



**Broadband Infrastructure Application
Submission to RUS (BIP) and NTIA (BTOP)**

Submitted Date: 8/19/2009 5:38:05 AM	Easygrants ID: 506
Funding Opportunity: Broadband Initiatives Program and Broadband Technology Opportunities Program	Applicant Organization: North Georgia Network Cooperative Inc
Task: Submit Application - Infrastructure Programs	Applicant Name: Lee Ann Roy

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A. General Application Information

1. Applicant Information	
1-A. Name, Address, and Federal ID for Applicant	
i. Legal Name:	North Georgia Network Cooperative Inc
ii. Employer/Taxpayer Identification Number (EIN/TIN):	270496741
Street 1:	6135 STATE HWY 115
Street 2:	
City:	Clarkesville
County:	Habersham
State:	GA
Country	United States
Zip/Postal Code:	30523

1-B. Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix:	
First Name:	Lee Ann
Middle Name:	
Last Name:	Roy
Suffix:	
Telephone Number:	706-864-2196
Fax Number:	
Email:	laroy@windstream.net
Title:	Grant Manager, North Georgia Network



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1-C. Other Required Identification Numbers	
i. Organizational DUNS:	831358234
ii. CCR # (CAGE):	5LM03
iii. Funding Opportunity Number:	1
iv. Catalog of Federal Domestic Assistance Number:	BTOP CFDA Number: 11.557 BIP CFDA Number: 10.787 BTOP CFDA Title: Broadband Technology Opportunities Program BIP CFDA Title: Broadband Initiatives Program

1-D Eligible Entities

Please classify your organization. (Note: If there are multiple organizations involved in the project, designate the lead applicant that would enter into a Loan or Grant agreement with the Agency and assume operational and financial responsibility should an award be made). **Cooperative or Mutual**

1-E. RUS Borrower Status

No

1-F. Applicant Federal Debt Delinquency Explanation

Is the Applicant Delinquent On Any Federal Debt? **No**
Federal debt delinquency Explanation:

2. Project Description & Project Title

2-A. Project Title: North Georgia Network

2-B. Project Description: North Georgia Network is a non-profit, collaboratively-rooted project that will enable a new technology-based economy in North Georgia. A 260-mile regional fiber optic ring will deliver to the region Gigabit speed, reliability, affordability and abundant interconnection points. The network will improve broadband service access for the underserved and stimulate economic growth and job creation.



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3. Application ID for Multiple Submissions for Identified Service Areas:

4. Rural Area Determination

At least 75 percent of the proposed service area to be funded falls within rural areas that are unserved or underserved.

No

5. Applications for Rural Areas: Please choose the funding program(s) to which you are submitting this application.

a) BIP broadband infrastructure category to which you are applying:

b) Would you like this Application for Rural Areas to also be considered for BTOP funding?

c) BTOP Infrastructure category for which you are applying.

6. Applications for All Other Areas: Per the NOFA, all applications to fund broadband infrastructure projects in areas that are less than 75% rural must be submitted to NTIA for consideration under BTOP.

BTOP broadband infrastructure category to which you are applying: **Middle Mile**

B. Eligibility Factors

7. Application Submission

BIP and BTOP Factors Selected By Applicant:

Applicant has submitted a completed application and provided all supporting documentation required for the application.

The Project will be substantially complete within 2nd year from the award date, and the project will be fully



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complete by the end of the 3rd year from the award date.

For projects seeking more than \$1 million funding, the Applicant agrees to submit a certification, from a Professional Engineer, that attests that a) the system will deliver the stated performance; and b) the projected project will be substantially completed within two years, and fully completed within three years.

The Applicant provides two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream.

Applicant understands and agrees to comply with the nondiscrimination and interconnection obligations outlined in the NOFA.

Additional Factors for BIP Selected By Applicant

Additional BTOP Factors Selected By Applicant

- **Conformity with Statutory Purposes**
- **Cost Sharing/Matching**
- **Reasonableness of Project Budget**

The project advances at least one of the statutory purposes for BTOP

Applicant has provided documentation that the project would not have been implemented during the grant period without federal grant assistance.

Applicant has provided a budget that is appropriate to the proposed technical solution and only includes eligible costs.



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- **Demonstration the Project Could not be Implemented But For Federal Grant Assistance**
Applicant is providing matching funds of at least 20 percent towards the total eligible project costs?
Yes

7-k. Cost Sharing/Matching Fund Explanation

C. Executive Summary

Executive Summary of Project for BIP and BTOP:

8. Infrastructure Projects Executive Summary

Background—The Problem and the Opportunity

President John F. Kennedy was so moved by what he saw in the Appalachian Region of the United States that in 1963 he formed a federal-state committee, the President's Appalachian Regional Commission, to address the region's persistent poverty and growing economic despair. Among other efforts, the ARC invested in infrastructure for the region—water and sewer capacity that brought a new job-producing textile and manufacturing base to north Georgia's foothill counties of Union, Towns, Rabun, Habersham, White, Lumpkin, Dawson and Forsyth, for whose benefit this application is made.

That investment served several generations of Appalachian residents very well. But today, almost 50 years later, the region again faces serious economic challenges as scores of manufacturers have cut jobs and shuttered the factories that once fueled the local economy. While the local economies of many American communities will begin putting workers back on the job as the recession lifts, north Georgia is faced with the dismal prospects of an economic base that is never coming back.

Recognizing both the problem and the opportunity at hand, the region's economic development leadership has taken a frontline, proactive approach, resolving to create a new economy for north Georgia—a technology-based economy. In order to accomplish this, we ask for federal investment in infrastructure that will lay the groundwork for another 50 years of progress. Only this time, instead of water and sewer, it is broadband infrastructure that will open the doors to opportunity, hope and prosperity for north Georgia and the southern



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Appalachian region.

The Solution

The North Georgia Network proposes to connect 135 miles of new fiber optic build with existing fiber spans to create a powerful and robust, 260 mile fiber optic ring traversing 12 north Georgia counties. Connected to a regional Internet hub in Atlanta to the south and through north Georgia and North Carolina to the north, this new fiber ring promises to deliver into the region Gigabit broadband speeds and the reliability of dual-route redundancy never available before in the area.

An 8-County Service Area

The middle mile fiber infrastructure project will benefit an 8-county area with an estimated population (2008) of more than 334,000 people spread over 2,100 square miles. It will directly pass 245 strategic anchor institutions—including 146 county government facilities, 6 municipal facilities, 82 public schools, 7 technical institutions, colleges and universities and 4 hospitals—while also supporting deployment of last-mile fiber to the home for an estimated 24,000 households in underserved areas in the northern part of the region. From a broader view, the potential reach of the project is estimated to be more than 42,000 households, 9,209 businesses and 367 strategic anchor institutions.

An Open Network

NGN is an open network that will feature approximately 2,600 interconnection points along the route, where independent service providers will be encouraged, on a non-discriminatory basis, to interconnect with the system in order to build out their own fiber services to end users. Interconnection for independent service providers will be enabled through an access company that will be a member and owner of NGN. The plentiful interconnection opportunities will result in an abundance of broadband capacity, give consumers a choice of providers, and bring pricing in the region down to the more affordable levels typically enjoyed in non-rural areas.

System Design

There are three components to the network: core (backhaul), middle mile and last mile. The core includes a combination of new fiber construction, in-kind and indefeasible Right of Use (IRU) agreements and leased services. The ring design enables path diversity and redundancy throughout the core. It is central to the project's ability to bring high-capacity, low-cost



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bandwidth into the region from the closest Internet exchange in Atlanta, while also delivering the resilient services necessary for business growth and economic development. The ability to maintain the lower prices needed in the northern, underserved part of the service area is dependent on NGN's ability to connect to this Internet exchange, requiring the network's core to pass through the served areas north of Atlanta.

Dense Wave Division Multiplexing (DWDM) technology provides the core scalability required to extend 100 Mbps and 1Gbps data services to homes, community facilities and businesses, as well as the ability to offer up to 40 Gbps "wavelength" transport services to larger customers such as Internet Service Providers, data centers and large corporations. The DWDM technology also provides failover capability, critical to customers that demand 99.999% service availability.

Access switches are distributed in locations near customers and in 39 Point-of-Presence (POP) facilities, mostly located in the northern, more underserved, parts of the service area. Residential customers outside the vicinity of the regional POPs are served by smaller service POPS, which are connected back to the regional POPs by 10 Gbps Ethernet rings. A limited number of service POPs in the southern counties of the service area are included primarily to serve anchor tenants and meet current business demand, but service providers may also choose to offer residential services from interconnection points along that portion of the network.

The technology of the network's last mile components is based on open access, performance and operational support. Use of a "home-run" topology using active Ethernet to the customers' premises enables NGN to support multiple service provider access.

Applications

NGN's founding partners envisioned creation of a regional, broadband network not as a goal in and of itself, but as a means to a greater goal of "transforming" the north Georgia region—economically, educationally, socially and otherwise—so that "all boats will rise." Community stakeholders stand ready to use the network as a springboard for development of more robust healthcare services, richer educational opportunities, more effective literacy programs, stronger workforce development initiatives and more innovative job creation endeavors. The network will facilitate both the region's ability to offer new levels of services and residents' abilities to access them.

Qualifications and Readiness to Implement the Network

North Georgia Network Cooperative, Inc. is well qualified and prepared to implement and



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operate the North Georgia Network, in terms of both its organizational structure and its management and operational team.

NGN is structured as a member-owned cooperative, a governance model that has been successful in rural areas throughout the nation since the Rural Electrification Act of 1936. Two of the cooperative's owners are Habersham Electric Membership Corporation and Blue Ridge Mountain Electric Membership Corporation, each with decades of history behind them, who between them provide affordable, dependable electrical service to 82,000 customers in 11 counties, primarily in rural northeast Georgia.

The two EMCs already have constructed locally-based fiber infrastructure to 4,300 residential, commercial and anchor institution customers. As such, each organization routinely engages in the activities that will be required in connection with the proposed project. In addition to contributing organizational resources and back office support to launch the project expediently, they have committed time and expertise of key members of management, who will function as an Interim Management Team as project activities get underway.

Overall Cost

The overall infrastructure cost of the broadband system is \$41,863,171. NGN and its partners are making in cash and in-kind equity contributions equal to 20% of the project costs.

Overall Subscriber Projections



Job Creation

Based on published research on the economics of broadband infrastructure construction, NGN anticipates that each \$1 million invested in this project will create 20 direct jobs and 500 indirect jobs. Therefore, our \$41 million-plus project is expected to generate 837 direct jobs and almost 21,000 indirect jobs over the construction period.

Description of BTOP Project Purpose (BTOP Applicants Only Next Three Questions)

9. BTOP Statutory Purpose:



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Provide improved access to broadband service to consumers residing in “underserved” areas of the United States.
Stimulate the demand for broadband, economic growth, and job creation.

10. Description of BTOP Project Purpose:

The North Georgia Network (NGN) project proposed in this Broadband Technology Opportunities Program grant application aligns with two statutory purposes outlined by the American Recovery and Reinvestment Act of 2009:

- 1) Providing improved access to broadband service to consumers residing in underserved areas of the United States and
- 2) Stimulating demand for broadband, economic growth and job creation.

The Problem NGN Addresses.

Initiated by the economic development leadership in a handful of north Georgia counties, NGN is a frontline, proactive response to the rapid erosion of North Georgia’s textile industry and overall manufacturing base, which has left this region of Appalachia without a solid economic foundation to support progress and prosperity. The most rural counties in the project’s proposed 8-county service area saw almost 2,500 manufacturing jobs virtually evaporate between 2000 and 2008, as companies either shuttered their plants altogether or cut local jobs in favor of cheaper overseas labor. (See Attachment, Supplement 2)

The gap between the average wages of those employed in this rural corner of north Georgia and workers in the rest of the state and nation has continued to widen over the past two decades. In 2008, weekly wages in the area averaged a third less than in the rest of the state and lagged a staggering 41% behind the rest of the United States. And these numbers—the latest annual figures available from the Georgia Department of Labor—reflect conditions before the worst impacts of the current recession were even felt. June 2009 unemployment figures show several counties in NGN’s proposed service area exceed the nation’s 9.5% unemployment rate considerably, with rates ranging from 10.8% to 12.3%.

Over and above the personal consequences of these statistics for individuals and families, the net impact ripples through communities, whose local governments, schools and community institutions struggle to meet the growing demand for services, much less make investments that will lead to an improved outlook for the future.



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NGN’s extensive personal interviews with business owners and managers, educators, healthcare providers, workforce development leaders, local government entities, social service agencies and others all point to the need for a new economy for north Georgia. However, building that promising new economy and preparing the workforce needed to drive it requires something the region does not have: accessible, affordable and reliable advanced broadband service.

NGN’s research has made it very clear that lack of adequate broadband capacity for consumers, businesses and public agencies has not only kept existing local businesses from expanding and creating new jobs; it has also hampered new business start-ups in the region and even threatens to send some long-established corporate citizens out looking for new horizons in communities that are better prepared.

Over and over, businesses and prospective new companies have complained about technology issues that make operating in northeast Georgia difficult and “painful.” Disjointed fragments of antiquated T-1 lines. Insufficient bandwidth and speed. Unreliability of non-redundant networks. Lack of service provider choice. Unreasonable prices. One frustrated IT director for an insulated apparel manufacturer likened operating in northeast Georgia to “living in the Dark Ages,” and said the lack of a technology culture here puts his business at a disadvantage every day.

Underserved residents here are missing out on more than You Tube. They are missing out on valuable Internet resources that could help them prepare for and find jobs, connect with healthcare resources more quickly, start small businesses or telecommute from home, take advantage of tutoring or advanced placement classes in high school or earn technical or college degrees—even save on their energy bills.

Creating a new economy for north Georgia will require creating a technology culture that considers at its root the interdependence of individuals and families, businesses, governments, schools, libraries, hospitals, non-profits and others—never more pronounced than today in the Digital Age.

The Solution

NGN proposes to lay the foundation for development of this new technology culture by connecting approximately 135 miles of new fiber optic build with existing fiber spans to create a powerful and robust, 260-mile regional, fiber optic ring traversing 12 northeast Georgia counties. Connected to advanced network systems in Atlanta to the south and North Georgia and North Carolina to the north, the new ring promises to deliver into the region speeds of 100



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Mbps and the reliability of dual-route redundancy. NGN is an open network that will feature some 2,600 interconnection points along the network where service providers will be encouraged to interconnect with the system to build out their own networks to all manner of end users. The plentiful interconnection points will help ensure choice of providers and more competitive pricing than currently exists in the region.

All told, NGN’s middle mile fiber infrastructure project will benefit an 8-county area of north Georgia by serving 245 strategic anchor institutions—including 146 county government facilities, 6 municipal facilities, 82 public schools, 7 colleges and universities, and 4 hospitals—while also supporting deployment of last-mile fiber to the home for an estimated 24,000 households in underserved areas. From a broader view, the potential reach of the project is estimated to be more than 42,000 households, 9,209 businesses and 367 strategic anchor institutions.

Based on published research on the economics of broadband infrastructure construction, NGN anticipates that each \$1 million invested in this project will create 20 direct jobs and 500 indirect jobs. Therefore, our \$41 million-plus project is expected to generate 837 direct jobs and almost 21,000 indirect jobs over the construction period.

The Future: A Replicable Model

Beyond the results we expect to accomplish for our region, NGN’s proposal has implications for other rural areas of America. The project is being undertaken by the newly created North Georgia Network Cooperative, Inc., an entity modeled after the electric cooperatives created under the Rural Electrification Act of 1936. Just as membership-based cooperatives, with federal assistance, brought electricity to rural areas to stimulate equitable economic opportunity then, the North Georgia Network Cooperative will leverage federal support to stimulate widespread economic opportunity through advanced broadband. Not-for-profit broadband systems owned, built and operated by the people who use them have the potential to be as transformational today as were the electric co-ops of the 40s. The model proposed in this application has proven itself over the past 73 years to be viable, sustainable and replicable.

11. BTOP Enhanced Services for Health Care Delivery, Education, and Children:

The North Georgia Network’s founding partners envisioned creation of a regional, broadband network not as a goal in and of itself, but as a means to a greater goal of “transforming” the north Georgia region—economically, educationally, socially and otherwise—so that “all boats will rise.” More than two years of assessing the need and developing this project have only served to strengthen those ideals. NGN remains committed to



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fully leveraging the network to enhance quality of life and cast a broad net of hope and opportunity over a region that has too long been left behind. Community stakeholders stand ready to use the network as a springboard for development of more robust healthcare services, richer educational opportunities, more effective literacy programs, stronger workforce development initiatives and more innovative job creation endeavors. Indeed, we would argue impacting any one of these initiatives will require touching them all. And advanced broadband capacity will enable us to do that.

Pivotal to the region's ability to have measurable impact in these areas through technology is North Georgia College and State University in Dahlonega, northeast Georgia's only public, 4-year institution of higher learning and one of NGN's original partners. The University, academically and through its leadership, is in perfect position to connect enhanced technology capabilities with the people and organizations that can most benefit from them. North Georgia's School of Education, for example, provides professional development programs for teachers, collaborates with Pre-K through 12 educators throughout the region and runs the Center of Teaching & Learning Excellence. Who better to help the region's schools make the most of NGN's potential so the children can participate in the Digital Age?

North Georgia is helping to address the nation's nursing shortage with several degree programs that train nurses and nurse educators. These programs employ on-line learning strategies to reach students on various campuses around the region. More affordable and reliable bandwidth will enable the university to train more nurses. The University also prepares tomorrow's business leaders with the region's only MBA program, located on a satellite campus halfway to Atlanta, where NGN's capacity will vastly improve and grow the program. The university's Office of Regional Engagement, involved in regional workforce development initiatives, and active Continuing Education program, which offers job training and other learning opportunities, will also be integral to helping the region realize far-reaching impacts from NGN.

Virtually every aspect of healthcare can be improved with increased broadband capacity. NGN will pass four hospitals, as well as dozens of ancillary medical facilities that will play a large part in maximizing the impact of broadband access on healthcare in rural north Georgia. PCG Labs, for example, provides rapid-response laboratory analysis for dozens of rural Georgia hospitals, surgical centers and doctors' clinics—healthcare providers who couldn't begin to afford those services in-house. Optimal service requires considerable bandwidth, and the laboratory's ability to improve quality of care for patients will increase substantially when NGN's capability enables PCG to trade in its antiquated T-1 line for a



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connection to the network.

Altogether, NGN will enable high-speed broadband for 82 public schools and 7 higher education facilities, where students will have access to rich, multi-media and interactive content, as well as online support or advanced placement courses. Budget strapped school systems can increase efficiencies without sacrificing quality by embracing IP-based video conferencing and other technologies.

D. Proposed Funded Service Area

12. Proposed Funded Service Area Maps:

12-A. Service Area Map (Reference Number): **7F0C-1F63-4C64-B4C9**

12-B. Is the applicant is seeking a waiver for providing less than 100% coverage of a census block. **No**

13. Proposed Funded Service Area (BIP - Last Mile Projects):

Please refer to section M at the end of document.

14. Proposed Funded Service Area (BTOP - Middle Mile Project):

Please refer to section M at the end of document.

15. Non-Funded Service Area(BIP Only):

16. Coverage Waiver:

Applicant is seeking a waiver for providing less than 100% coverage of a census block.

No

For Response of "Yes" please refer to upload section for additional supporting documentation.

17. Methodology for Area Status:

Absent the benefit of incumbent service provider availability or subscribership data, and without the support of statewide broadband mapping, which the State of Georgia has not yet undertaken, NGN was tasked with formulating an analytical approach to determining whether the project's proposed funded service areas are classified as "unserved" or "underserved."

Applying considerable time, resources and diligence to this effort, NGN devised a reasonable, fact-based methodology for making such a determination. In good faith we present the



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following summary of that methodology.





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18. Middle Mile Benefits

North Georgia Network's middle mile fiber infrastructure will benefit the north Georgia region by serving 245 strategic anchor institutions, supporting the deployment of last-mile fiber to the home for an estimated 24,000 households in underserved areas, and providing numerous open interconnect points for service providers to extend the reach of the network even further.

Strategic anchor institutions passed by the network will include 146 county government facilities, six municipal facilities, 82 public schools, 7 colleges and universities, and 4 hospitals—across an 8 county area of north Georgia.

The middle mile will enable advanced broadband services—up to 100 Mbps—for an estimated 24,000 households in the northern, more underserved, part of NGN's service area. Triple-play services may also be provided through partnerships with third-party voice and video providers.

In addition to the impact of its direct last-mile connections to strategic anchor institutions, businesses and households, NGN's middle mile infrastructure will provide an estimated 2,600 open interconnection points along a 260-mile route for abundant access by service providers. During the feasibility and planning process for NGN, extensive outreach was performed, and discussions were had with third-party service providers. These providers expressed frustration over the lack of affordable access to open fiber networks in the region, and many confirmed that, should the NGN network be deployed, their organizations would consider interconnecting to serve their target markets.



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In addition to building and operating the middle mile infrastructure, NGN will work to ensure that the middle mile network has at least one last mile provider for households, businesses and strategic institutions throughout the service area during the time in which third-party service providers are being recruited and integrated with the business.

NGN's nonprofit, cooperative governance model will give the network inherent incentive to be opened, without discrimination, to all service providers needing low-cost transport or facilities they can leverage to extend last mile services using wired and wireless technologies.

E. Proposed Service Offering

19. Broadband Service Offerings for Last Mile Project:

Please refer to upload section at the end of the document.

20. Service Offerings for Middle Mile Project:

Please refer to upload section at the end of the document.

Competing Service Providers

21. Existing Broadband Service Providers and Services Offered:

Please refer to upload section at the end of the document.

Non-Discrimination, Interconnection

22. Description of Network Openness:

NGN fully complies with the NOFA requirements on non-discrimination and interconnection, and the FCC Broadband Policy Statement of August 5, 2005.

NGN will not favor any lawful Internet applications or content over others; will display network management policies in a prominent location on the service provider's web page and



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provide notice to customers of changes to these policies and will connect to the public Internet directly and indirectly. Interconnection will be offered, where technically feasible, on reasonable rates and terms to be negotiated with requesting parties. This includes both the ability to connect to the public Internet and physical interconnection for the exchange of traffic.

While incumbent service providers do not advertise the availability of open access fiber to be used by alternate service providers, NGN's middle mile fiber will be made available for all qualified entities to utilize.

- NGN's middle mile infrastructure consists of approximately 1,387,643 lineal feet of fiber. Specific and separate access for interconnection will be provided approximately every 500 feet of that infrastructure, at approximately 2,600 locations. This will allow for extensive interconnection for multiple service providers, including ones not affiliated with NGN. For existing and new service providers, the middle mile infrastructure, the pricing levels, and the 2,600 interconnect points along the route will provide realistic options for re-selling services and providing high speed connectivity and access to the Internet to their customers. Interconnection will also be configured at all POP locations and may be supported at certain anchor institutions that are directly connected to the network.
- Through the use of standards based networking practices, the interoperability with other wired and wireless networks will be managed to allow for both wholesale and retail use of the network facilities. New network facilities will be made available on a wholesale basis to existing or future service providers so they can offer competitive alternate services to businesses, institutions, and residences.

Non-Discrimination and Interconnection (BTOP applicants only for next three questions)



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23. Non-Discrimination Obligations (applicable to Last Mile and Middle Mile Applicants):

Adhere to the minimum non-discrimination requirements as set forth in the NOFA.

Display the nondiscrimination practices in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.

24. Interconnection Obligations (applicable to Last Mile Applicants):

25. Interconnection Obligations Middle Mile Applicants:

Adhere to the minimum interconnection requirements as set forth in the NOFA.

Display the interconnection policies in a prominent location on the service provider's web page, and provide notice to customers of changes to these policies.

Commit to offering wholesale access to network components and services such as wavelength or fibers at reasonable rates and terms.

Commit to binding private arbitration of disputes concerning interconnection obligations.

Cost Effectiveness and Affordability

26. Cost per Household (BTOP only):

Not applicable to NGN as a Middle Mile project.

27. Affordability

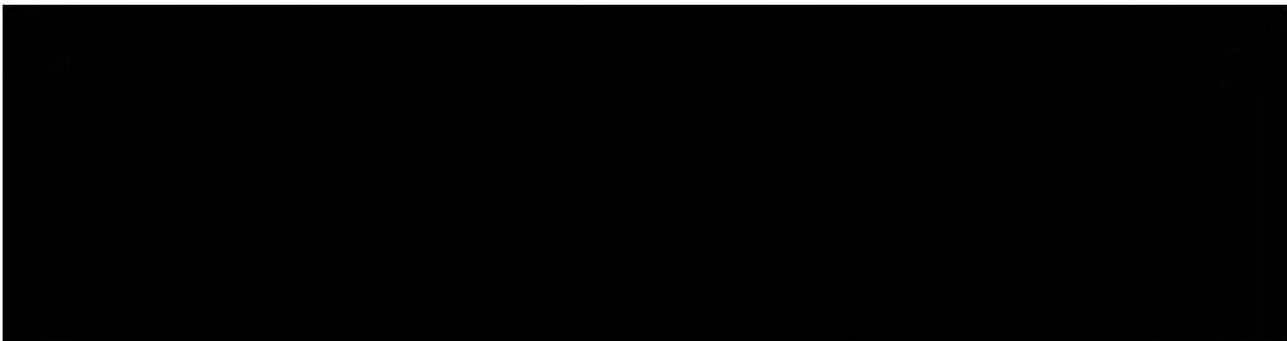
In the residential market, NGN will enable 3, 10, 30 and 100 Mbps service to an estimated



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24,000 households. As shown in Attachments A and C, 10 Mbps symmetric service will be offered at non-promotional prices that are competitive with existing services – most of which are constrained by slow uplink speed, requirements for having local phone service, and penalties for refusing to bundle video and other packaged offerings. Consumer-friendly policies related to activation and termination fees, contract/term commitments, etc., will be adopted.



NGN also has a commitment to meet the needs of community-based organizations who contribute to the social and economic well-being of the region. Cost-prohibitive practices often limit the innovation and service delivery of many non-profits. The affordability of adequate Internet service is key to supporting the success of community-based organizations. Making these opportunities available allows community-based organizations to maximize and coordinate resources, share data and information, promote long-term cost effectiveness and optimize service provision, which will ultimately better serve the vulnerable populations who depend on them.

In summary, NGN’s pricing models will reflect a commitment to making broadband services “abundant” in north Georgia, not leveraging the ownership of its assets to create artificial scarcity and owner profits. NGN is firmly committed to community and economic development, and its nonprofit, cooperative governance model has only one obligation – to provide its members (customers of the network) with the highest quality service at the lowest cost. This member-owned structure will ensure pricing that results in excess income will not be distributed to equity partners, as in a for-profit business, but will be reinvested in the network, and used to keep rates at their lowest possible levels. Two of NGN’s originating members, Blue Ridge Mountain EMC and Habersham EMC, have a 70-year track record in



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rural electrification to prove this is possible.

F. Technology Strategy

28. Technology Type:

Wireline - Fiber-optic Cable

Other:

29. System Design

NGN System Design

The composition of the NGN network can be divided into three components: core (backhaul), middle mile and last mile. The core includes a combination of new fiber construction, in-kind and Indefeasible Right of Use (IRU) agreements, and leased services which create a fiber ring that traverses more than 260 route miles through 12 counties. The primary service area consists of 8 counties within the region. Strategic anchor institutions include county governments, municipal governments, public schools, healthcare facilities, technical colleges, North Georgia College & State University and numerous businesses.

The Core/Backhaul

The system design calls for a ring topology to enable path diversity and redundancy throughout the core. This approach is required for two reasons: 1) to bring high-capacity, low-cost bandwidth into the region from the closest Internet exchange in Atlanta, and 2) to deliver the breadth of resilient services businesses are demanding, which was validated through the work of the region's economic development officials.



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Dense Wave Division Multiplexing (DWDM) technology has been selected to provide the core scalability required to extend 100Mbps and 1Gbps data services to homes and businesses while also offering up to 40Gbps “wavelength” transport services to larger customers such as Internet Service Providers, data centers, and large corporations. This enables customers of all sizes and capabilities to benefit from the increased bandwidth availability created by the network. The DWDM infrastructure also provides the added benefit of failover capability, offering sub 50ms path failover on the physical layer. For customers who demand 99.999% availability for their service, this is critical.

During the project’s feasibility study, NGN documented that Internet bandwidth on a Mbps per month costs as much as \$300 in the region, but is available at less than \$15 Mbps per month at the Internet exchange in Atlanta. NGN proposes to narrow that rate disparity by leveraging the vast infrastructure that exists between the Internet Exchange at 56 Marietta St. in Atlanta and the Forsyth/Fulton County border where that fiber line currently stops. By providing Internet Exchange access to northeast Georgia and enabling peering in the region, NGN will effectively decrease Internet service prices.

This model allows for service providers and larger corporations to traverse the DWDM infrastructure to the Internet exchange, where the NGN network will drop off their circuits in the form of 10Gbps or 40Gbps Ethernet links. Taking advantage of the existing infrastructure and the technological capabilities of DWDM, this network will enable up to 80 discrete 40Gbps wavelengths to be extended from the Internet Exchange into the North Georgia Network region. This capacity will enable service providers such as Habersham EMC, Blue Ridge Mountain EMC and others to offer higher bandwidths to their current customer bases while expanding their voice, video and internet services into new areas. Costs of service will go down as the system’s open access architecture enables all service providers to access this same bandwidth at competitively neutral and non discriminatory prices.

The Middle Mile

Access switches in the NGN architecture are designed to be either in distributed locations near the customer, or in centralized regional Point-of-Presence (POP) Facilities. Regional POP locations are generally dictated by the concentration of business, education, health, government and other strategic anchor institutions that would benefit from close proximity to the network’s ingress points. Residential customers not located within the vicinity of these regional POPs are served by smaller SPOPs (Service POPs, generally like communications cabinets) that are



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connected back to the regional POPs by a 10Gbps Ethernet ring. A total of 39 SPOPs are accounted for in the network design. The majority of these fall within the northern territory due to the high concentration of underserved users in that area. The SPOPs in Forsyth, Dawson and Lumpkin Counties exist primarily to serve anchor tenants, meet current business bandwidth demand and provide the infrastructure to support future business development. However, the project budget also accounts for any residential service offering. Although there are fewer SPOPs in the southern counties, this doesn't preclude other service providers from offering service in this region. The middle mile intersects the core at various splice (interconnect) points in the network. By design, it offers service providers and other dark fiber subscribers easy access to both the fiber infrastructure and the core POP/CoLocation facilities.

Last Mile

Active Ethernet and Gigabit Passive Optical Network (GPON) are the predominant technologies within the last mile space. Each has its advantages, with GPON being widely deployed by Verizon and other service providers, and Active Ethernet mainly relegated to smaller municipal settings. In deciding upon Active Ethernet as the underlining technology supporting the voice, video and internet applications for the FTTx build, three criteria were considered most important: open access, performance and operational support. The requirement that the network be capable of supporting multiple service provider access to the end-user necessitated the use of a home-run topology from the active element to the customer's premise.

From a performance standpoint, unlike other shared medium technologies such as GPON, Active Ethernet is able to provide custom bandwidth profiles on a per-user basis. The widespread adoption of Ethernet as a technology has also made both the POP and customer premises electronics more affordable than the Optical Network Terminal (ONT) and Optical Line Terminal (OLT) required of GPON. With regard to operational support, Habersham EMC and Blue Ridge Mountain EMC are already utilizing Active Ethernet technology to deliver content for their current customers. This familiarity with the electronics, vendors and the technology will enable the operational support and maintenance items such as software and hardware upgrades for this proposed network to be addressed as soon as the turn-up process is complete.

Growth



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The facilities serving as regional POP locations will also serve as co-locations for dark fiber customers and service providers on the network. They are designed to support 200 sq ft. of co-location space and meet the power and environmental systems requirements to support a fully occupied location. Should the need for additional co-location space arise, all the sites have plenty of additional space for expansion of the facilities.

Regarding network growth, the project budget supports 8 10Gbps wavelengths (LAMBDA) with the capability to increase to 80 40Gbps wavelengths. The hardware is expected to support up to 160 100Gbps wavelengths later this year, so the potential for future bandwidth on the core is virtually limitless. As far as the middle mile and last mile growth, each SPOP can support in excess of 200 FTTx customers, with the capacity limited only by the switch port capacity and the physical size of the cabinet. Should user growth exceed capacity, increased SPOP density and additional access/aggregation switches would rectify this issue.

30. Network Diagram:

Please refer to upload section at the end of document.

31. Certification by Professional Engineer:

Please refer to upload section at the end of document.

32. Buy American Waiver Request:

Is the applicant seeking an individual waiver of the Buy American provision? **No**

Buy American Waiver Request – Legal Justification



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33. Choice of Service Provider:

Does the project's Infrastructure and the Company's business plan allow more than one provider to serve end users in the proposed funded service area?

Yes

G. Project Milestones and Completion Factors

Timeline & Milestones

34. Infrastructure Build-out Timeline:

Please refer to upload section at the end of the document.

35. Licenses, Regulatory Approvals and Agreements:

NGN has identified the following licenses and regulatory approvals that will be required to proceed with construction of the network:

- Competitive Local Exchange Carrier (CLEC) certificate from the Georgia Public Service Commission. This CLEC certificate is required in order for NGN to offer private line and special access services throughout its service territory. NGN has outside legal counsel identified to perform this work, which requires completion of a 13-page application, and is expected to take 60-90 days. Given the construction schedule through 2010, and the fact that services will not be offered over the funded network during at least the first 6-9 months of its construction period, NGN does not anticipate this requirement will cause any delays in the overall process.
- Land and facility leases for POP facilities. NGN will be required to negotiate land and facility leases for its POP and collocation facilities. Given the fact that the land and facility owners, which include County Governments and North Georgia College and State University, have been partners and co-investors in the NGN project over the past 18 months, NGN does



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not anticipate any delays or challenges in this process. NGN expects all leases could be completed within 60 days of notice of funding award, and well in advance of the time they will actually be required.

- Joint use agreement for pole attachment rights. NGN will be required to execute a joint use pole attachment agreement with three electric membership cooperatives; Blue Ridge Mountain EMC, Habersham EMC and Sawnee EMC. BRMEMC and HEMC are the two originating members of the NGN cooperative itself.

36. Construction and Vendor Contracts

NGN intends to advertise a Request for Quotation (RFQ) for a prime contractor and all materials and labor needed to construct and manage the network upon notice of award from the NTIA. The prime contractor will be responsible for the installation and management of the broadband network. NGN anticipates selecting the two highest qualified vendors who present the most competitive price proposal to participate in a rapid (45 day) competitive process, which will adhere to accepted procurement practices. The final selection will be based on cost and qualifications.

NGN has already retained a consultant, funded with the assistance of the State of Georgia, to author and administer the RFQ. NGN's consultant has prepared a design for the network and a detailed set of specifications that clearly define the scope of products and services required. These specifications include a detailed Bill of Materials for the project, which has been submitted with this application as part of the Detailed Project Budget.



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During the planning process, numerous local vendors have contacted NGN to express interest in an eventual procurement. NGN has documented the contact names and details for these organizations, allowing it to quickly advertise the RFQ.

Upon notice of award from the NTIA in the October-November timeframe, NGN is confident it can have all construction and vendor contracts in place by January, 2010.

Qualification of Management Team and Organizational Readiness

37. Management Team Resumes:

Please refer to upload section at the end of the document.

38. Organizational Readiness:

North Georgia Network Cooperative, Inc. is well prepared to implement the NGN project immediately upon funding, in terms of both its organizational structure and its management and operational team.

Organizationally, although the entity itself is newly established, NGN is structured as a member-owned cooperative, a governance model that has been successful in rural areas throughout the nation since the Rural Electrification Act of 1936. Habersham Electric Membership Corporation and Blue Ridge Mountain Electric Membership Corporation, two of NGN's owners, each have decades of history behind them and between them provide affordable, dependable electrical service to 82,000 customers in 11 counties, primarily in rural northeast Georgia

Habersham EMC and Blue Ridge Mountain EMC additionally have 10 years and 7 years, respectively, of experience as full-service broadband services providers. Together they serve 4,300 residential, commercial and anchor institution customers, providing point-to-point service, high speed Internet, voice and video, backhaul services, emergency fiber repair and technical support. As such, each organization routinely engages in such ongoing activities as planning, design, engineering, construction, maintenance and repair of fiber network infrastructures. Further, each of these entities has established operating mechanisms by which they conduct day-to-day business. NGN will take advantage of these existing operational resources initially to ensure stability during the project's initial start-up phase.

In addition to contributing organizational resources and back office support to launch the project expediently, each EMC has committed time and expertise of key members of



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management, who will function as an Interim Management Team as project activities get underway. (Please see resumes, attached.)

At the helm to manage the project start-up and oversee the transition to a permanent management team are Todd Pealock and Joe Satterfield, who collectively have served more than 34 years in their respective positions in the north Georgia market. Their combined experience includes management of a \$5 million annual capital infrastructure construction program and management and oversight of several multi-million dollar federal loans for utility infrastructure build-outs. Each is credited for his leadership in initiating broadband service in his organization's territory.

Interim CEO Bruce Abraham, whose board position represents the original project partners and their communities, brings to the team a balance of project management skills and commercial development experience—including involvement in site work and design/build activities for utilities and infrastructure—as well as grant and loan management and oversight.

The vice president of operations, held on an interim basis by Matthew Akins, will oversee the search for a prime contractor, which will begin with advertisement for an RFQ for a prime contractor immediately upon award funding. The prime contractor ultimately will be responsible for the overall installation and management of the broadband network

NGN will rely on billing, customer care and technical support functions already in place for Fiber to the Home build-out components of the NGN project at such time as those services are needed.

Other

39. Organizational Chart:

Please refer to upload section at the end of document.

40. Legal Opinion:

Please refer to upload section at the end of document

41. Government and other Key Partnerships:

The North Georgia Network was initiated by the economic development leadership in five north Georgia Counties. The Lumpkin County Development Authority, as lead agency, along with the Dawson County and Union County Development Authorities, the White County and



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Forsyth County governments and North Georgia College and State University, applied for and received a \$192,000 grant from the State of Georgia for a feasibility study for NGN. The partners contributed \$48,000 in public monies toward the study, solidifying the commitments each entity had to the collaborative. The study lead to the involvement of two Electric Membership Cooperatives in the region—Habersham EMC and Blue Ridge Mountain EMC—and the inclusion of three additional counties: Habersham, Rabun and Towns. The EMCs had already begun constructing local fiber networks in their local areas for the same reasons the partners had identified: existing infrastructure was insufficient, slow, closed, and expensive.

While NGN started as a government partnership, broad community outreach has been a hallmark of the project throughout its evolution. Feasibility work included interviews and relationship-building with school boards, county governments, technical schools, healthcare providers and businesses throughout the region. The original government partners and the EMCs that will carry the project forward through the North Georgia Network Cooperative value the role of community-based institutions in helping to uplift the region. To that end, NGN’s ongoing expansion and related demand generation and other support projects will be guided by a 9-member Community Advisory Board (see attachment 1) that will facilitate the involvement of other governments, educational systems, medical institutions and businesses. The CAB comprises the original government entities, two regional business entities, North Georgia College & State University as a regional education entity and the OneGeorgia Authority as a state entity.

42. Recovery Act and Other Governmental Collaboration.

Funding of the North Georgia Network will potentially leverage federal funding sought through other Recovery Act programs and support other federal objectives over and above its primary broadband initiatives.

- 1) Department of Energy. Habersham EMC has applied to the U.S. Department of Energy for a Smart Grid Investment Grant in the amount of \$6,363,000 under the Topic Area “Integrated and/or Crosscutting Systems.” If funded, Habersham EMC’s upgrade of its outdated SCADA system and automated meter reading devices and installation of “smart” reclosers and switches located outside of substations will result in significantly increased supply and distribution efficiencies for the cooperative, as well as new cost-saving options for energy savings by its 34,000 member consumers in six north Georgia counties, three of which are within NGN’s service area. The upgrades will require installation of a fiber optic communication backbone to allow central office-to-substation communication. Funding of the



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NGN project could back some of the fiber backbone construction costs out of Habersham EMC's project while allowing for additional construction efficiencies resulting from the cooperative's half-ownership in, and shared staffing with, NGN. Further, the advanced Fiber-to-the-Home components of NGN's project that fall within Habersham EMC's electric service area will enable electricity consumers to more fully utilize the new energy saving tools being made available to them through the proposed smart grid upgrades.

2) Department of Energy. Blue Ridge Mountain EMC intends to install AMR/AMI smart metering systems in 2010 and plans to leverage the proposed NGN build-out, in conjunction with its existing fiber-optic footprint, to reach all of its local customers with the new energy-saving smart grid technology. In addition to using the results of a planned pilot project with a private smart metering provider, the cooperative will incorporate knowledge gained by the Tennessee Valley Public Power Association (TVPPA), which has applied to the Department of Energy for a Smart Grid Investment Grant, to fund a study investigating, implementing and testing best practices for smart grid deployment in a five-state area.

3) US Department of the Treasury. US Department of Agriculture. Appalachian Community Enterprises, Inc., (ACE) based in White County within NGN's service area, has applied to the U.S. Department of the Treasury for a Community Development Financial Institution (CDFI) grant in the amount of \$1 million. The ARRA funding, if awarded, will be used as lending capital to support micro-business and "green" loans to entrepreneurs and small business operators in a low-income target population. Further, ACE received a \$99,000 Rural Business Enterprise Grant from USDA through the American Recovery & Reinvestment Act in July 2009. These monies will be used in Lumpkin County within NGN's service area to create a revolving loan fund to support micro-businesses operated by a low-income target population. Funding of NGN will support the home-based and other small businesses ACE targets and serves in north Georgia, who increasingly require reliable and affordable advanced broadband services to build successful businesses. ACE anticipates the CDFI funding, if awarded, could facilitate the creation of at least 435 jobs in north Georgia's 34 Appalachian Counties between 2010 and 2012. NGN's regional fiber ring could provide meaningful and substantial value to ACE's work throughout the region.

Community Involvement (BTOP Applicants Only)



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43. Partnering with Disadvantaged Businesses

NGN does not have established agreements in principle to contract with socially and economically disadvantaged small businesses as defined by the Small Business Act at this time.

H. Project Budget

44. General Overall Budget



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Budget	Loan Request	Grant Request	Equity	Debt	Bond	Other
Network & Access Equipment (switching, routing, transport, access)		5,545,608	1,386,402			
Outside Plant (cables, conduits, ducts, poles, towers, repeaters, etc.)		17,791,796	4,447,949			
Buildings and Land – (new construction, improvements, renovations, lease)		3,626,524	906,631			
Customer Premise Equipment (modems, set-top boxes, inside wiring, etc.)		3,590,400	897,600			
Billing and Operational Support Systems (IT systems, software, etc.)		350,608	87,652			
Operating Equipment		682,400	170,600			



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(vehicles, office equipment, other)						
Engineering/ Professional Services (engineering design, project management, consulting, etc.)		1,895,400	473,850			
Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers, etc.)						
Site Preparation						
Other		7,801	1,950			
TOTAL BROADBAND SYSTEM		33,490,537	8,372,634			



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Total Budget: \$ 41,863,171

45. Detailed Budget:

Please refer to upload section at the end of the document.

Sustainability

46. Reasonableness

The budget for North Georgia Network is the result of a year-long planning process. NGN retained the services of an outside consulting firm with experience advising more than 100 public and private organizations on similar communications initiatives, including five of the top six U.S. cities. NGN's consultant worked closely with the overall project team to develop a budget that balanced the need to produce a comprehensive, efficient plan with the need to be conservative and avoid future cost overruns. The three-step process used by the project team is described below:

1. Project engineers first developed detailed specifications for all major network elements including fiber optic cabling, network electronics, and facilities such as points of presence (POPs). A bill-of-materials (BOM) approach was used to define "assemblies" for these major elements. For example, several types of POP assemblies were defined, along with their various component items; from physical facilities to electrical systems to air handling equipment to network electronics to labor. Once developed, these assemblies were combined into an overall "project inventory."

2. Interviews were conducted with candidate vendors to review components used in the network and to validate their associated costs. List prices were used to insure that all costs estimates were conservative, with an assumption that discounts are likely to result from the competitive procurement process.

Throughout the project, engineers and business analysts engaged in a collaborative process to maintain linkages between technical, business and policy factors.

An integrated software environment was used to produce the final project budget. This environment allowed engineers to produce assemblies and component costs that were visible in



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real-time to the business analysts working on estimates for capital costs, operating expenses, revenue and other aspects of the financial model. In summary, NGN went through one of the most rigorous planning processes ever performed for an infrastructure project of this type. The experts involved and processes used produced new breakthroughs in efficiency, while respecting stable, predictable budgeting approaches.

47. Historical Financial Statements:

Please refer to upload section at the end of the document.

48. Broadband Subscriber Estimates:

Please refer to upload section at the end of the document.

49. Other Services:

Please refer to upload section at the end of the document.

50. Pro Forma 5-Year Financial Forecast and Assumptions:

Please refer to upload section at the end of the document.

51. Commitment of Capital Funding Support

Sources of funding for NGN project, not including funding sought through BTOP, are itemized as follows:

Name of Party: Habersham EMC
Funding amount: \$ 1,859,189 (4.45% of total budget)
Type of Funding: Grant match
Key Financing Terms and Conditions: None
Use of Funding: Infrastructure

Name of Party: Blue Ridge Mountain EMC
Funding amount: 1,859,189 (4.45% of total budget)
Type of Funding: Grant match
Key Financing Terms and Conditions: None
Use of Funding: Infrastructure

Name of Party: State of Georgia
Funding amount: \$ 4,186,317 (10% of total budget)



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Type of Funding: Grant match
Key Financing Terms and Conditions: None
Use of Funding: Infrastructure

Name of Party: North Georgia College & State University
Funding amount: \$ 467,940 (1.10% of total budget)
Type of Funding: Grant match.
Key Financing Terms and Conditions: None
Use of Funding: Infrastructure

BTOP Requirements

52. Matching Funds:

- a. Cash: \$ 7,771,206.00
- b. In-Kind: \$ 601,428.00
- c. Percent of Total Project Cost: 20

53. Demonstration of Financial Need:

The North Georgia Network would not be implemented without the federal support requested in this application. Fiber optic infrastructure investments, particularly in rural areas like northeast Georgia, are extremely capital intensive. And with consumer confidence being very low, this increases the risk of lower than expected take-rates and revenue-per-user assumptions, leading to a need for outside assistance to produce a sustainable business case.

The Recovery Act's top-level goal to "stabilize state and local government budgets" is a recognition that governments have been hit particularly hard by the recession and are struggling to maintain basic services, much less make major capital investments. The city and county governments in northeast Georgia are no exception. Sales tax revenues have plummeted, and incomes generated from such sources as user fees, permits, new business licenses and real estate transactions have declined dramatically. Given that local government budgets often lag behind the economy in general, government revenues in the region are unlikely to substantially improve over the three-year timeline of the North Georgia Network



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build-out.

Compounding the decline in government revenues, credit markets are unfavorable for these capital-intensive investments, particularly when combined with low consumer confidence, unemployment and other factors. These trends are highlighted in a recent report, "Confronting the Crisis: The Impact of the Financial Crisis on the ICT Industry" published by the ITU. The report states:

"[T]he amounts needed for investment in advanced fibre-based networks are phenomenal, costing an estimated six plus times more for rural deployments as for urban, high population-density areas." The report also states that "nationwide deployment of Fibre-To-The-Curb (FTTC) would cost three to four times more than the telecom sector has currently spent to date on deploying the current generation of copper-based broadband services. Faced with a credit crunch, the deployment of [next generation networks] could be delayed, unless more imaginative funding schemes and/or state involvement (at local or national levels) arise."

NGN's proposal reflects the results of a \$240,000 feasibility study made possible by a BRIDGE grant awarded by the OneGeorgia Authority in 2008. Accessing the grant funds required six public entities to collectively raise \$48,000 in matching funds. The development authorities, local governments and state university struggled to make that investment, just a small fraction of the cost needed to build the infrastructure our region so desperately needs. The project partners have managed to make and/or secure the matching funds commitments required for this grant. Based on the challenges experienced in that process, there is no question that if federal support were not available through BTOP, this project would not be implemented.

54. Unjust Enrichment

North Georgia Network Cooperative Inc is not receiving, nor has it applied for, any Federal support for non-recurring costs in the area for which the organization is seeking an award.

55. Disclosure of Federal and/or State Funding Sources

A feasibility study leading to the modeling and design of this North Georgia Network project was funded in the amount of \$192,000 through a BRIDGE grant awarded in December 2008 by the OneGeorgia Authority. With the exception of the current BTOP application, no other federal or state funds have been requested or received related to this project.



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Task: Submit Application - Infrastructure Programs	Applicant Name: Lee Ann Roy

I. Self Scoring – BIP Only Self Scoring

56. Self Scoring Sheet



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Criteria	Method	Points	Self Scores
<u>PROJECT PURPOSE</u>			
Proportion of Rural Residents Served in Unserved Areas	1 point for every 10,000 unserved households	Up to 5	
Rural Area Targeting	1 point for every 5% increase in the rural service area up the minimum 75% rural area requirement	Up to 5	
Remote Area targeting	1 point for every 50 miles a service area is located from a non-rural area	Up to 5	
Title II Borrower	If you are or were a Title II borrower	5	
Recovery Act and other governmental collaboration	1 point will be awarded for each governmental or Recovery program the applicant is partnering with	Up to 5	
<u>PROJECT BENEFITS</u>			
Performance of the offered services	If a last mile wireline project delivers 20M to household – if a last mile wireless projects delivers 2M to end-user – if a middle mile projects delivers 100M to end points	10	
Affordable of services offered	Points awarded based on the proposed rate structure and the logistics of the proposed service area	Up to 5	



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Choice of service provider	If the proposed infrastructure is available to be used by multiple service providers	5	
Critical Community Facilities	If discounted rate packages at least 25% lower than advertise rates are available to critical facilities	5	
<u>PROJECT VIABILITY</u>			
Applicant's organizational capability	Points will be awarded on the strengths and accomplishments of key management	Up to 12	
Community Support	If a letter of support has been received from a designated representative of the community for every community in the proposed service territory	2	
Ability to promptly start project	If the applicant can demonstrate that all licenses and regulatory approvals have been received, contractors and vendors are ready to enter into contracts, and equity has been deposited into applicant accounts	10	
Socially and economically disadvantaged small businesses (SDB), as defined by section 8(a) of the Small Business Act, 15 U.S.C. §637.	If the applicant is a Section 8(a) entity	1	
<u>PROJECT BUDGET AND SUSTAINABILITY</u>			
Reasonableness of the budget	Points will be awarded based the	Up to 5	



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	adequacy of the proposed budget		
Leverage of outside resources (outside funding/financing requested)	(i) 10 points if this ratio is greater than 100% (ii) 7 points if this ratio is between 100% and 75% (iii) 5 points if this ratio is between 75% and 50% (iv) 3 points if this ratio is between 50% and 25% (v) 1 points if this ratio is lower than 25%	10	
Extent of grant funding (Grant funds/loan funds)	(i) 0 points if this ratio equals 100% (ii) 1 points if this ratio is between 100% and 75% (iii) 3 points if this ratio is between 75% and 50% (iv) 5 points if this ratio is lower than 50% (v) 10 points if no grant funds are requested	10	
Total Points		100	



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J. BTOP Certification Requirements

Certification (Requested for BTOP)

Please refer to upload section at the end of the document regarding following uploads.

1. U.S. Department of Commerce, Broadband Technology Opportunities Program
2. SF-424D Assurances—Construction Programs (Schedule N)
3. CD-511, Certification Regarding Lobbying (Attachment O)
4. SF-LLL, Disclosure of Lobbying Activities (Attachment P)
5. CD-512, Certification Regarding Lobbying—Lower-Tier Covered Transactions (Attachment Q) This certification will not be required until the time of the grant award, because it applies to subcontractors, etc.

K. BIP Certification Requirements

Certification (Requested for BIP)

Please refer to upload section at the end of the document regarding following uploads.

1. Equal Opportunity and Nondiscrimination Certification
2. Certification Regarding Architectural Barriers
3. Uniform Relocation Assistance and Real Property Acquisition - Policies Act of 1970 Certification
4. Certification Regarding Debarment, Suspension, and Other Responsibility Matters – Primary Covered Transactions
5. Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements



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6. Network Design and Implementation Plan Certification (to be complete for projects requesting more than \$1 million in federal assistance)

L. Schedules

Schedule: A-1 Congressional Districts

1. State the Congressional District of the Applicant's headquarters

Georgia - 10

2. State the Congressional District for each area covered by the Project.

Georgia - 6

Georgia - 9

Georgia - 10

M. Proposed Funded Service Area Details (BIP & BTOP)

13. Proposed Funded Service Area (BIP - Last Mile Projects):

Proposed Funded Service Area Name:

Census Blocks in Proposed Funded Service Area:

Community Name:

Rural Classification of the Community:

BIP - Service Status:

BIP - If Service Status is "Underserved" please select at least one applicable option from this list.
--

BTOP – Service Status:



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BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.

- Total Square Miles of Community:
- Total Population :
- Total Number of Households:
- Total Number of Businesses:
- Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities:

14. Proposed Service Area (BTOP - Middle Mile Project):

Middle Mile Span Name: Middle Mile Span #1

Census Blocks in Middle Mile Span: The character limit within this text field does not allow entry of the Census Blocks. Please see the "Service Area Map" created using the Broadband USA Mapping Tool, defined as "Habersham, White & Rabun County" under the associated Map ID Reference Number, 7F0C-1F63-4C64-B4C9.

Last Mile Service Area Name: Habersham, White, Rabun, Forsyth, Dawson, Lumpkin Counties

Community Name: Habersham, White, Rabun, Forsyth, Dawson, Lumpkin Counties

Rural Classification of the Community: Non-Rural

BIP – Service Status:

BIP - If Service Status is "Underserved" please select at least one applicable option from this list.

BTOP - Service Status: Underserved

BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

Total Square Miles of Service Area: 783

Total Population : 73,705

Total Number of Households: 33,658



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Total Number of Businesses: 7,629

Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities: 276

Middle Mile Span Name: Middle Mile Span #2

Census Blocks in Middle Mile Span: The character limit within this text field does not allow entry of the Census Blocks. Please see the "Service Area Map" created using the Broadband USA Mapping Tool, defined as "Towns County" under the associated Map ID Reference Number, 7F0C-1F63-4C64-B4C9.

Last Mile Service Area Name: Towns County

Community Name: Towns County

Rural Classification of the Community: Rural

BIP - Service Status:

BIP - If Service Status is "Underserved" please select at least one applicable option from this list.

BTOP - Service Status: Underserved

BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

Total Square Miles of Service Area: 138

Total Population : 7,093

Total Number of Households: 5,017

Total Number of Businesses: 538

Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities: 23

Middle Mile Span Name: Middle Mile Span #3

Census Blocks in Middle Mile Span: The character limit within this text field does not allow entry of the Census Blocks. Please see the "Service Area Map" created using the Broadband USA Mapping Tool, defined as "Union & Fannin County" under the associated Map ID Reference Number, 7F0C-1F63-4C64-B4C9.

Last Mile Service Area Name: Union & Fannin County



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Community Name: Union & Fannin County
Rural Classification of the Community: Rural
BIP – Service Status:

BIP - If Service Status is "Underserved" please select at least one applicable option from this list.
--

BTOP - Service Status: Underserved

BTOP - If Service Status is "Underserved" please select at least one applicable option from this list. The rate of broadband subscribership for the proposed funded service area is 40% of households or less.
--

Total Square Miles of Service Area: 212
Total Population : 6,812
Total Number of Households: 3,539
Total Number of Businesses: 1,042
Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities: 68



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Uploads

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

Upload Name
03) Q-19. Attachment A - Last Mile Offerings
04) Q-20. Attachment B - Middle Mile Offerings
05) Q-21. Attachment C - Competitor Tables
08) Q-30. Network Diagram
09) Q-31. Attachment D - Engineer Certification*
10) Q-34. Attachment E - Build-Out Timeline
11) Q-37. Management Team Resumes
12) Q-39. Organization Chart
13) Q-40. Attachment F - Legal Opinion*
16) Q-45. Attachment G - Detailed Project Cost
17) Q-47. Historical Financial Statements



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18) Q-48. Attachment H - Subscriber Estimates
21) Q-50. Attachment K - Income Statement
22) Q-50. Attachment L - Balance Sheet
23) Q-50. Attachment M - Statement of Cash Flows
24) Q-50. Financial Assumptions
25) BTOP ONLY Authentication*
26) Pg-22. BTOP ONLY Certification Requirements*
27) Pg-23. BTOP ONLY Att. N - Assur-Construction*
28) Pg-24. BTOP ONLY Attachment O - Lobbying*
29) Pg-25. BTOP ONLY Attachment P - Disclosure*
30) Pg-26. BTOP ONLY Attachment Q - Lobbying*
43) Supplemental Information 1



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44) Supplemental Information 2

To preserve the integrity of the uploaded document, headers, footers and page numbers have not been added by the system