

RECIPIENT NAME:MCNC  
AWARD NUMBER: NT10BIX5570011  
DATE: 03/22/2012

OMB CONTROL NUMBER: 0660-0037  
EXPIRATION DATE: 12/31/2013

## ANNUAL PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS

### General Information

<b>1. Federal Agency and Organizational Element to Which Report is Submitted</b> Department of Commerce, National Telecommunications and Information Administration	<b>2. Award Identification Number</b> NT10BIX5570011	<b>3. DUNS Number</b> 018946590
<b>4. Recipient Organization</b>  MCNC 3021 Cornwallis Road, Research Triangle Park, NC 27709-2889		
<b>5. Current Reporting Period End Date (MM/DD/YYYY)</b>  12-31-2011	<b>6. Is this the last Annual Report of the Award Period?</b>  <input type="radio"/> Yes <input checked="" type="radio"/> No	
<b>7. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.</b>		
<b>7a. Typed or Printed Name and Title of Certifying Official</b>  Patricia Moody  Chief Financial Officer	<b>7c. Telephone (area code, number and extension)</b>  9192481820	
	<b>7d. Email Address</b>  pmoody@mcnc.org	
<b>7b. Signature of Certifying Official</b>  Submitted Electronically	<b>7e. Date Report Submitted (MM/DD/YYYY):</b>  03-22-2012	

**OVERALL PROJECT PERFORMANCE INDICATORS**

1. Please provide the following average cost figures for your project. Please review the instructions to determine how to calculate these figures. Write "0" in the second column and "N/A" in the third column if your project does not yet have this information. Depending on whether your project contains Middle Mile and/or Last Mile components, some metrics may not apply. Please provide a narrative description if the total is different from the target provided in your baseline plan (600 words or less).

Cost Indicator	Average Cost / Speed	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Average cost per new mile (Middle Mile)	61,704.50	New miles built and fully deployed stand at 105. Total cost of engineering, construction, and relevant permits to light those segments that are in service is \$6,478,973. We are less than what was forecasted in our baseline due to lower than expected construction costs. As we deploy more miles in the areas that were cheaper, this number will continue to drop. While we had forecasted more miles to be completed at this point, they are not yet operated (i.e. equipment deployed). Even were they deployed, the cost per mile would be lower as our expenses have turned out to be lower on those segments as well.
Average cost per household passed (Last Mile)	0	N/A to our project
Average cost per subscriber (Last Mile)	0	N/A to our project
Maximum broadband speed advertised (Middle Mile)	10Gbps	10Gbps is the maximum current speed realized on our network, however the equipment deployed has the ability to scale to 100G as user needs would dictate.
Maximum broadband speed advertised (Last Mile)	0	N/A to our project
Average broadband speed provided (Middle Mile)	1.9Gbps	Four 10Gbps services have been provisioned on the MCNC portions of the network, and 17 50Mbps services have been provisioned on the FRC portions of the network.
Average broadband speed provided (Last Mile)	0	N/A to our project

2. Please provide each facility name and type, the county where the facility is located, and census tract information for any facilities funded by your project during this annual reporting period. Report only facilities for which construction has been completed.

Facility Identifier / Name	Facility Type	County	Census Tracts
N/A	N/A	N/A	N/A

Add Facility

Remove Facility

3. Please identify (1) the total number of interconnection, peering, and/or transit agreements entered into during this annual reporting period; (2) the total number of agreements of each type that you are currently negotiating; and (3) whether you have denied any request for interconnection and if so, why. If you have not entered into any agreements, please write "N/A."

**Interconnection Agreements (600 words or less)**

We have finalized two agreements with FRC and ERC related to fibers built with BTOP awards. These were agreements that were outlined in our project application and represent new access for both in these regions. No request for interconnection has been denied to any interested provider.

**Peering and Transit Agreements (600 words or less)**

There have been no peering and/or transit related agreements negotiated as part of the new infrastructure.

**CAPACITY, UTILIZATION, AND CAPABILITY INDICATORS**

**4. Community Anchor Institutions:** In the chart below, please provide information on the types of community anchor institutions capable of receiving service (i.e., anchor institutions connected to your network plus those passed by your network) as a result of BTOP funds.

Type of Community Anchor Institution	Total Number Within Service Area	Type of Community Anchor Institution	Total Number Within Service Area
Schools (K-12)	1,821	Public Housing	0
Libraries	0	Other Institutions of Higher Education	22
Medical and Healthcare Providers	3	Other Community Support Organizations	0
Public Safety Entities	0	Other Government Facilities	7
Community Colleges	17	Total Community Anchor Institutions	1,870

**5. Please indicate the average increase in broadband speed provided to the community anchor institution customers as a result of your project, including a description of how this increase was calculated (600 words or less).**

All of the community anchor institutions identified above received improved access to the NCREN backbone. They all currently have access to the North Carolina Research and Education network through third party providers. This access is enabled through regional points of presence that before the BTOP awarded infrastructure operated at a maximum sustained speed of 1Gbps. After the implementation of the BTOP network, all the POP's operated at a minimum of 10Gbps. Their ability to access internet based resources prior was limited to the capacity of this 1Gbps backbone, which was oversubscribed.

**6. What retail services are being provided by this project? Please describe below. (600 words or less). As an attachment to this report, please provide pricing plans (in \$ per month) associated with each retail service. Retail services description:**

FRC has used 2 fiber pairs (4 fiber strands) in Asheville, NC to provide ethernet based services to Verizon Wireless at approximately 17 cell tower locations. FRC charges Verizon Wireless approximately \$1,400 per month at each tower location.

**7a. What network management policies (e.g., bandwidth limitations, traffic prioritization) are in place for the services provided by your project? 7b. Have you ever limited or blocked consumers from accessing any lawful content, service, service provider, or application, or prevented any consumers from attaching any legal device to the network? If so, please explain why (300 words or less)?**

The North Carolina Research and Education Network by policy does not limit/restrict access to the network. There is no prioritization of traffic placed on the backbone for IP based services. Lambda based circuits encompass their own payload, so by nature that traffic is prioritized within the circuit design. The only filtering policies on the IP backbone that are utilized relate to anti-spoofing related filters to protect our customers, and the IP based resources of the infrastructure itself. If a site is the target of or initiating a Denial of Service attack, from time to time network access will be limited to resolve those issues. We do have a service that our K-12 community users can procure related to content filtering to satisfy CIPA (Children Internet Protection Act) requirements.

**8. If applicable, please provide the total number and the percentage of subscribers who have dropped the broadband service provided through this project (total number of households and/or businesses and the "churn rate") and the subscribers' reasons for discontinuing their service (600 words or less).**

N/A as no subscribers have dropped the service.

**9. Please provide the following information regarding the number of fiber strand-miles:**

Total Number of Strand-miles	Total Number of Active Fiber Strand-miles Used by Recipient	Total Number of Leased Fiber Strand-miles	Total Number of Dark Fiber Strand-miles	Total Number of Strand-miles Being Built		
				Active	Leased	Dark
46,562	998	246	39,942	616	0	4,760

**10. If you wholesale dark fiber, please list your wholesale customers and the number of fiber miles you currently are leasing to those customers:**

We have signed agreements with ERC for use of 6 fibers over 40 miles of the infrastructure and with Haywood County Government for use of 6 fibers over 1 mile of the infrastructure yielding the 246 miles referenced above.

<b>11. Please provide the following information regarding the facility collocation capacity:</b>			
<b>Total Facility (total square feet for all facilities)</b>	<b>Number of Square Feet Used by Recipient</b>	<b>Number of Square Feet Leased</b>	<b>Number of Square Feet Available</b>
0	0	0	0
<p><b>12. If you do not own collocation space, please describe how and where other network providers and/or customers interconnect with your network (600 words or less).</b></p> <p>North Carolina Research and Education (NCREN) POP's for this project are facilitated out of existing space with providers that MCNC leases space from or at CAI facilities in the regions the network goes through, generally university or county government facilities. These facilities allow for other carriers/customers to interconnect to us at those locations. In addition, we also had the route designed and built to allow for interconnection at all hand holes that exist along the route and have the ability to have fiber splicing occur.</p>			
<p><b>13. To the extent that you have made any subcontracts or sub grants, please provide the number of subcontracts or sub grants that have been made to socially and economically disadvantaged small business (SDB) concerns as defined by section 8(a) of the Small Business Act, 15 U.S.C. 647, as modified by NTIA's adoption of an alternative small business size standard for use in BTOP. Please also provide the names of these SDB entities (150 words or less).</b></p> <p>MCNC's efforts for socially and economically disadvantaged small (SDB) business involvement has resulted in MCNC's contractors subcontracting with seven SDB concerns:</p> <p>Indepth Utility Resources, LLC - WBE applied for              T&amp;B Drilling &amp; Electric, LLC - MBE              North Star International Group - MBE              Coastline Cable Construction - WBE applied for              Blackshear Corporation - MBE              DKL &amp; Associates - WBE              Keller Environmental - WBE</p>			
<p><b>14. Please describe any best practices/lessons learned that can be shared with other similar BTOP projects (900 words or less).</b></p> <p>Work through your permitting process as quickly as possible. Issues will undoubtedly surface that will take additional time. Do not allow your contractors that you award work to only focus on the easy elements of construction first without also addressing some of the difficult elements. We had a situation where they did all the easy stuff, let the remainder, and our prime contractor has had difficulty finding someone to complete the segment they were awarded. Award RFP's early. Implement stringent contracts for material delivery and construction delivery. Expect your legal bills to be more than you anticipated. Celebrate your successes and always look at the big picture.</p>			
<p><b>15. Using the Excel spreadsheet template titled "Annual PPR CCI Addendum", please provide an updated list of Community Anchor Institutions (CAIs) that you have connected and plan to connect to your network.</b></p>			
<p><b>16. Using the Excel spreadsheet template titled "Annual PPR CCI Addendum", please provide a list of community pairs that are receiving new or improved broadband service as a result of BTOP grant funds.</b></p>			
<p><b>17. Please provide up-to-date network route maps in a single file, in a Google Earth compatible format (e.g., KMZ file).</b></p>			