
NC enjoys with the NC General Assembly is excellent. We are optimistic that when the
economy recovers the state will find the money to solve e-NC's funding problems. In the
meantime, it is our responsibility to seek other sources of funds. Support from the ARRA-funded
SBDD grant program designated for use towards e-NC's capacity building would ensure that NC
can continue to be a resource for NC.

SBDD funding for a portion of the operating support for e-NC's core staff would allow e-NC to
continue and expand its portfolio of programmatic efforts to build capacity in all regions and
among all of the state's citizens and businesses. With a statutory mandate to be the primary
Internet policy and planning body for the state, e-NC works with citizens, telecommunications
service providers, local and state government, and partners in all 100 counties to advocate for

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[1] http://www.e-nc.org/pdf/Capturing_the_Promise_10yr_Internet_Plan.pdf

increased broadband availability and use. The e-NC Authority has a particular directive to focus its efforts in rural and urban distressed areas, advocating for broadband availability to allow all NC businesses and communities to participate in the global economy.

As the broadband authority for the state, e-NC tracks state and national issues related to broadband deployment and use. From its original mandate to increase availability of high-speed Internet to households in NC, e-NC is also called on to work with e-learning efforts, managing e-learning grants for Golden LEAF since 2004, conducting the e-learning study for the N.C. General Assembly in 2006, and providing extensive technical assistance to the state School Connectivity Initiative. Local officials sought e-NC's participation in FCC funding which has come to the state for health networks, resulting in e-NC managing one of 12 national Rural Health Pilot Projects. The e-NC Authority partnered with NC's BRAC (Base Realignment and Closure) regional task force in developing a landmark regional strategic growth plan that is guiding the transformation of a rural region to support the relocation of the U.S. Army's Forces Command. Previously, e-NC managed a very successful local e-government grant program with funding from the NTIA. This past year, e-NC has worked closely with the Governor's Office to provide guidance on broadband stimulus dollars coming into the state from the federal stimulus package.

The e-NC Authority has become the state's leader in broadband expertise, partly due to its research activities, including the early tracking and mapping of high-speed Internet infrastructure and longitudinal surveys on adoption and use, which are now encompassed under the NTIA mapping work. The e-NC Authority released a milestone report in 2008, calling for a national broadband plan, and released a state broadband plan of its own in 2009 with policy recommendations for state leaders.

The e-NC Authority provides technical assistance to communities and local governments who are working to assess broadband in their areas or are considering investing in local or community networks. At times, guidance is provided to state organizations such as Golden LEAF, the economic development foundation funded by tobacco settlement dollars, and to legislators and legislative committees, and the state Utilities Commission. The e-NC Authority works closely with the N.C. League of Municipalities and the N.C. Association of County Commissioners. The e-NC Authority also seeks to maintain relationships with all the service providers in the state-private, nonprofit, community and government providers.

Responding to citizen inquiries is also a part of our work. The e-NC Authority receives continuous calls and emails from citizens across the state that are looking for answers of "how to get service to their home or business." Service inquiries are tracked and sent to the relevant providers for that region.

The e-NC Authority provides leadership and vision for the grassroots-level in an effort to champion and enable technology-based economic development in North Carolina's rural and urban distressed communities. The seven e-NC Business & Technology Telecenters created 1,906 jobs between 2001 and 2009. Over the years, e-NC has initiated grant programs in areas such as connectivity incentives, public Internet access sites, digital literacy, e-communities

efforts, and e-government, to name just a few, and has awarded and monitored over 500 grants. We are audited yearly and have had no audit exceptions on our Authority's operations.
All this is to say that the expertise developed by e-NC in its multi-faceted broadband efforts serves many purposes at many levels. It is needed to continue to see that NC moves forward with broadband to all homes and businesses. The challenge going forward is how best to sustain progress made thus far and how to provide for continuing operations for e-NC.

Solution: The e-NC Authority is requesting $250,000 per year for years 2-5, to maintain the operations of the e-NC Authority. The e-NC Authority, as mandated in NC Session Law 2003-425 (http://www.ncleg.net/EnactedLegislation/SessionLaws/PDF/2003-2004/SL2003-425.pdf), is the designated broadband authority for the state of North Carolina, and is housed in the Rural Economic Development Center. Federal funding for operations during this period would allow e-NC the ability to continue to operate until the state budget crisis lifts, hopefully in the next few years. This funding will allow for job retention at e-NC, as per one of the primary goals of the American Recovery and Reinvestment Act. Moreover, following on the establishment of a survey call center at FootHills Connect BTT in rural Rutherford County in year 1 of NC's SBDD grant, jobs will be created to conduct on-going SBDD-related surveys. There is no other entity in the state whose knowledge, organizational capacity and technical and research expertise could substitute for that of e-NC.

Outcomes and Benefits: With funding of $250,000 per year to fund personnel costs for core staff members, e-NC can continue operations as the state broadband authority. Specifically, with this funding, e-NC will accomplish the following:
  o Track federal broadband policy issues and funding sources for relevance to NC
  o Work with relevant federal agencies and the U.S. Congress, as appropriate, on broadband activities and solutions
  o Track state broadband policy issues and provide policy guidance, as appropriate.
  o Analyze e-NC's broadband data and map as developed for the NTIA, educate state leaders on how to use this resource and its meaning, and use the map for development of last-mile broadband deployment solutions and policy recommendations
  o Work with partners to encourage the goals laid out in e-NC's 10-Year Internet Action Plan (Jan. 09) on access, bandwidth, applications and inclusion. http://www.e-nc.org/pdf/e-NC_Internet_Action_Plan.pdf), and reassess and revise the goals and recommendations as needed
  o Serve as a technical resource to state organizations and state leaders for questions concerning broadband availability, adoption and use
  o Continue to maintain partnerships with organizations such as: The NC League of Municipalities, the NC Association of County Commissioners, the UNC Center for Public Technology, the NC Justice Center, the NC Dept of Commerce, the NC Economic Developers Association, the NC Farm Bureau, the NC Indian Commission, and NC Institute for Minority Economic Development and the Indian Economic Development Commission, the NC Health Information and Communications Alliance, and others.
  o Maintain relationships with the broadband service providers of the state through bi-annual meetings to look at the mapping work and to discuss common goals in broadband provision

- o Track major broadband projects in the state, such as recent BTOP and BIP project funding to NC
- o Oversee regional technical assistance and outreach staff to provide and collect information at the local level and develop increased local level partnerships. (See accompanying SBDD Technical Assistance project for details)
- o Continue to seek funding from the state for broadband efforts including funding for broadband deployment incentives
- o Continue to seek funding from private, foundation and other public sources for broadband programs and grants for North Carolina
- o Hold two statewide broadband summits (2011 and 2013) to involve state's leaders, consumers, elected officials, nonprofits, businesses and local governments to learn together, to train, to commit to continued efforts to see that NC continues to keep its eye on its citizens knowing how to use computers, the Internet, and how to use this tool to enhance their quality of life and the economy of the state of NC. FY 3 & FY4 $40K match

Cost: Costs for the capacity building project are actual costs associated with operating a state broadband authority.

SBDD Purpose: Because the capacity building project is inherent in the overall goals and operations of e-NC, as the state broadband authority for North Carolina, the work ties to all of the goals outlined in the BDIA for the SBDD program. The purpose of this e-NC work includes the following purposes: 1) to develop and provide a baseline assessment of broadband deployment in each state; 2) to identify and track the areas with low levels of deployment, the rate at which residential and business users adopt broadband service and other related information technology services, and possible suppliers of such services; 3) to identify barriers to the adoption of broadband service and information technology services; 4) to identify the available speeds for broadband connection; 5) to create and facilitate by county or designated region in a state, local technology planning teams; 6) to collaborate with broadband service providers and information technology companies to encourage deployment and use; 7) to establish computer ownership and Internet access programs in unserved and areas with lower than average penetration on a national basis; 8) to collect and analyze detailed market data concerning use and demand for broadband service; 9) to facilitate information exchange regarding use and demand for broadband services between public and private sector users; and 10) to create within each State a geographic inventory map of broadband service.

NAME: Technical Assistance from the e-NC Authority
The e-NC Authority is requesting funds to (1) provide technical assistance and local-level outreach for planning and support to the 100 counties and 9.5 million people that make up NC. Support is also sought for e-NC to (2) provide technical assistance to the NTIA and the other SBDD awardees by convening a one-time symposium to examine best practices for capturing the impact and economic development value of efforts to increase broadband deployment and use.

FUNDS AWARDED: $0
The original SBDD grant award from the NTIA did not provide funding for technical assistance.
FUNDS REQUESTED: $1,432,894 total, over years 2-5

PROBLEM (1): The e-NC Authority has a statutory mandate to serve rural and urban distressed communities statewide. With its current staff of 5 full and 3 part-time people, it is not possible to provide hands-on assistance at the local level, although e-NC makes an effort to work with all counties as needed. There are no other organizations or public NC agencies with the responsibility or expertise to deliver the assistance needed by vulnerable communities. Traditionally e-NC has employed two telecommunications specialists with vast knowledge of telecom infrastructure and networks who work out of the e-NC office in Raleigh. The demand for technical assistance to communities that are developing broadband plans has vastly exceeded the time available from these staff members. From 2001 through 2003, the e-NC Authority employed five regional program officers (RPOs) who helped fill the gap and leverage the more senior specialists' services and time. In 2002, RPOs were also responsible for building demand by guiding structured county-level e-community programs. Through its RPOs, e-NC developed solid experience in providing one-on-one technical and outreach assistance to communities that catalyzed significant grassroots-led broadband deployment and adoption efforts. A reduction in operating funds from the original foundation grant made it impossible for e-NC to continue this vital service of having field staff operating around the state. Beyond the loss of an important resource for local initiatives, the absence of field personnel makes it much more difficult for e-NC to monitor and encourage local broadband efforts and to share all of its resources and expertise with more than 500 towns and municipalities, many local communities and 100 counties. The size of the state further emphasizes the need for field agents – it can take as much as 7 hours to reach NC's border counties from e-NC's offices. The public's knowledge of the status and options for improving broadband deployment, digital literacy and training opportunities, public Internet access and even sources of low-priced computers (such as computer refurbishers) has been compromised without an active, local e-NC presence in their regions.
SOLUTION: The e-NC Authority is requesting funding to employ three regional field staff and one research associate to both provide increased broadband expertise and resources from e-NC to local communities and to help e-NC capture additional local level information. RPOs will be stationed in the field in eastern, central and western NC respectively. RPOs will be skilled in building relationships and have technical training commensurate with the sorts of assistance needed by communities in their regions to plan for technology-led and broadband enabled economic and community development.

Beyond assessing local level resources and providing a direct link to e-NC and its partners, RPOs' primary role will involve working directly with broadband planning efforts in

communities. RPOs will assess the status of local broadband efforts, provide planning assistance to communities ready to move forward with efforts, and provide technical expertise on broadband infrastructure planning and important implementation costs analysis that is sorely absent in many communities. RPOs will also reach out to communities that are not yet looking at broadband and offer guidance on why broadband planning should be a priority. RPOs will work to catalyze local efforts to launch technology planning teams and/or update earlier 2003 e-communities plans. RPOs will work with e-NC's headquarters staff to implement specific e-communities projects that emerge from the regions, including grassroots-led deployment efforts and projects around public access, digital literacy training, e-business and targeted Web applications.

The RPOs will also work with e-NC staff in Raleigh on implementing specific planning projects specified in e-NC's original broadband planning proposal to NTIA. Many of those projects, such as Last Mile Round-Up and those focusing on vulnerable populations, are on-going and will be supported at the local level by these staff members. In addition, some members of this team will staff at a local level the Lifeline Online work outlined in this grant proposal as a separate project category.

In addition, a research associate (RA) will be hired to collect and track relevant broadband and technical information as a compliment to the NTIA data collection efforts around broadband availability. The RA's data collection efforts will include inventorying local communities for information, such as: public Internet access sites, digital literacy training programs, network training opportunities, computer refurbishers, e-commerce training and other broadband resources available at the local level. To sustain this, we will train local teams for future assistance with this local data collection.

The RA will have a pivotal role in redesigning and implementing an enhanced e-NC website to improve its usefulness overall and to make it more relevant to particularly vulnerable individuals and businesses. The RA will ensure that our website develops as an active portal to the online tools and resources needed by NC citizens and businesses, in part by engaging a broader spectrum of partners whose on-line resources are especially relevant to communities targeted for engagement. While the current e-NC website attempts to address the need for more local relevance through its "My County" function, we have lacked the resources needed to make our website the powerful tool it can be for delivering needed information and assistance to our constituents. A major responsibility for the RA will be delivery of greatly expanded local information through a website that is both more sophisticated and user-friendly.

Together the RPOs and RA will form the nexus of a re-energized outreach effort that will educate communities to utilize the national and state online broadband maps and their many layers of relevant information, as well as the newly redesigned e-NC website that will link them with additional sources of assistance. This technical assistance team (TAT) will engage individuals and businesses in their regions as active agents to provide the information feedback loops needed to provide broadband service verification and updates through an online mechanism that will be part of e-NC's re-designed website. The TAT team will further improve the quality and comprehensiveness of broadband mapping data by building relationships with smaller service providers to encourage their understanding and cooperation with e-NC data

collection efforts. This is particularly important because the smaller, regionally focused providers have been the least compliant to our requests for data. The TAT will work with e-NC's data collection staff and with our wireless data contractor to develop and verify e-NC's inventory of tower locations to make this information available to the public and to make wireless providers aware of promising underserved markets.

The e-NC Authority will also partner with Strategic Networks Group (SNG) to produce digital economy index scorecards for broadband adoption among businesses and organizations with limited capacity. Together, e-NC and SNG will target broadband adoption efforts on these groups through stakeholder networks, online tools and regional workshops over years 2, 3 and 4. This work to increase capacity and broadband adoption will have a focus on e-commerce tools.

OUTCOMES AND BENEFITS: As presented, e-NC's three RPOs and RA will work together and with e-NC staff in Raleigh to provide the following:

- Build relationships at the local level with:
  - Local leaders – to provide support and guidance
  - Citizens – to increase awareness and capacity
  - Military – to develop strategy to increase access for military families
  - Minority leadership – to encourage uptake of digital literacy training
  - Disability and Elder Population- to provide digital literacy and adoption and use
  - Small business owners – to provide e-commerce training
  - Service providers – to increase data compliance/ encourage interest in provision
  - Economic developers – to raise awareness of gaps and opportunities
  - Public Safety entities – to provide resources and improve address database
  - Partner organizations – to leverage resources and create broadband advocates
- Re-inventory/assess (for display on e-NC's Website) local broadband resources such as:
  - Public access sites
  - Self-serve digital literacy training programs and programs at partner organizations
  - Computer refurbishers
  - Tower locations or other relevant infrastructure information
  - Public Education and Government (PEG) Channels
- Engage citizens as active participants in access verification by encouraging them to access the map and provide online feedback on the map's accuracy at their census block
- Share e-NC and other broadband resources with the local level in an educational capacity to:
  - Train local leaders/citizens on how to take advantage of e-NC's online map
  - Promote and match citizens with local resources and programs they may not be aware of through e-NC's inventory assessment
  - Re-design e-NC website to be more relevant, comprehensive, interactive and user friendly, including working with NC Center for Persons with Disabilities to make the site more ADA compliant
- As a primary service, provide technical assistance to local leaders/organizations including:
  - Information on how to organize local broadband planning teams
  - Technical input on broadband planning being conducted by the county, municipality or community
  - Outreach to small businesses on e-commerce resources
  - Assist e-NC in updating toolkits to online and social networking utility

- Create a cross-connect collaborative panel with other state agencies to infuse open government principles and philosophies and address the network silos challenge in bimonthly meetings.

PROBLEM (2): Although broadband Internet is widely acknowledged as a driver of sustainable economic and community development, there is a troubling lack of rigorous research or standard definitions and measurements to qualify this view. Governments, companies and individuals facing shrinking public, corporate and personal resource pools need credible documentation of the return on investment expected from broadband. The best descriptors for much of the existing research include "dated", "anecdotal", "limited in scope/scale" and "not relevant" to specific issues or situations in the public policy arena. The issues that confound analysis are even more complicated for investments that involve public-private partnerships. Given the unprecedented level of broadband investment being made through the BTOP, BIP and SBDD programs there is a real and pressing need for a serious examination of what constitutes appropriate success and impact measures and what are best practices for collecting the data needed to make assessments.
SOLUTION: The e-NC Authority will convene a two-day invited working research summit to examine how to measure the economic impact of state and national broadband deployment and capacity building efforts. We will work with NTIA and other partnering states to identify and invite appropriate leading thinkers, researchers and practitioners in this arena to participate in this summit. Dr. Ed Feser, economist, of the University of Illinois at Champaign-Urbana faculty will edit summit proceedings for release January 2012.
OUTCOMES AND BENEFITS: The research summit will begin a much-needed examination of issues, measures and uses for developing standard definitions and rigorous and relevant measures of the impact of public investments in broadband infrastructure deployment and capacity building at the federal, state and local levels.

COST: The technical assistance project is in large part funding personnel to work one-on-one with local communities. In more than 9 years of e-NC's operations, we have found that technical expertise is critically needed at the local level and can most cost-effectively be rolled out via regional staff. Having worked with SNG in year 1, we believe the cost in partnering with them for e-commerce expertise is warranted, as well as the minimal cost of convening researchers for the working summit in year 3.

SBDD PURPOSE: The primary focus of this project is to support e-NC's efforts to provide technical assistance by adding three regional program officers and a headquarters-based research assistant to effect dramatically enhanced outreach efforts. The resources that will be delivered to local communities relate to many of the BDIA goals including: 1) work at the local level to identify and track the areas with low levels of deployment, the rate at which residential and business users adopt broadband service and other related information technology services, and possible suppliers of such services; 2) identify barriers to the adoption of broadband and information technology services; 3) create and facilitate local technology planning teams; 4) collaborate with broadband service providers and information technology companies at the local level to encourage deployment and use; 5) work with local communities to establish computer ownership and Internet access programs in unserved and areas with lower-than-average penetration on a national basis; and 6) facilitate information exchange regarding use and demand for broadband services between public and private sector users.

NAME: Lifeline Online
The e-NC Authority requests funding to develop and run a pilot project that will demonstrate
how to provide a subsidized broadband program to families that currently are eligible for the
FCC's Lifeline program and will distill lessons of how best to scale the program statewide.

FUNDS AWARDED: $0
Funding to initiate planning for a Lifeline Online pilot program was not included in e-NC's
original SBDD request, although our intention to explore such a pilot was specified as a goal for
the planning component of e-NC's initial SDBB planning efforts.

FUNDS REQUESTED: $268,848 total, over years 2-3

PROBLEM: The negative correlation between poverty and Internet access is well established
and needs to be addressed head-on if we are to optimize social and economic returns possible
from the BTOP, BIP and SBDD programs. We also know that rural communities overall have
few, or in too many cases, no options for broadband access. These troubling patterns converge in
rural NC, which has more rural residents than any state other than Texas, where more than 1.2
million people live below the poverty line, including 22 percent of the state's children, and
where there are many communities with disproportionately high minority populations. Overlay
these facts with the FCC's finding that 36 percent of Americans cite cost as the reason they do
not have broadband access and by 10 percent as the reason they do not have a computer in their
homes for proof of the need for a concerted effort to bring broadband to NC's poorer rural
communities. Support for this emphasis is taken from e-NC's SBDD-funded year 1 citizen
survey conducted in January 2010 which found that 32 percent of NC households with annual
household incomes of less than $25,000 do not have a computer or Internet access in their homes
and 21 percent of this group does not access the Internet anywhere. This means that many of the
individuals and children most in need are not able to access educational, job training, health and
government services that are increasingly available online.

Two-thirds of respondents to e-NC's SBDD-funded e-solutions survey (April 2010) state that
there are insufficient resources in their communities to help them learn how to get the most
benefit from the Internet. In the current economic climate, where NC's rural unemployment rate
exceeds the national average by almost two full percentage points, the lack of broadband access
and the knowledge of how it can be used to supplement income and launch entrepreneurial
efforts are especially troubling. Again from our year 1 SBDD e-solutions survey, more than 50
percent of households with broadband access report that they have or plan to use Internet sales to
supplement their income, while 31 percent with broadband access operate a home-based
business. Accounting for overlap, we estimate that 65 percent of NC households with broadband
access use the Internet to supplement their income. Again, the groups that could benefit most
from supplemental income cannot afford broadband and do not have the knowledge or tools to

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use it. There is a model for delivering broadband to disadvantaged home – the FCC-administered Universal Services Fund, which offers qualifying low income households reduced cost telephone services and equipment through the Lifeline Link-Up program. In NC, which augments the FCC credit with a $3.50 state tax credit (per household per month) only 4 percent of the 16 percent of household that qualify take advantage of the subsidy. The lesson is that although this may be a good program and model, just putting it out there does not guarantee that it will be used.

SOLUTION: The FCC's America's Plan for National Broadband (Recommendation 9.1) calls for pilot programs to be established to extend subsidies similar to those available through the USF Lifeline Link-up subsidies to qualifying households to provide computers and Internet access. The e-NC Authority requests funding to develop and run a pilot program in a rural county in NC to provide a template of implementation activities, funding programs and findings that would allow e-NC to scale the program to a statewide initiative. NC would like to become the first state to enable all of its citizens to have access to the Internet so that all citizens, regardless of income, can be empowered by broadband Internet to gain a more productive, healthy, educated and prosperous quality of life. A pilot Lifeline Online program with the following characteristics is recommended as a promising approach to extending Internet access to vulnerable individuals and communities:

- Geographically-targeted
- Engaging partners as leaders in the targeted communities
- An Active Lifeline Online Advisory Committee
- Consumer Involvement in design
- Extensive pre-deployment outreach to increase awareness and interest
- Rigorous monitoring and evaluation to document results and capture best practices

Plan Overview
The e-NC Authority will lead a 12 month effort, beginning in January 2010, to pilot a Lifeline program that targets 200 households among vulnerable populations with documented need for assistance to obtain and use broadband Internet in their homes.

- Research from previous broadband access studies, mapping and planning efforts will be used to select a pilot county from among the rural counties where our partner, the Golden LEAF Foundation operates a one-laptop program for school children.
- Leading companies in the computer industry are being asked to partner with e-NC to provide computers on a sliding cost basis that ranges from free to a modest amount for participating households. Refurbishers of computers are also being considered as partners in this project. Computers will be delivered and installed by e-NC technical staff (see Technical Assistance project) and/or by volunteers working under the auspices of the e-NC Authority's Business & Technology Telecenters.

- Providers of broadband will be asked to serve on a special Providers Committee with e-NC. Providers will be responsible for the sign-up and billing of the households that are a part of the Lifeline Online pilot.
- Uptake and adoption will be encouraged through digital literacy training and technical support that e-NC and its community partners will provide. Training will total 5 hours per individual in two sessions (one three-hour and one two-hour session). Additional training will be offered in other community settings and on-line. The State Library system will be part of the pilot advisory board and will work to see that household participants are aware of the digital literacy offerings available at public libraries.

Proposed Schedule - Abbreviated

Jan.-Feb.2011	Initiation of Program. Advisory Boards meet, RFP announcement & pilot selection of county/residents/sites/scheduled for digital literacy training
March-July 2011	Computers delivered, Help Desk initiated.
July-Oct. 2011	Project running/review taking place advisory groups meeting. Program revision if needed
Nov-Dec 2011	Program running with monitoring, retreat for advisory groups to distill lessons learned. Interim report preparation underway
Jan. to Dec.2012	Project continues to run. 3 meetings of advisory groups
December 2012	Continuation plan for program underway. Report Submitted

Partners
- The e-NC Authority has asked Intel Corporation to partner in a pilot lifeline online initiative in NC. While the exact nature of this partnership is still under discussion, one it could have Intel taking the leadership in obtaining commitments from other IT companies to provide discounts on equipment purchases.
- The State Library System, county and community libraries and community colleges will be asked to partner with e-NC to develop and offer digital literacy training programs for the targeted populations.
- Business & Technology Telecenters and other appropriate organizations in the region selected for the pilot program will be asked to work with the technical staff of e-NC to provide assistance needed to install and support households newly outfitted with Lifeline Online services. Community college and high school students will be trained to staff the Help Desk.
- The Golden LEAF Foundation of NC is supportive of this application by e-NC to the NTIA. Golden LEAF has taken the rare action of inviting e-NC to request of the foundation a grant that can serve as part of the match required for NTIA for additional mapping and planning funds.

Planning and Guidance

* Community engagement will be facilitated through the creation of a Lifeline Online Advisory Committee composed of leadership, both elected and community, from the pilot county. The committee will be representative of lower income families and will include leaders from organizations that work extensively with vulnerable populations in NC, disabled populations and including the state's Indian tribes, the African American and Latino communities. Support letters will be forthcoming from these organizations.

* The Utilities Commission of NC and the Office of the Attorney General and the Lifeline Online Advisory Committee will provide guidance and support from their past knowledge of the Lifeline Link-Up Telephone Program. Providers such as AT&T, CenturyLink, and other cooperating companies will be asked to serve on a committee with e-NC to develop the best streamline process for carrying out the pilot and projecting the structural guidelines for a statewide pilot.

OUTCOMES AND BENEFITS:

* Lifeline Online distills and extends the best proven practices of an existing technology adoption program, FCC's Lifeline Linkup, into the broadband arena to bring critical services and technology to vulnerable populations.

* NC's citizens and businesses will be more competitive with improved broadband access. The proposed program will pilot and demonstrate a potentially powerful and cost effective approach to achieving universal access in our state.

* The public –private partnerships that will define the proposed effort to establish a platform for continued innovative collaboration in the application of broadband for technology-based economic and community development in disadvantaged communities

* Tracking of implementation/cost issues will inform a scaled Lifeline Online program when the FCC determines the design for low-cost broadband household access.

COST: This is a cost-efficient pilot that will provide a needed small-scale (one county) model for a statewide Lifeline Online program at a FY1 cost of less than $1500 per household. Costs for e-NC personnel are provided as match. The largest cost elements are computers and printers provided to participating households. While a portion of these "supply" costs are listed as match, e-NC will seek additional match from IT companies. The actual connectivity subsidies for a scaled statewide or national program would likely be covered by state/federal tax revenue, but the small NC pilot allows a thorough test of concept using NTIA funds for the subsidies.

SBDD PURPOSE: The Lifeline Online pilot program for NC meets several goals of the BDIA and the SBDD program, especially: collaborating with broadband service providers and information technology companies to encourage deployment and use. We also believe that the participating households may likely be in areas with lower than average penetration, and establishing computer ownership and Internet access programs is the primary goal of the pilot.

Conclusion

The e-NC Authority and its many public and private partners have worked diligently since 2001 to infuse public awareness and appreciation for the potential broadband Internet holds as a platform for progress on multiple fronts. Statewide broadband-centered initiatives have been launched in education, public health, local government services, workforce training and entrepreneurial support in distressed counties. Much has been accomplished to move broadband forward in NC, but serious service and capacity gaps remain and prospects for further progress are muted by consecutive years of major economic stress that threaten to reverse some of NC's hard-earned progress. It is at this critical juncture that a partnership of federal and state resources could leverage the revitalization of broadband progress in NC through the activities outlined in this proposal.

It is important to stress that while NC has traveled far along the broadband policy and program learning curve we cannot declare the job done and rest on our accomplishments. The dynamic nature of the technology and the applications and resources it delivers requires that e-NC and similar organizations charged with ensuring that the benefits of broadband are available to all have to be eternally vigilant and adaptive in their efforts. We have experience in what works, and in how to best engage the partners whose contributions can help ensure success. We understand the importance of public-private partnerships and collaboration in leveraging scare resources and supporting fragile advances. We are committed to capturing and sharing the lessons learned so that successes might be amplified and repeated, and problems and impediments can be avoided. What we are lacking are the human and fiscal resources to take our knowledge, energy and open-system approach to learning back out into the communities and regions of our state that still do not have adequate broadband access and use.

The-NC Authority developed a strategic broadband plan for NC[1] that was presented to the legislature and people of the state in 2009. This plan represented the distillation of the public's voice, captured in eight statewide broadband forums and through a statewide Citizen Survey overlaid on a serious environmental scan of the status of connectivity in the state, nation and world that was conducted for e-NC by the Baller-Herbst firm[2]. This plan establishes the following 10 principles as best practices to ensure that all NC citizens and businesses have access and the capacity to utilize broadband to secure a better future: ubiquitous, inclusiveness, commitment to competitive infrastructure, local governments should have the right to offer broadband services when the service available does not meet the needs of the local community, technology neutral, cross-sector collaboration, digital literacy, leverage the power of youth, grassroots empowerment, constant improvement through accountability and data collection that is complete, accurate, verifiable and timely. The support requested in this proposal will be applied in programs in which these principles are firmly embedded.

Through articulation of this proactive and progressive strategic Internet Plan, NC asserts that its citizens and businesses, utilizing an information and communications technologies (ICT) platform, will be competitive in the global economy which is driven profoundly by technology.

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[1] http://www.e-nc.org/pdf/Capturing_the_Promise_10yr_Internet_Plan.pdf
[2] http://www.e-nc.org/pdf/Broadband_report_composite.pdf

The plan recognizes specific ambitious, but achievable goals related to broadband access, bandwidth, inclusion, adoption of applications in education, health and economic development and funding that can make NC's broadband vision a reality.

These goals can only be reached if the NC General Assembly continues to support the activities of the e-NC Authority through recurring appropriations. Creative approaches, including the options of selling general obligation bonds, providing tax incentives, and other solutions should be considered at the state level. Additional resources, not limited to funding, will be needed from a variety of sources, including federal appropriations, corporations and foundations. An invaluable and absolutely essential component of resources needed to sustain the efforts of the e-NC Authority is the commitment and sweat equity invested by the leaders, citizens and businesses in NC that work with e-NC to bring broadband benefits to their communities.

The requests in this proposal were carefully considered and track directly onto and leverage requests that are pending in the NC State Legislature. Our legislative agenda was developed and submitted by the e-NC Board of Directors with the knowledge that requests for state funds are significantly over-subscribed and that only the most pressing needs should be proffered for legislative action. With considerable support in our legislature we are reasonably hopeful that the elements of our legislative agenda that are budget neutral may pass but we are far less encouraged that the funds can be found to underwrite our operating shortfall or to incent deployment of additional broadband infrastructure.

The need for grassroots-led initiatives and creative partnerships has never been stronger – this proposal will support such efforts. E-NC will continue its commitment to building capacity at the local level, imbuing communities with the information and the skills they will need to plan and advocate for the local advancement of broadband infrastructure and the web-based applications they need for their small and home grown businesses, local government, and community institutions to prosper. Deliverables expected from funding the NC BRIM project as requested through October 2014 will have direct benefits to all North Carolinians that include:

- Vastly improved maps and research presented in a dynamic, interactive, current and easily understood format for use by all to track broadband deployment and ensure smarter investment of public resources
- Capacity building efforts that will be greatly enhanced with the addition of boots-on-the-ground Regional Program Officers who will bridge rural and vulnerable communities to a fully operational e-NC and its partners, delivering digital literacy, e-commerce training and technical assistance.
- Innovative boundary spanning deliverables, including 1) consistent and multi-functional address-level data with critical applications across state and local agencies, 2) best practice method for evaluating broadband data, and 3) groundbreaking research in valuing the economic impact of public investment in broadband planning, deployment and capacity building.
- Demonstration that NC and federal and state governments can work in partnership with local communities over five years to develop and sustain initiatives to deliver broadband access and assist with adoption and use strategies so that local communities can join the information economy of the 21st century

Budget Narrative
Mapping
Years 2-5
The e-NC Authority / Rural Economic Development Center, Inc. (Rural Center)

Personnel expenses make up the majority of the capacity building budget. North Carolina is fortunate to have a solid state broadband authority with over 9 years of operating experience. Yet, state budget constraints threaten e-NC's ability to continue operations at prior levels and with the original private endowment for e-NC now depleted. Supporting core staff members of e-NC with this funding allows for job retention at e-NC and continuation of a model state authority. Note that no personnel match has been included for this section. Although all of the e-NC staff members support the work of operating a state broadband authority, personnel time is used as match only in the other project categories.

e-NC personnel time will be dedicated to the mapping project as follows:
Years 3-5:

1. Executive Director. Jane Smith Patterson, as Executive Director of the e-NC Authority, will dedicate 10% of her time to the mapping project, as **match**, over these three years. As director, she is responsible for oversight of the entire BRIM project. Match calculations are based on 10% of a $120,189 FTE salary.

2. Assistant Director. Angie Bailey, as Assistant Director of e-NC, will dedicate 10% of her time to the mapping project over this period, as **match**. Her focus is on contractual and fiscal work, as well as project management. Match calculations are based on 10% of a $62,009 FTE salary.

3. Research Director. Deborah Watts, as the Senior Research Director for e-NC, is responsible for overseeing the research aspect of the mapping project. She will dedicate 15% of her time to the mapping project (10% as federal costs and 5% as **match**). Calculations are based on 5% and 10% of a $66,182 annual salary, which is a ¾ time position.

4. Telecom Specialist 2. Richard Kelly, one of e-NC's Telecom Specialists, will provide 30% of his time to the mapping project (20% as federal costs and 10% as **match**). Mr. Kelly has had a long career in telecom and state networks and provides technical expertise on the project as well as a focus on working with the wireless providers in particular. Calculations are based on 20% and 10% of a $74,124 annual salary, which is an 80% time position.

5. Data Administrator/GIS Specialist. This position was created in January 2010 specifically for the mapping project. Stephanie Jane Edwards, the e-NC Data Administrator/GIS Specialist, is central to the data collection, data management and GIS process for this project. 100% of her time is dedicated to the mapping project over this period (75% as federal costs and 25% as **match**). Calculations are based on 75% and 25% of a $45,365 FTE salary.

6. Communications Director. Cary Edgar, the Communications Director for e-NC will contribute 5% of her time to the mapping project over this period, as **match**. Match calculations are based on 20% of a $37,883 annual salary, which is a ¾ time position.

7. Project Coordinator. e-NC's Project Coordinator will spend 10% of his/her time on

coordination related to the mapping project during this period. This work will be contributed as **match**. As mentioned elsewhere, this is a permanent position within e-NC, although our current coordinator resigned from e-NC on June 30. The position will be filled in July 2010. Match calculations are based on 10% of a $45,000 FTE salary.

8. Research Associate. This is a new position within e-NC. The Research Associate will work mainly with data management and GIS support, with 50% of his/her time dedicated to the mapping project. Calculations are based on 50% of a $45,000 FTE salary.

Note:
Staff members of the e-NC Authority are employees of the Rural Economic Development Center (Rural Center). Please see the applicant capacity section in the original SBDD application to NTIA for further staff information and qualifications.

b. Fringe benefits (included costs are federal and non-federal)

Years 3-5:
Fringe benefits of e-NC (Rural Center) staff members constitute a portion of the direct costs for this project. Fringe benefits available to Rural Center employees include a 403-B and health insurance. Rates included in this proposal constitute the actual costs projected per employee. The calculation also includes FICA contributions. For each staff position described in the personnel section, the benefits expense for each position is apportioned according to the percentage of the work attributed to this project.

c. Travel

d. Equipment

e. Supplies (included costs are federal)

Years 3-5:
1. Laptop: Funding of $4000 is requested for a laptop in year 4 of the project. This is included to provide a replacement laptop for the Data Administrator/GIS Specialist at this stage of the project, due to the extreme processing requirements in working with such large amounts of data and GIS software.
2. Software: Funding of $4000 per year is requested in years 3-5 to cover licensing fees related to e-NC's ArcGIS software, or other related software needs. While the state currently does not charge e-NC for use of its license, this system is being re-evaluated.

f. Contractual (included costs are federal and non-federal)

Year 2:

1. Year 2 Amendment.
In the course of year 1 of the mapping project, e-NC has grown to have a more exact understanding of what is required in this work. To date, these changes have not resulted in the need for an official budget revision request. However, in light of preparing the current amended and supplemental application, e-NC has taken the opportunity to compare the original project budget with expenses to date and projected expenses through year 2. In addition to this budget assessment, as explained in the mapping narrative, e-NC sees a need for an additional Consumer Survey to be conducted in year 2 (as well as year 3). With the snapshot of the net changes in the current budget, and adding as much match resources as possible, e-NC will need an additional $64,080 in order to conduct the Consumer Survey in year. (The total Consumer Survey cost is calculated at $120,000 as outlined in the "Years 3-5" section below.) The e-NC

Authority also added an additional data collection method in year 1 with development of the speed test for North Carolina, but that cost is able to be fully absorbed within the current budget.

In summary, e-NC requests that NTIA provide an additional $64,080 for year 2 of the mapping project to help e-NC cover the cost of this additional Consumer Survey.

An official budget revision will be submitted to NTIA in July outlining these net changes in the year 1-2 budget.

Also, please note, these revisions will include a change in allocated personnel time for year 2 of the mapping project, which will reflect the same allocation as documented for years 3-5 of this amendment. This note is critical to understanding the personnel allocations for year 2 of the "other" projects contained within this amendment.

Also on personnel allocation, please note that the original mapping grant had personnel listed by the title of their work in relation to the mapping project. Because we have multiple projects now included in this amended proposal, we are now listing the personnel with their e-NC work titles, for clarification.

Years 3-5:
Data Collection

1. Broadband Database/Geodatabase (Topsail Technologies). While e-NC did include funding for database development in years 1 and 2 of the original mapping grant, this has proved to be a critical piece to the project, especially with the current evolution to a geodatabase system. The database provides the mechanism to capture, but also evaluate the data collected. Funding is requested to continue to partner with Topsail Technologies, e-NC's current database partner in the mapping project, for continued development, maintenance and support of this data management system. Calculations are based on estimated contractor fees for year 3 ($67,800), year 4 ($54,240) and year 5 ($40,680). All costs are contractor fees billed to e-NC at an hourly rate.

2. Database Hosting (MCNC). The current broadband data database developed for the mapping project is being hosted on a secure server by MCNC. E-NC is requesting funding to continue this database hosting throughout the project, including hosting of the geodatabase once developed. Calculations are estimated at $9500/year based on the current hosting fees charged to e-NC by MCNC.

3. Consumer Survey. Year 3. As explained in the mapping narrative, e-NC continues to evaluate the best data collection and verification methods. Within this process, early results show that the Consumer Survey is an important verification method for this process. As such, e-NC is requesting funding to continue the Consumer Survey conducted in year 1, in years 2 and 3. Calculations are estimated based on the costs associated with the year 1 project: $80,000 for the actual calling facility and consumer survey calls, $5000 for phone equipment and charges related to the calling, and $5000 for a researcher to oversee the data collection process. (In year 1, UNC-Chapel Hill was responsible for developing the research plan and for oversight. In subsequent years, this is not anticipated to be needed, just the modest amount of $5000.) Total request = $90,000. In addition, a **match** of $30,000 would be provided by e-NC and used to purchase the call lists for the survey. (This pricing is in line with the pricing for the year 1 survey.)

4. Modeling of Wireless Coverage (University of NC at Greensboro). Funding is requested at $15,000 per year, for years 3-5, to run the data collected from the wireless providers through the wireless propagation model developed by UNC-G in year 1 of this project. This data would be run through the model twice a year, in conjunction with the NTIA data submission deadlines. E-NC is excited to have the opportunity to continue to make use of this comprehensive GIS-based modeling system developed in year 1 with this NTIA grant funding.

5. Data collection via Web-Mining. As explained in the mapping narrative, e-NC continues to evaluate the best data collection and verification methods. Because this evaluation is continuing, e-NC is requesting funding to continue with Web-mining data collection processes. Calculations are based on working with two different Web-mining companies at $25,000 each per year, for an annual pull of data. Combined costs from the two companies are anticipated at $50,000 per year total.

6. Hosting for e-NC Speed Test (MCNC). In year 1 of the mapping project, the e-NC Authority has contracted with MCNC to develop a speed test for North Carolina, with equipment housed in-state. e-NC is requesting funds to continue to host the speed test with MCNC for years 3-5. Calculations are estimated at $14,000 per year based on current MCNC hosting rates.

Evaluation

7. Research Support and Analysis (East Carolina University). During years 1-2 of the mapping project, e-NC has contracted with Dr. Ken Wilson of East Carolina University to provide consulting services to e-NC at a rate of $6096 per year to provide research analysis and support on the overall mapping project. e-NC is requesting funding of $6096 per year, for years 3-5, to continue to have his research oversight on the project. Dr. Wilson will provide input on research design and data analysis to e-NC, on our overall data collection processes and methodologies. Total cost includes personnel and benefits for Dr. Wilson, plus ECU indirect costs, for a total of $6096 per year as federal costs under this grant.

8. External evaluators. In addition to Dr. Wilson from ECU, e-NC has contracted in year 1 with three other external evaluators to provide insight on research design and data analysis, working with e-NC to finalize e-NC's overall research design for data collection and mapping. As explained in the mapping narrative, e-NC requests retaining the services of these evaluators for an additional year as e-NC continues to evaluate its collection and verification methods. Costs are calculated at a rate of $6000 per consultant, totaling $18,000, plus an additional $2000 in anticipated indirect costs charged by the universities. Total cost is calculated as $20,000 for year 2.

Mapping System

9. Development and Display of e-NC Mapping System (Michael Baker, Inc.). After a bid process in year 1, the e-NC Authority has been working with Michael Baker, Inc. to develop the Geographic Information System for e-NC's Website that will display the data collected by census block. Michael Baker Inc. contracted with e-NC to provide e-NC's original broadband map, prior to the NTIA data collection process. The e-NC Authority expects the new online map to be up and running by the end of the summer, 2010. E-NC is requesting funds to continue to work with Michael Baker Inc. in years 3-

5 of this project, to continue to refine, update and maintain this GIS system. Costs are calculated based on current provisioning of these services and are estimated as follows: year 3 - $67,800, year 4 – $54,240, and year 5 – $40,680.

g. Construction

h. Other (all included costs are federal)

Year 3:

1. Future Leading Practice Implementation: The e-NC Authority is requesting a total of $150,000 in year 3 to implement future-defined best practices related to the mapping project. Within this $150,000, e-NC requests that up to $50,000 be allowed to fund an external evaluation of the e-NC mapping project.

i. Total direct charges

j. Indirect charges

Years 3-5:

1. Indirect Cost Rate: In February 2010 the Rural Economic Development Center, Inc. received an approved Indirect Cost Negotiation Agreement from the U. S. Department of Commerce. The agreement approved a fixed rate with carry-forward provisions of 30.89%. The rate was calculated based on the center's audited financial statements for the fiscal year ended June 30, 2009 and was approved for billing purposes for the fiscal year ended June 30, 2010. The center will submit an updated rate proposal package to the U. S. Department of Commerce based on its June 30, 2010 financial statements as soon as practical following release of our audit. The claim for indirect cost reimbursement included in this application is based on the expiring rate of 30.89% until a new rate can be developed and approved.

2. Explanation of Rural Center/The e-NC Authority. The e-NC Authority is a state authority created by the N.C. General Assembly. By legislative mandate, the e-NC Authority is housed in the Rural Center, and staffed by the Rural Center. As such, the e-NC Authority is an operating division within the Rural Economic Development Center, which provides a significant amount of operational support to e-NC including serving as the fiscal and contractual agent for e-NC, providing office space, IT support, and other administrative support. All e-NC staff members are employees of the Rural Center.

Budget Narrative
Address File Development
Years 2-4
The e-NC Authority / Rural Economic Development Center, Inc. (Rural Center)

Explanation of North Carolina's Address File Development Costs:
The work under the Address File Development project will be conducted by North Carolina's Center for Geographic Information and Analysis (CGIA), a part of the state ITS (Information Technology Services) agency. While the e-NC Authority does plan to participate heavily in the address file improvement work, e-NC staff time is not listed as a match. This decision is due partly to the uncertainty of how much time will be required of e-NC, but also many of the staff members working with this project have staff time committed to mapping, with the address work a piece of the mapping project. The e-NC Authority does plan to work closely with CGIA, a current partner under the current NTIA mapping grant. CGIA developed the current master address file for North Carolina, in conjunction with local governments.

Calculation of Costs per Address Point:
Please note: the costs per address point outlined in the project narrative are calculated on the cost of the CGIA contractor fees only (a total of $294,960). The Rural Center's indirect cost of $91,114 for this project is not included in the calculation. Also, the match of $61,311 for hosting from CGIA is not included in the per point calculation. In looking at a price that may be scaled for cost planning for other states, the indirect and hosting costs may not always be replicated the same way as the core work, and are therefore not included in the calculation.

a. Personnel
b. Fringe benefits
c. Travel
d. Equipment
e. Supplies
f. Contractual (federal and non-federal costs)

Years 2-4:
All contract work will be conducted by the NC Center for Geographic Information and Analysis. Contractor rates are based on CGIA rates of $80/hour. The project is split into 3 components as listed below:

1. Local Government Outreach and Development. (Year 2). CGIA will provide a project manager, programmer and analyst to perform the work explained in the project narrative under *(1) Improving Local Government Address Data*. This work will be conducted in year 2. Total cost is $76,800 in contractor fees with $3200 for travel, registration, supplies, and printing.

2. Master Address Dataset. (Years 3-4). CGIA will provide a project manager and three analysts to perform the work explained in the project narrative under *(1) Improving Local Government Address Data*. This work will be conducted in years 3 and 4. Total cost is $150,000 in contractor fees, $75,000 for year 3 and $75,000 for year 4.

3. Efficiency Development. (Year 3). CGIA will provide a project manager, programmer and analyst to perform the work explained in the project narrative under *(2) Improving Aggregation of Local Government Address Datasets*. This work will be conducted in year 3. Total cost is $64,960 in contractor fees.

4. Virtual Hosting (Years 2-4). The project budget includes expenses of $20,437/year in hosting costs for CGIA's hosting and storage of the address datasets. These costs are provided as **match** over years 2, 3 and 4 for a match total of $61,311 for the address project. The match calculations are as follows:

Recurring storage costs (19% @ $75,392.87/year) = $14,324.65

Recurring virtual machine costs (19% @ $32,172/year) = $6112.68

The total is $61,311, or $20,437 per year over years 2-4.

g. Construction	
h. Other	
i. Total direct charges	
j. Indirect charges	

Years 2-3:

1. Indirect Cost Rate: In February 2010 the Rural Economic Development Center, Inc. received an approved Indirect Cost Negotiation Agreement from the U. S. Department of Commerce. The agreement approved a fixed rate with carry-forward provisions of 30.89%. The rate was calculated based on the center's audited financial statements for the fiscal year ended June 30, 2009 and was approved for billing purposes for the fiscal year ended June 30, 2010. The center will submit an updated rate proposal package to the U. S. Department of Commerce based on its June 30, 2010 financial statements as soon as practical following release of our audit. The claim for indirect cost reimbursement included in this application is based on the expiring rate of 30.89% until a new rate can be developed and approved.

2. Explanation of Rural Center/The e-NC Authority. The e-NC Authority is a state authority created by the N.C. General Assembly. By legislative mandate, the e-NC Authority is housed in the Rural Center, and staffed by the Rural Center. As such, the e-NC Authority is an operating division within the Rural Economic Development Center, which provides a significant amount of operational support to e-NC including serving as the fiscal and contractual agent for e-NC, providing office space, IT support, and other administrative support. All e-NC staff members are employees of the Rural Center.

Budget Narrative
Capacity Building
Years 2-5
The e-NC Authority / Rural Economic Development Center, Inc. (Rural Center)

Personnel expenses make up the majority of the capacity building budget. North Carolina is fortunate to have a solid state broadband authority with over 9 years of operating experience. Yet, state budget constraints threaten e-NC's ability to continue operations at prior levels and with the original private endowment for e-NC now depleted. Supporting core staff members of e-NC with this funding allows for job retention at e-NC and continuation of a model state authority. Note that no personnel match has been included for this section. Although all of the e-NC staff members support the work of operating a state broadband authority, personnel time is used as match only in the other project categories.

e-NC personnel time will be dedicated to the project as follows:
Years 2-5:

1. <u>Executive Director.</u> Jane Smith Patterson, as Executive Director of the e-NC Authority, is central to the performance of e-NC as a nationally-recognized state broadband authority, as well as to the creation of critical partnerships with state organizations and leadership as well as federal partners. Ms. Patterson works with the commissioners of the e-NC Authority to oversee all work of the Authority. Calculations are based on 45% of a $120,189 FTE salary.

2. <u>Assistant Director.</u> Angie Bailey is the Assistant Director of e-NC. In this capacity she works with Ms. Patterson to manage the fiscal and contractual aspects of e-NC's work, including coordination of contractors and staff, and acting as a liaison with the Rural Center's finance and contracting office. She also works with program planning and management. Calculations are based on 55% of a $62,009 FTE salary.

3. <u>Research Director.</u> Deborah Watts, as the Senior Research Director for e-NC, is responsible for overseeing and developing the research capacity of the e-NC Authority, developing and monitoring research projects, and maintaining e-NC's focus on the economic development aspect of broadband. Calculations are based on 50% of a $66,182 annual salary, which is a ¾ time position.

4. <u>Project Coordinator.</u> The e-NC Project Coordinator is responsible for working with a vast array of projects under e-NC. This position provides project management to e-NC as well as maintains the e-NC contacts database and coordination of multiple activities. The current Project Coordinator for e-NC has resigned her position as of June 30, 2010. The position is expected to be filled by mid-July 2010. Calculations are based on 50% of a $45,000 FTE salary.

5. <u>Research Associate.</u> This is a new position within e-NC. The Research Associate work mainly with data management and GIS support for both the data collection/mapping project and with the technical assistance team in collecting data at the local level which is complimentary to the NTIA-specified data collection requirements. This position wil be based in the Raleigh office, however, and will provide some assistance to e-NC overall in tracking of statistics and data management. Calculations for the capacity building project are based on 10% of a $45,000 annual salary.

Note:

Staff members of the e-NC Authority are employees of the Rural Economic Development Center (Rural Center). Please see the applicant capacity section in the original SBDD application to NTIA for further staff information and qualifications.

b. Fringe benefits (all included costs are federal)

Years 2-5:

Fringe benefits of e-NC (Rural Center) staff members constitute a portion of the direct costs for this project. Fringe benefits available to Rural Center employees include a 403-B and health insurance. Rates included in this proposal constitute the actual costs projected per employee. The calculation also includes FICA contributions. For each staff position described in the personnel section, the benefits expense for each position is apportioned according to the percentage of the work attributed to this project.

c. Travel

d. Equipment

e. Supplies

f. Contractual

g. Construction

h. Other (all included costs are non-federal)

Years 3 and 4:

1. <u>Food & facilities</u> totaling $20,000 per year (for both year 3 and year 4) are included for a statewide Broadband Summit to be held in North Carolina in each of these years. All costs are provided as **match** from e-NC. See further explanation of the summits in the project narrative and abstract.

i. Total direct charges

j. Indirect charges

Years 2-5:

1. <u>Indirect Cost Rate:</u> In February 2010 the Rural Economic Development Center, Inc. received an approved Indirect Cost Negotiation Agreement from the U. S. Department of Commerce. The agreement approved a fixed rate with carry-forward provisions of 30.89%. The rate was calculated based on the center's audited financial statements for the fiscal year ended June 30, 2009 and was approved for billing purposes for the fiscal year ended June 30, 2010. The center will submit an updated rate proposal package to the U. S. Department of Commerce based on its June 30, 2010 financial statements as soon as practical following release of our audit. The claim for indirect cost reimbursement included in this application is based on the expiring rate of 30.89% until a new rate can be developed and approved.

2. <u>Explanation of Rural Center/The e-NC Authority.</u> The e-NC Authority is a state authority created by the N.C. General Assembly. By legislative mandate, the e-NC Authority is housed in the Rural Center, and staffed by the Rural Center. As such, the e-NC Authority is an operating division within the Rural Economic Development Center, which provides a significant amount of operational support to e-NC including serving as the fiscal and contractual agent for e-NC, providing office space, IT support, and other administrative support. All e-NC staff members are employees of the Rural Center.

Budget Narrative
Technical Assistance
Years 2-5
The e-NC Authority / Rural Economic Development Center, Inc. (Rural Center)

Personnel expenses make up a significant portion of the technical assistance budget. In e-NC's experience, technical assistance available at the local level is a critical need for successful state planning and deployment activities. The e-NC Authority will add three technical assistant field staff to be located around the state – covering the east, west and central regions.

Match for these positions is being sought from Golden LEAF, a North Carolina foundation created to manage the tobacco settlement funds for the state, which provides grants for economic development projects in distressed areas of the state. Golden LEAF has had many of the counties it serves undertake broadband planning efforts, with e-NC often providing technical assistance to these counties via our two Raleigh-based Telecom Specialists. Golden LEAF has indicated that they wish to consider a request from e-NC for matching funds for this application. The letter of support is attached and the final funding decision will be made in early August. The e-NC Authority will also provide match by investing staff time of the two Raleigh-based Telecom Specialists, who currently provide technical assistance as possible on a limited basis. These Specialists will work closely with the field staff.

In addition to the technical field staff, a Research Associate based out of the Raleigh office, will be employed to work with the technical assistance staff and Raleigh staff on management of data complimentary to the NTIA-required data, as well as organization and display of this data on the e-NC Website.

e-NC personnel time will be dedicated to the project as follows:
Years 2-5:
1. Executive Director. Jane Patterson, as the Executive Director of e-NC, often travels around the state to work with local organizations and local leaders on broadband planning and deployment efforts. With over 30 years of experience in information technology and telecommunications, she also provides technical assistance in her capacity. A small fraction of her time is listed with the technical assistance project. Calculations are based on 5% of a $120,189 FTE salary.
2. Telecom Specialists 1 and 2. e-NC's Telecom Specialist 1, based in Raleigh, will dedicate 65% of his/her time to Technical Assistance, provided as a match from e-NC. Our prior Telecom Specialist retired in March 2010. The position is being restructured somewhat. Our Telecom Specialist has always provided technical assistance to local communities, but with the addition of field staff, this person will have more of an overall oversight role in how to best provide assistance to these communities, as well as working with communities needing specialized assistance. This position will be filled by e-NC during the summer of 2010. Currently a contractor is providing e-NC support in this role. **Match** calculations are based on 65% of a $83,333 FTE salary.
   Richard Kelly, Telecom Specialist 2, will work with the Telecom Specialist 1 and field staff in providing technical assistance. With a career focused on state networks, he has particular expertise in working with public agencies and organizations across the state, at

a statewide and local level. **Match** calculations are based on 20% of a $74,124 annual salary, which is an 80% time position.

3. Technical Assistants 1, 2 and 3. Positions for three Technical Assistants to be located regionally around the state will be filled upon contracting of the NTIA grant amendment. Calculations are based on 62% of a $65,000 FTE salary, for all three positions. **Match** amount = 38% and is being requested from the Golden LEAF Foundation.

4. Research Associate. This is a new position to e-NC and will provide support to e-NC on its mapping, technical assistance and capacity-building projects as described in the narratives. Calculations for the technical assistance project are based on 40% of a $45,000 FTE salary.

Note: Staff members of the e-NC Authority are employees of the Rural Economic Development Center (Rural Center). Please see the applicant capacity section in the project narrative for more information on staff qualifications.

b. Fringe benefits (federal and non-federal costs)

Years 2-5:

Fringe benefits of e-NC (Rural Center) staff members constitute a portion of the direct costs for this project, as well as some of the match on the NTIA funding. Fringe benefits available to Rural Center employees include a 403-B and health insurance. Rates included in this proposal constitute the actual costs projected per employee. The calculation also includes FICA contributions. For each staff position described in the personnel section, the benefits expense for each position is apportioned according to the percentage of the work attributed to this project, whether as a federal expense or as match.

c. Travel (all included costs are federal)

Years 2-5:

1. Staff travel. $10,000 per year is requested towards staff travel for the technical assistance staff. This travel will primarily include mileage reimbursement for the field staff as they travel to local communities. Mileage will be reimbursed under the current state rate at the time of travel. Currently, the rate is 50 cents/mile. Travel reimbursement may also include modest lodging expenses as part of this travel, for any overnight trips. The e-NC Authority does not list any match for this item, although e-NC will cover necessary travel costs for this field team beyond the $10,000. There is no match listed due to the uncertainty at this time of the exact amount of travel budget needed. It will depend partly on where the 3 field staff members are based around the state and how we assign the counties in terms of coverage for east, west and central regions, and which counties end up needing the most attention and in person meetings. We anticipate travel costs will exceed the $10,000 requested due to the nature of the field positions.

d. Equipment

e. Supplies (all included costs are non-federal)

Year 2:

1. Laptops and Laptop Supplies. Funding of $12,000 in year 2 will be provided as **match** with the purchase of four laptops and accompanying laptop supplies, one for each of the three field staff and one for the Research Associate. These are the four new positions proposed as part of the SBDD project. The Research Associate position especially, will need a laptop with substantial processing speeds and memory, to work with GIS and data management. Costs are calculated at $3000 per laptop with accompanying supplies

(such as an extra battery, carrying case, etc.).

f. Contractual (all included costs are federal)

Years 2-5:

1. Website Upgrades and Maintenance. (Years 2-5). As part of the technical assistance project, e-NC will upgrade its Website to make it a more user-friendly source for broadband resources. Providing strong content and resources on a statewide basis is not possible without changes to our current Website which has not been overhauled in many years. Calculations for this work are estimated at $66,000/year for year 2, with annual maintenance of $5500/year for years 3-5. All listed costs are contractor fees.

2. Broadband Awareness and Adoption. (Years 2-4). The e-NC Authority will contract with Strategic Networks Group, a partner in e-NC's year 1 broadband planning work, to provide the following:
Digital Economy Index Scorecards - $50,000, year 2.
Broadband Adoption through Stakeholder Networks, Online Tools and Regional Workshops - $10,000 yr 2, $40,000 yr 3, $40,000 yr 4.
See project narrative for further details. All listed costs are contractor fees

3. Researchers. (Year 3). As explained in the narrative, e-NC will convene a working summit in year 3 of researchers invited to examine the issue of assessing the economic impact of broadband. The cost of $65,000 includes 11 researchers invited to participate at a rate of $5000 per person for consulting fees and $10,000 for economist Ed Feser to assist e-NC in writing up the findings, as described in the narrative.

g. Construction

h. Other (all included costs are federal)

Year 3:

1. Food & facilities totaling $5,000 are requested for the working research summit to be held in year 3, as described in the project narrative.

i. Total direct charges

j. Indirect charges

Years 2-3:

1. Indirect Cost Rate: In February 2010 the Rural Economic Development Center, Inc. received an approved Indirect Cost Negotiation Agreement from the U. S. Department of Commerce. The agreement approved a fixed rate with carry-forward provisions of 30.89%. The rate was calculated based on the center's audited financial statements for the fiscal year ended June 30, 2009 and was approved for billing purposes for the fiscal year ended June 30, 2010. The center will submit an updated rate proposal package to the U. S. Department of Commerce based on its June 30, 2010 financial statements as soon as practical following release of our audit. The claim for indirect cost reimbursement included in this application is based on the expiring rate of 30.89% until a new rate can be developed and approved.

2. Explanation of Rural Center/The e-NC Authority. The e-NC Authority is a state authority created by the N.C. General Assembly. By legislative mandate, the e-NC Authority is housed in the Rural Center, and staffed by the Rural Center. As such, the e-NC Authority is an operating division within the Rural Economic Development

Center, which provides a significant amount of operational support to e-NC including serving as the fiscal and contractual agent for e-NC, providing office space, IT support, and other administrative support. All e-NC staff members are employees of the Rural Center.

Budget Narrative
Programs to Improve Computer Ownership and Internet Usage (Lifeline Online)
Years 2-3*
*This project is expected to run until December of 2012 (the early part of year 4). However, the expenses are expected to be incurred in years 2 and 3, so year 4 is not included in the budget.
The e-NC Authority / Rural Economic Development Center, Inc. (Rural Center)

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a. Personnel (all included costs are non-federal)

Personnel time is included as **match** from e-NC towards the Lifeline Online project.

e-NC personnel time will be dedicated to the project as follows:
Year 2:

1. Executive Director. Jane Smith Patterson, as Executive Director of the e-NC Authority, will dedicate 10% of her time to this project in year 2, with a focus on convening state and local partners. Match calculations are based on 10% of a $120,189 FTE salary.
2. Assistant Director. Angie Bailey, Assistant Director, will provide 5% of her time to the project in year 2, with a focus on financial and contractual details, and program planning. Match calculations are based on 5% of a $62,009 FTE salary.
3. Research Director. Deborah Watts will dedicate 5% of her time in year 2, primarily to program development.
4. Telecom Specialist 1. e-NC's Telecom Specialist 1 will dedicate 25% of his/her time to this project in year 2, coordinating with the many partners including services providers and at the local level for the selected county. He/she will manage roll out of the program. Match calculations are based on 25% of a $83,333 annual salary.
5. Communications Director. e-NC's Communications Director, Cary Edgar, will dedicate 20% of her time in year 2 to this project, focusing on outreach and marketing efforts. Match calculations are based on 20% of a $37,883 annual salary, which is a ¾ time position.
6. Project Coordinator. e-NC's Project Coordinator will spend 20% of his/her time on coordination of the roll out of the Lifeline Online project in year 2. As mentioned elsewhere, this is a permanent position within e-NC, although our current coordinator resigned from e-NC on June 30. The position will be filled in July 2010. Match calculations are based on 20% of a $45,000 FTE salary.

Year 3:

7. Telecom Specialist 1. The program will be rolled out in year 2, but in year 3 the Telecom Specialist will dedicate 10% of his/her time to the project to continue to manage the program and communicate with partners. Match calculations are based on 10% of a $83,333 annual salary.

Additional match: We anticipate that additional time will be dedicated to this project by e-NC staff in years 3 and 4, until the final report on the pilot is complete. However these additional hours are not included as match due to the uncertainty in estimating the exact time requirements.

Note: Staff members of the e-NC Authority are employees of the Rural Economic Development Center (Rural Center). Please see the applicant capacity section in the project narrative for more information on staff qualifications.

b. Fringe benefits (all included costs are non-federal)

Years 2-3:

Fringe benefits of e-NC (Rural Center) staff members constitute a portion of the direct costs for this project, as well as some of the match on the NTIA funding. Fringe benefits available to Rural Center employees include a 403-B and health insurance. Rates included in this proposal constitute the actual costs projected per employee. The calculation also includes FICA contributions. For each staff position described in the personnel section, the benefits expense for each position is apportioned according to the percentage of the work attributed to this project, whether as a federal expense or as match.

c. Travel (all included costs are federal)

Year 2:

1. <u>Staff travel</u>. $5000 for year 2 is requested towards staff travel for work on the Lifeline Online project. This travel will primarily include mileage reimbursement for the various e-NC staff members working with Lifeline, primarily as they travel to the pilot county. Mileage will be reimbursed under the current state rate at the time of travel. Currently, the rate is 50 cents/mile. Travel reimbursement may also include modest lodging expenses as part of this travel, for any overnight trips. The e-NC Authority does not list any match for this item, although e-NC will cover necessary travel costs for the project beyond the $5000. There is no match listed due to the uncertainty at this time of the exact amount of travel budget needed. It will depend partly on where the selected pilot county is located in the state.

d. Equipment

e. Supplies (federal and non-federal costs)

Year 2:

1. <u>Computers and printers for eligible households.</u> A primary goal of this project is to provide Internet-access devices at reduced prices to households identified as eligible under this one-county pilot program. In addition, e-NC seeks to provide printers as a necessary compliment to these devices/computers.

   With this pilot, e-NC is seeking to provide computers/printers to 200 eligible households at reduced rates. While the households will be required to pay part of the cost for these items, this budget line item is for funding to off-set the full price of the computers and printers.

   <u>Calculations are as follows:</u>

   200 computers,monitors, software (for 200 households) x $200 each = $40,000 in funding towards these devices. Any additional cost in the devices would be sought from the participating household. e-NC is looking at working with computer refurbishers and IT companies as sources for these computers. Cost has been verified by refurbisher.

   200 printers (for 200 households) x $300 each = $60,000 in funding towards this equipment. It is not expected that there will be additional cost for printers.

   Total = $100,000 ($40,000 + $60,000)
   Out of this $100,000, $85,000 is requested from NTIA, with $15,000 to be contributed as **match**. e-NC is working to secure match from IT partners. If this is not secured, e-NC will contribute this $15,000 match.

2. Promotional materials and supplies. $10,000 is requested for promotional materials and supplies related to outreach efforts for the Lifeline Online pilot.

f. Contractual (all included costs are federal)

Year 2:
1. Digital Literacy Training. As explained in the project narrative, focused digital literacy training will be offered to participants in the Lifeline Online program. $4000 is included in the budget request to pay for a contractor to provide these trainings. All costs are contractor fees.
2. Staffing for Help Desk. As explained in the project narrative, a help desk will be provided to offer assistance to participating households in the installation and use of their Lifeline Online-provided computers. $20,000 is requested for e-NC to contract with tech-savvy students to staff the Help Desk in year 2, after distribution of the computers.
3. Program Evaluator.: The e-NC Authority will contract with an external evaluator to review the Lifeline Online pilot program and offer recommendations as part of e-NC's final report on the pilot. $5000 is requested for consulting fees for the evaluator.

g. Construction

h. Other (all costs included are federal costs)

Years 2-3:
1. Subsidies for Connectivity. In addition to providing computers to eligible households, the other primary goal of the Lifeline Online pilot project is to provide discounted broadband connectivity service to participating households, similar to the FCC's Lifeline program for discounted telephone service. If this program were to be offered on a statewide or national scale a funding source for these subsidies, such as the Universal Service Fund, would have to be identified and approved. In the meantime, e-NC is requesting NTIA support for these subsidies so that the pilot can be tested on the road to developing a broader program.
Calculations are as follows:
$3.50 per line discount for 200 households for 12 months = $8400/year
(This $3.50 is representative of what a state tax credit subsidy would be.)
$12.00 per line discount for 200 households for 12 months = $28,800/year
(This $12.00 per line discount mirrors the equivalent of a USF telephone subsidy.)
Total = $37,200 year, for years 2-3
2. Food & Facilities. The e-NC is requesting $2000 for year 2, for facility costs for providing digital literacy training, and for food and facility costs for the various advisory committee meetings outlined in the project narrative.

i. Total direct charges

j. Indirect charges

Years 2-3:
1. Indirect Cost Rate: In February 2010 the Rural Economic Development Center, Inc. received an approved Indirect Cost Negotiation Agreement from the U. S. Department of Commerce. The agreement approved a fixed rate with carry-forward provisions of 30.89%. The rate was calculated based on the center's audited financial statements for the fiscal year ended June 30, 2009 and was approved for billing purposes for the fiscal

year ended June 30, 2010. The center will submit an updated rate proposal package to the U. S. Department of Commerce based on its June 30, 2010 financial statements as soon as practical following release of our audit. The claim for indirect cost reimbursement included in this application is based on the expiring rate of 30.89% until a new rate can be developed and approved.

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GRANTEE NAME: Rural Economic Development Center, Inc. - e-NC Authority

PLEASE ENTER YOUR EXISTING, APPROVED BUDGET BELOW. It should match your current SF 424.

EXISTING BUDGET	Federal	Match	Total
Personnel Salaries	295,910	236041	$531,951
Fringe Benefits	83,944	68421	$152,365
Travel	8,000	0	$8,000
Equipment	0	0	$0
Supplies	14,000	0	$14,000
Subcontracts	1,132,986	126194	$1,259,180
Construction	0	0	0
Other	11,400	75313	$86,713
Total Direct Costs	$1,546,240	$505,969	$2,052,209
Total Indirect Costs	$477,634	$0	$477,634
Total Costs	$2,023,874	$505,969	$2,529,843
% Federal Share	80.00%		
% Applicant Share		20.00%	

PLEASE DO NOT ENTER TEXT BELOW. It will populate automatically after you complete the other sheets.

REQUESTED BUDGET	Federal	Match	Total
Personnel Salaries	$1,406,661	776,563	$2,183,224
Fringe Benefits	$423,452	236756	$660,208
Travel	45,000	0	$45,000
Equipment	0	0	$0
Supplies	111,000	27000	$138,000
Subcontracts	1,397,586	104261	$1,501,847
Construction	0	0	0
Other	231,400	40000	$271,400
Total Direct Costs	$3,615,099	$1,184,580	$4,799,679
Total Indirect Costs	1,116,703	$0	$1,116,703
Total Costs	$4,731,802	$1,184,580	$5,916,382
% Federal Share			
% Applicant Share			

Rural Economic Development Center, Inc. - e-NC Authority						
Summary Federal - All Components						
NEW FEDERAL REQUEST ONLY	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
Summary of separate tabs by component	293,190	371,157	371,157	371,157	$1,406,661	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	293,190	371,157	371,157	371,157	$1,406,661	1,406,661
Fringe Benefits						
Summary of separate tabs by component	87,038	112,138	112,138	112,138	$423,452	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	87,038	112,138	112,138	112,138	$423,452	423,452
Travel						
In-State - Summary of separate tabs by component	15,000	10,000	10,000	10,000	$45,000	
Out-of-State	0	0	0	0	$0	
Total	15,000	10,000	10,000	10,000	$45,000	45,000
Equipment						
					$0	
					$0	
					$0	
Total	0	0	0	0	$0	0
Supplies						
Summary of separate tabs by component	95,000	4,000	8,000	4,000	$111,000	
					$0	
					$0	
Total	95,000	4,000	8,000	4,000	$111,000	111,000
Subcontracts						
Summary of separate tabs by component	299,080	561,710	331,134	205,662	$1,397,586	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	299,080	561,710	331,134	205,662	$1,397,586	1,397,586
Construction	0	0	0	0		
Other					$0	
Summary of separate tabs by component	39,200	192,200	0	0	$231,400	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	39,200	192,200	0	0	$231,400	231,400
Total Direct Costs	828,508	1,251,205	832,429	702,957	$3,615,099	3,615,099
Total Indirect Costs	255,926	386,497	257,137	217,143	$1,116,703	
Total Costs	1,084,434	1,637,702	1,089,566	920,100	$4,731,802	

Rural Economic Development Center, Inc. - e-NC Authority					Match as % of total project cost	20.00%
Summary Match - All Components						
PROPOSED MATCH FOR NEW FEDERAL FUND REQUEST	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
Summary of separate tabs by component	198,929	198,100	189,767	189,767	$776,563	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	198,929	198,100	189,767	189,767	$776,563	776,563
Fringe Benefits (@ XX%)						
Summary of separate tabs by component	61,244	60,282	57,615	57,615	$236,756	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	61,244	60,282	57,615	57,615	$236,756	236,756
Travel						
In-State	0	0	0	0	$0	
Out-of-State	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Equipment						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Supplies						
Summary of separate tabs by component	27,000	0	0	0	$27,000	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	27,000	0	0	0	$27,000	27,000
Subcontracts						
Summary of separate tabs by component	33,387	50,437	20,437	0	$104,261	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	33,387	50,437	20,437	0	$104,261	104,261
Construction	0	0	0	0	$0	
Other						$0
Summary of separate tabs by component	0	20,000	20,000	0	$40,000	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	20,000	20,000	0	$40,000	40,000
Total Direct Costs	320,560	328,819	287,819	247,382	$1,184,580	1,184,580
Total Indirect Costs	0	0	0	0	$0	
Total Costs	320,560	328,819	287,819	247,382	$1,184,580	

Rural Economic Development Center, Inc. - e-NC Authority					Fed Request 76% of total project cost		76.98%
Mapping - Federal							
NEW FEDERAL REQUEST ONLY	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total		
Personnel Salaries							
Research Director - D Watts - 10% - 3 years	0	6,618	6,618	6,618	$19,854		
Telecom Specialist 2 - R Kelly - 20% - 3 years	0	14,825	14,825	14,825	$44,475		
GIS Specialist - SJ Edwards - 75% - 3 years	0	34,024	34,024	34,024	$102,072		
Research Assoc. 1 - TBD - 50% - 3 years	0	22,500	22,500	22,500	$67,500		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	77,967	77,967	77,967	$233,901	233,901	
Fringe Benefits							
Research Director - D Watts - 10% - 3 years	0	2,143	2,143	2,143	$6,429		
Telecom Specialist 2 - R Kelly - 20% - 3 years	0	3,081	3,081	3,081	$9,243		
GIS Specialist - SJ Edwards - 75% - 3 years	0	12,676	12,676	12,676	$38,028		
Research Assoc. 1 - TBD - 50% - 3 years	0	7,200	7,200	7,200	$21,600		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	25,100	25,100	25,100	$75,300	75,300	
Travel							
In-State	0	0	0	0	$0		
Out-of-State	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Equipment							
					$0		
					$0		
					$0		
Total	0	0	0	0	$0		0
Supplies							
Replacement laptop for Data Administrator/GIS Specialist	0	0	4,000	0	$4,000		
ArcGIS or other related software costs		4,000	4,000	4,000	$12,000		
					$0		
Total	0	4,000	8,000	4,000	$16,000	16,000	
Subcontracts							
Year 2 amendments (see budget narrative)	64,080				$64,080		
Broadband/geodatabase development, main., support (Topsail Tech.)		67,800	54,240	40,680	$162,720		
Database hosting (MCNC)		9,500	9,500	9,500	$28,500		
Consumer Survey		90,000	0	0	$90,000		
Modeling of Wireless Coverage (twice/year) (UNC-G)		15,000	15,000	15,000	$45,000		
Data collection via Web-mining		50,000	50,000	50,000	$150,000		
Hosting for e-NC speed test developed in yr 1 (MCNC)		14,000	14,000	14,000	$42,000		
Research support and analysis (ECU)		6,100	6,100	6,100	$18,300		
Development and display of e-NC Mapping System (M. Baker)		58,850	61,794	64,882	$185,526		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	64,080	311,250	210,634	200,162	$786,126	786,126	
Construction	0	0	0	0			
Other					$0		
Future Leading Practice Implementation (see budget narrative)	0	150,000	0	0	$150,000		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	150,000	0	0	$150,000	150,000	
Total Direct Costs	64,080	568,317	321,701	307,229	$1,261,327	1,261,327	
Total Indirect Costs	19,794	175,553	99,373	94,903	$389,623		
Total Costs	83,874	743,870	421,074	402,132	$1,650,950		

Rural Economic Development Center, Inc. - e-NC Authority					MATCH as 11% of total project cost		26,025
Mapping - Match							
PROPOSED MATCH FOR NEW FEDERAL FUND REQUEST	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total		
Personnel Salaries							
Exec. Director - J Patterson - 10% - 3 years	0	12,019	12,019	12,019	$36,057		
Assist. Director -A Bailey - 10% - 3 years	0	6,201	6,201	6,201	$18,603		
Research Director - D Watts - 5% - 3 years	0	3,309	3,309	3,309	$9,927		
Telecom Specialist 2 - R Kelly - 10% - 3 years	0	7,412	7,412	7,412	$22,236		
GIS Specialist - SJ Edwards - 25% - 3 years	0	11,341	11,341	11,341	$34,023		
Communications Dir. - C Edgar - 5% - 3 years	0	1,894	1,894	1,894	$5,682		
Project Coord. - TBD - 10% - 3 years	0	4,500	4,500	4,500	$13,500		
Total	0	46,676	46,676	46,676	$140,028		140,028
Fringe Benefits (@ XX%)							
Exec. Director - J Patterson - 10% - 3 years	0	2,401	2,401	2,401	$7,203		
Assist. Director -A Bailey - 10% - 3 years	0	2,042	2,042	2,042	$6,126		
Research Director - D Watts - 5% - 3 years	0	1,071	1,071	1,071	$3,213		
Telecom Specialist 2 - R Kelly - 10% - 3 years	0	1,540	1,540	1,540	$4,620		
GIS Specialist - SJ Edwards - 25% - 3 years	0	4,225	4,225	4,225	$12,675		
Communications Dir. - C Edgar - 5% - 3 years	0	769	769	769	$2,307		
Project Coord. - TBD - 10% - 3 years	0	1,440	1,440	1,440	$4,320		
Total	0	13,488	13,488	13,488	$40,464		40,464
Travel							
In-State	0	0	0	0	$0		
Out-of-State	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Equipment							
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Supplies							
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Subcontracts							
Year 2 amendments (see budget narrative)	12,950	0	0	0	$12,950		
Consumer Survey	0	30,000	0	0	$30,000		
	0	0	0	0	$0		
Total	12,950	30,000	0	0	$42,950		42,950
Construction	0	0	0	0	$0		
Other						$0	
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Total Direct Costs	12,950	90,164	60,164	60,164	$223,442		223,442
Total Indirect Costs	0	0	0	0	$0		
Total Costs	12,950	90,164	60,164	60,164	$223,442		

Rural Economic Development Center, Inc. - e-NC Authority					ed budget as % of total project cost		76.53%
Capacity - Federal							
NEW FEDERAL REQUEST ONLY	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total		
Personnel Salaries							
Exec. Director - J Patterson - 45% - 4 years	54,085	54,085	54,085	54,085	$216,340		
Assist. Director -A Bailey - 55% - 4 years	34,105	34,105	34,105	34,105	$136,420		
Research Director - D Watts - 50% - 4 years	33,091	33,091	33,091	33,091	$132,364		
Project Coordinator - TBD - 50% - 4 years	22,500	22,500	22,500	22,500	$90,000		
Research Assoc. - TBD - 10% - 4 years	4,500	4,500	4,500	4,500	$18,000		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	148,281	148,281	148,281	148,281	$593,124	593,124	
Fringe Benefits							
Exec. Director - J Patterson - 45% - 4 years	10,805	10,805	10,805	10,805	$43,220		
Assist. Director -A Bailey - 55% - 4 years	11,229	11,229	11,229	11,229	$44,916		
Research Director - D Watts - 50% - 4 years	10,715	10,715	10,715	10,715	$42,860		
Project Coordinator - TBD - 50% - 4 years	7,200	7,200	7,200	7,200	$28,800		
Research Assoc. - TBD - 10% - 4 years	1,440	1,440	1,440	1,440	$5,760		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	41,389	41,389	41,389	41,389	$165,556	165,556	
Travel							
In-State	0	0	0	0	$0		
Out-of-State	0	0	0	0	$0		
Total	0	0	0	0	$0	0	
Equipment							
					$0		
					$0		
					$0		
Total	0	0	0	0	$0	0	
Supplies							
					$0		
					$0		
					$0		
Total	0	0	0	0	$0	0	
Subcontracts							
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0	0	
Construction	0	0	0	0			
Other					$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0	0	
Total Direct Costs	189,670	189,670	189,670	189,670	$758,680	758,680	
Total Indirect Costs	58,589	58,589	58,589	58,589	$234,356		
Total Costs	248,259	248,259	248,259	248,259	$993,036		

Rural Economic Development Center, Inc. - e-NC Authority				Match % of total project costs	50.00%	
Capacity - Match						
PROPOSED MATCH FOR NEW FEDERAL FUND REQUEST	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
	0	0	0	0	$0	
	0	0	0	0		
	0	0	0	0		
	0	0	0	0		
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Fringe Benefits (@ XX%)						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Travel						
In-State	0	0	0	0	$0	
Out-of-State	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Equipment						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Supplies						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Subcontracts						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Construction	0	0	0	0	$0	
Other						$0
Food and facilities - Broadband Summit in Yr 3 and Yr 4	0	20,000	20,000	0	$40,000	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	20,000	20,000	0	$40,000	40,000
Total Direct Costs	0	20,000	20,000	0	$40,000	40,000
Total Indirect Costs	0	0	0	0	$0	
Total Costs	0	20,000	20,000	0	$40,000	

Rural Economic Development Center, Inc. - e-NC Authority						
Technical Assistance - Federal						
NEW FEDERAL REQUEST ONLY	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
Exec. Director - J Patterson - 5% - 4 years	6,009	6,009	6,009	6,009	$24,036	
Research Assoc. - TBD - 40% - 4 years	18,000	18,000	18,000	18,000	$72,000	
Technical Assist. 1 - TBD - 62% - 4 years	40,300	40,300	40,300	40,300	$161,200	
Technical Assist. 2 - TBD - 62% - 4 years	40,300	40,300	40,300	40,300	$161,200	
Technical Assist. 3 - TBD - 62% - 4 years	40,300	40,300	40,300	40,300	$161,200	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	144,909	144,909	144,909	144,909	$579,636	579,636
Fringe Benefits						
Exec. Director - J Patterson - 5% - 4 years	1,201	1,201	1,201	1,201	$4,804	
Research Assoc. - TBD - 40% - 4 years	5,760	5,760	5,760	5,760	$23,040	
Technical Assist. 1 - TBD - 62% - 4 years	12,896	12,896	12,896	12,896	$51,584	
Technical Assist. 2 - TBD - 62% - 4 years	12,896	12,896	12,896	12,896	$51,584	
Technical Assist. 3 - TBD - 62% - 4 years	12,896	12,896	12,896	12,896	$51,584	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	45,649	45,649	45,649	45,649	$182,596	182,596
Travel						
In-State	10,000	10,000	10,000	10,000	$40,000	
Out-of-State	0	0	0	0	$0	
Total	10,000	10,000	10,000	10,000	$40,000	40,000
Equipment						
					$0	
					$0	
					$0	
Total	0	0	0	0	$0	0
Supplies						
					$0	
					$0	
					$0	
Total	0	0	0	0	$0	0
Subcontracts						
e-NC Website Upgrades and Maintenance (Topsail Technologies)	66,000	5,500	5,500	5,500	$82,500	
Broadband Awareness & Adoption (Strategic Networks Group)	60,000	40,000	40,000	0	$140,000	
Economic Impact of Broadband (researchers)	0	65,000	0	0	$65,000	
	0	0	0	0	$0	
Total	126,000	110,500	45,500	5,500	$287,500	287,500
Construction	0	0	0	0		
Other					$0	
Food and Facilities for working Research Summit	0	5,000	0	0	$5,000	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	5,000	0	0	$5,000	5,000
Total Direct Costs	326,558	316,058	246,058	206,058	$1,094,732	1,094,732
Total Indirect Costs	100,874	97,630	76,007	63,651	$338,162	
Total Costs	427,432	413,688	322,065	269,709	$1,432,894	

Rural Economic Development Center, Inc. - e-NC Authority					Match federal project costs 2000X	
Technical Assistance - Match						
PROPOSED MATCH FOR NEW FEDERAL FUND REQUEST	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
Telecom Spec. 1 - TBD - 65% - 4 years	54,166	54,166	54,166	54,166	$216,664	
Telecom Spec. 2 - R Kelly - 20% - 4 years	14,825	14,825	14,825	14,825	$59,300	
Technical Assist. 1 - TBD - 38% - 4 years	24,700	24,700	24,700	24,700	$98,800	
Technical Assist. 2 - TBD - 38% - 4 years	24,700	24,700	24,700	24,700	$98,800	
Technical Assist. 3 - TBD - 38% - 4 years	24,700	24,700	24,700	24,700	$98,800	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	143,091	143,091	143,091	143,091	$572,364	572,364
Fringe Benefits (@ XX%)						
Telecom Spec. 1 - TBD - 65% - 4 years	17,334	17,334	17,334	17,334	$69,336	
Telecom Spec. 2 - R Kelly - 20% - 4 years	3,081	3,081	3,081	3,081	$12,324	
Technical Assist. 1 - TBD - 38% - 4 years	7,904	7,904	7,904	7,904	$31,616	
Technical Assist. 2 - TBD - 38% - 4 years	7,904	7,904	7,904	7,904	$31,616	
Technical Assist. 3 - TBD - 38% - 4 years	7,904	7,904	7,904	7,904	$31,616	
	0	0	0	0	$0	
Total	44,127	44,127	44,127	44,127	$176,508	176,508
Travel						
In-State	0	0	0	0	$0	
Out-of-State	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Equipment						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Supplies						
Laptops/laptop supplies for 3 Tech. Assistants and 1 Res. Assoc.	12,000	0	0	0	$12,000	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	12,000	0	0	0	$12,000	12,000
Subcontracts						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Construction	0	0	0	0	$0	
Other					$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Total Direct Costs	199,218	187,218	187,218	187,218	$760,872	760,872
Total Indirect Costs	0	0	0	0	$0	
Total Costs	199,218	187,218	187,218	187,218	$760,872	

Rural Economic Development Center, Inc. - e-NC Authority					Fed. Request as % of total project cost	76.28%
Lifeline - Federal						
NEW FEDERAL REQUEST ONLY	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Fringe Benefits						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Travel						
In-State	5,000	0	0	0	$5,000	
Out-of-State	0	0	0	0	$0	
Total	5,000	0	0	0	$5,000	5,000
Equipment						
					$0	
					$0	
					$0	
Total	0	0	0	0	$0	0
Supplies						
Computers and printers for eligible households (see budget narr.)	95,000	0	0	0	$95,000	
	0	0	0		$0	
	0	0	0	0	$0	
Total	95,000	0	0	0	$95,000	95,000
Subcontracts						
Digital Literacy Training	4,000	0	0	0	$4,000	
Staffing for Help Desk	20,000	0	0	0	$20,000	
Program Evaluator	5,000	0	0	0	$5,000	
	0	0	0	0	$0	
Total	29,000	0	0	0	$29,000	29,000
Construction	0	0	0	0		
Other					$0	
Subsidies for Connectivity (see budget narrative)	37,200	37,200	0	0	$74,400	
Food and facilities - DLT and advisory committee meetings	2,000	0	0	0	$2,000	
	0	0	0	0	$0	
Total	39,200	37,200	0	0	$76,400	76,400
Total Direct Costs	168,200	37,200	0	0	$205,400	205,400
Total Indirect Costs	51,957	11,491	0	0	$63,448	
Total Costs	220,157	48,691	0	0	$268,848	

Rural Economic Development Center, Inc. - e-NC Authority					Michael S. for project cost	203,294
Lifeline - Match						
PROPOSED MATCH FOR NEW FEDERAL FUND REQUEST	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
Exec. Director - J Patterson - 10% - 1 year	12,019	0	0	0	$12,019	
Assist. Director -A Bailey - 5% - 1 year	3,100	0	0	0	$3,100	
Research Director - D Watts - 5% - 1 year	3,309	0	0	0	$3,309	
Telecom Specialist 1 - TBD - YR 1- 25%; YR 2- 10%	20,833	8,333	0	0	$29,166	
Communications Dir. - C Edgar - 20% - 1 year	7,577	0	0	0	$7,577	
Project Coord. - TBD - 20% - 1 year	9,000	0	0	0	$9,000	
Total	55,838	8,333	0	0	$64,171	64,171
Fringe Benefits (@ XX%)						
Exec. Director - J Patterson - 10% - 1 year	2,401	0	0	0	$2,401	
Assist. Director -A Bailey - 5% - 1 year	1,021	0	0	0	$1,021	
Research Director - D Watts - 5% - 1 year	1,071	0	0	0	$1,071	
Telecom Specialist 1 - TBD - YR 1- 25%; YR 2- 10%	6,667	2,667	0	0	$9,334	
Communications Dir. - C Edgar - 20% - 1 year	3,077	0	0	0	$3,077	
Project Coord. - TBD - 20% - 1 year	2,880	0	0	0	$2,880	
Total	17,117	2,667	0	0	$19,784	19,784
Travel						
In-State	0	0	0	0	$0	
Out-of-State	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Equipment						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Supplies						
Computers and printers for eligible households (see budget narr.)	15,000	0	0	0	$15,000	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	15,000	0	0	0	$15,000	15,000
Subcontracts						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Construction	0	0	0	0	$0	
Other						$0
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Total Direct Costs	87,955	11,000	0	0	$98,955	98,955
Total Indirect Costs	0	0	0	0	$0	
Total Costs	87,955	11,000	0	0	$98,955	

Rural Economic Development Center, Inc. - e-NC Authority					Indirect Rate 31% of total project cost		75.55%
Address File - Federal							
NEW FEDERAL REQUEST ONLY	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total		
Personnel Salaries							
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Fringe Benefits							
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Travel							
In-State	0	0	0	0	$0		
Out-of-State	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Equipment							
					$0		
					$0		
					$0		
Total	0	0	0	0	$0		0
Supplies							
	0	0	0	0	$0		
					$0		
					$0		
Total	0	0	0	0	$0		0
Subcontracts							
Local Govt. Outreach & Development (CGIA)	80,000	0	0	0	$80,000		
Master Address Dataset (CGIA)	0	75,000	75,000	0	$150,000		
Efficiency Development (CGIA)	0	64,960	0	0	$64,960		
Total	80,000	139,960	75,000	0	$294,960		294,960
Construction	0	0	0	0			
Other					$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
	0	0	0	0	$0		
Total	0	0	0	0	$0		0
Total Direct Costs	80,000	139,960	75,000	0	$294,960		294,960
Total Indirect Costs	24,712	43,234	23,168	0	$91,114		
Total Costs	104,712	183,194	98,168	0	$386,074		

Rural Economic Development Center, Inc. - e-NC Authority					Match = % of total project costs:	20.42%
Address File - Match						
PROPOSED MATCH FOR NEW FEDERAL FUND REQUEST	Project Yr 2	Project Yr 3	Project Yr 4	Project Yr 5	Total	
Personnel Salaries						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Fringe Benefits (@ XX%)						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Travel						
In-State	0	0	0	0	$0	
Out-of-State	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Equipment						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Supplies						
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Subcontracts						
Virtual Hosting (CGIA)	20,437	20,437	20,437	0	$61,311	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	20,437	20,437	20,437	0	$61,311	61,311
Construction	0	0	0	0	$0	
Other						$0
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
	0	0	0	0	$0	
Total	0	0	0	0	$0	0
Total Direct Costs	20,437	20,437	20,437	0	$61,311	61,311
Total Indirect Costs	0	0	0	0	$0	
Total Costs	20,437	20,437	20,437	0	$61,311	