

U.S. DEPARTMENT OF COMMERCE

Performance Progress Report

2. Award Or Grant Number

37-50-M09002

4. Report Date (MM/DD/YYYY)

07-11-2011

1. Recipient Name

Rural Economic Development Center, Inc.

6. Designated Entity On Behalf Of:

The e-NC Authority

3. Street Address

4021 Carya Drive ,

8. Final Report?

Yes

No

9. Report Frequency

Quarterly

Semi Annual

Annual

Final

5. City, State, Zip Code

Raleigh, NC 27610-2914

7. Project / Grant Period
Start Date: (MM/DD/YYYY)

10-01-2009

7a. End Date: (MM/DD/YYYY)

10-01-2014

7b. Reporting Period End Date:

06-30-2011

9a. If Other, please describe:

N/A

10. Broadband Mapping

10a. Provider Table

Number of Providers Identified	Number of Providers Contacted	Number of Agreements Reached for Data Sharing	Number of Partial Data Sets Received	Number of Complete Data Sets	Number of Data Sets Verified
0	0	0	0	0	0

10b. Are you submitting the required PROVIDER DATA by using the Excel spreadsheet provided by the SBDD grants office? Yes No

10c. Have you encountered challenges with any providers that indicate they may refuse to participate in this project? Yes No

10d. If so, describe the discussions to date with each of these providers and the current status

Out of the 102 providers identified as relevant and operational, 5 have indicated that they will not provide data for the SBDD program.

These five include:

- Carolina Cable-Red Fox TV
- Lightwave Communications of North Carolina, LLC
- NC RIDE
- Red's Cable TV Inc.
- Skyenet Wireless Communications

We do not anticipate these providers changing their minds, but believe that their broadband coverage areas are very small. We believe that most of the broadband coverage in the state is captured through the 66 providers who have submitted full or partial data sets to e-NC. The remaining identified providers have been non-responsive or said they plan to participate but have not submitted actual data yet. (See detailed list of providers in the Data Package submitted in April 2011.) All large providers in the state, including Frontier Communications, are reflected in the April 2011 submission. e-NC continues to reach out to providers with communication including official data requests, and offers of technical assistance to those who have not participated to date.

10e. If you are collecting data through other means (e.g. data extraction, extrapolation, etc), please describe your progress to date and the relevant activities to be undertaken in the future

Except for the November 2009 data submission, the e-NC Authority has submitted to NTIA only provider data obtained directly from providers, and provider data is all that is reflected on the NC online broadband map at this time. As previously reported, e-NC has collected data through other means as well. These methods include: consumer data collected through survey sampling (completed in summer 2010) and Web-enabled data mining by an independent contractor (completed in late 2009 for the November 2009 data submission). e-NC has recently received the final report from its external evaluators where they compare data collection methods and provide recommendations on which methods may offer the best solutions for broadband data collection. e-NC is reviewing the report and expects to submit it to the NTIA in August 2011. Moving forward, e-NC will use these recommendations to determine how to best utilize additional data collection methods. e-NC is also continuing its GIS-based propagation modeling of wireless coverage areas. e-NC plans to continue to map and refine individual wireless providers' coverage areas every six months as new data is collected. e-NC also continuously collects broadband service inquiries directly from citizen input (including point locations) to capture unserved or underserved areas, and to compare with provider-sourced data. Follow-up with providers then takes place to reconcile the data and pursue service options for those citizens.

10f. Please describe the verification activities you plan to implement

Verification activities continue to be assessed as the data collection project moves forward. The verification activities planned are simply further refinement of the activities already initiated. e-NC continues to look at these additional possible verification activities within the following categories:

- Further automations within the broadband databases: On-going

- Additional quality control measures within datasets: On-going
- Continued exploration of additional data sources and data feedback- On-going: e-NC continues to assess additional data collection methodologies that may be used for verification purposes, and additional data sources. For example, e-NC developed its own speed test, but that data is not yet incorporated into the broader data collection process. e-NC also collects reports from citizens on no broadband access, as well as overall feedback from the online map via its Website. e-NC is still determining how to incorporate additional data collection methods and feedback into the statewide data submission along with the provider data.

10g. Have you initiated verification activities? Yes No

10h. If yes, please describe the status of your activities

- Implementation of SBDD Check Submission tool - implemented for Spring 2011 submission: This provision of an automated client-side check for geometry, expected values, and business rules allowed for streamlining validation work and ensuring statewide dataset compliance prior to submission.
- Further automations within the broadband databases– implemented for Spring 2011 submission: The e-NC Authority uses both a tabular SQL-based database and a relational geodatabase paired with PostGreSQL, to house its broadband data. The geodatabase has the same SQL-based query capabilities as the original tabular broadband database. Establishment of the SDE database set up has allowed for faster robust queries and analysis combining SQL with the mapping environment, as well as the addition of more business rules to automate the flagging of data that contradicts expected values. e-NC has also streamlined the update processes and results via automated removal of known duplicates between newly and previously submitted datasets, reducing redundant geocoding.
- Quality control measures within datasets– implemented for Spring 2011 submission: With the new relational geodatabase in place, and with the new database automations, these QC measures have been implemented for the spring 2011 data collection. See White Paper for Spring 2011.
- Comparison and evaluation of current data collection methodologies: While this activity was initially planned to be completed in 2010, it proved to be more complex than anticipated. Completion of the SDE-in-PostGreSQL database facilitated better cross-method and cross-data pull comparison. The external evaluators for e-NC completed the final report to e-NC in June 2011. The report will be submitted to NTIA in August 2011, upon final review by e-NC.

(For the remaining activities, please refer to the Q2 2011 Supplemental Answers Document.)

10i. If verification activities have not been initiated please provide a projected time line for beginning and completing such activities

All verification activities explained above are underway although e-NC continues to evaluate how additional methods can be incorporated into the current process.

Staffing

10j. How many jobs have been created or retained as a result of this project?

Jobs created or retained during the second quarter of 2011 include the following time funded through ARRA for this SBDD grant program: The e-NC Authority: 5.16 FTEs spread out over 10 staff members including administrative positions; program development, research and management; a data administrator and Geographic Information Systems (GIS) specialist, and technical and outreach work performed by the technical assistance team. Contractors under this project make up the remaining jobs created or retained. Under broadband data collection and mapping the following contractors contributed time paid by ARRA funds: Topsail Technologies: 0.06 FTEs for development and maintenance of the broadband database and geo-database. The University of NC at Greensboro: 0.94 FTEs for GIS analysts performing GIS-based radio wave propagation modeling and GIS support work for the broadband data collection efforts. Michael Baker Jr., Inc.: 0.27 FTEs in GIS analysis, program development, programming and project management for the NC Broadband Map. East Carolina University: 0.2 FTEs for research support for the overall federal grant from a research professor. Under the planning and technical assistance portion of the SBDD project, the following contractors contributed time paid by ARRA funds this quarter: East Carolina University: 0.3 FTEs for broadband consumer survey work from a research professor. Topsail Technologies: 0.36 FTEs for Website development. The total for the quarter from the e-NC Authority and contractors is 7.29 FTEs.

10k. Is the project currently fully staffed? Yes No

10l. If no, please explain how any lack of staffing may impact the project's time line and when the project will be fully staffed

N/A

10m. When fully staffed, how many full-time equivalent (FTE) jobs do you expect to create or retain as a result of this project?

The e-NC Authority is currently fully staffed. The estimated FTEs for e-NC staff for year 2 are approximately 5.1 FTEs per quarter. The total may vary slightly depending on the exact allocation of time by our 10 staff members. ARRA-reported time from contractors varies by quarter depending on the contract requirements.

10n. Staffing Table

Job Title	FTE %	Date of Hire
Executive Director, The e-NC Authority	57	

Assistant Director, The e-NC Authority	52	
Dir. of Research & Development, The e-NC Authority	28	
Sr. Telecommunications Specialist, The e-NC Authority	9	
Data Administrator/GIS Specialist, The e-NC Authority	74	02/01/2010
Communications & Outreach Director, The e-NC Authority	39	
Research Associate, The e-NC Authority	70	07/13/2010
Sr. Technical Assistance Director, The e-NC Authority	62	10/25/2010
Technical Assistance Director - East, The e-NC Authority	62	10/25/2010
Technical Assistance Director - West, The e-NC Authority	62	01/19/2011
President, Topsail Technologies (contractor/database project)	1	01/05/2010
Sr. Software Developer, Topsail Technologies (contractor/database project)	5	01/05/2010
President, Topsail Technologies (contractor/Website project)	3	10/01/2010
Sr. Software Developer, Topsail Technologies (contractor/Website project)	32	10/01/2010
Graphic Designer, Topsail Technologies (contractor/Website project)	1	10/01/2010
GIS Associate, Michael Baker, Inc. (contractor/mapping)	16	08/01/2010
GIS Specialist, Michael Baker, Inc. (contractor/mapping)	9	08/01/2010
Technical Manager, Michael Baker, Inc. (contractor/mapping)	2	08/01/2010
Sociology Professor, East Carolina University (contractor/citizen survey)	30	12/01/2009
GIS Analyst, University of NC Greensboro (contractor/GIS support)	65	06/01/2010
GIS Analyst, University of NC Greensboro (contractor/wireless modeling)	29	12/01/2009
Sociology Professor, East Carolina University (contractor/research support-mapping)	20	01/01/2010

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Sub Contracts

10o. Subcontracts Table

Name of Subcontractor	Purpose of Subcontract	RFP Issued (Y/N)	Contract Executed (Y/N)	Start Date	End Date	Federal Funds	In-Kind Funds
Telogical Systems	Web-Enabled Data Mining for Collection of Broadband Data	N	Y	10/26/2009	11/30/2009	25,000	0
University of North Carolina at Greensboro	Mobile and Fixed Wireless Propagation Modeling for NC and GIS Support	N	Y	12/01/2009	12/31/2011	289,341	64,828
University of North Carolina at Chapel Hill	Consumer Survey on Broadband Availability	N	Y	12/01/2009	07/31/2010	87,448	15,269
Foothills Connect Business & Technology Center	Collecting Broadband Data at the Consumer Level	Y	Y	01/01/2010	03/31/2010	33,749	0
Rockingham County for Rockingham County Business & Technology Center	Collecting Broadband Data at the Consumer Level	Y	Y	01/01/2010	03/31/2010	34,199	0

MCNC	Hosting and Storage of Broadband Data Database, and Development of Speed Test	Y	Y	01/01/2010	12/31/2011	66,007	0
Topsail Technologies, Inc.	Database Development and Maintenance for e-NC	Y	Y	01/05/2010	12/31/2011	95,791	0
East Carolina University	PLANNING - Citizen Surveys for Broadband Planning	N	Y	12/01/2009	12/31/2011	32,871	6,887
Strategic Networks Group, Inc.	PLANNING - Analysis of Broadband Adoption and Strategic Gaps	Y	Y	02/01/2010	10/31/2010	185,990	0
Michael Baker Jr., Inc.	GIS Mapping/Hosting for e-NC	Y	Y	08/01/2010	12/31/2011	76,627	0
Topsail Technologies, Inc.	e-NC Website Upgrades and Maintenance	Y	Y	10/01/2010	12/31/2011	74,181	0

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Funding

10p. How much Federal funding has been expended as of the end of the last quarter? \$1,893,803 10q. How much Remains? \$4,717,193

10r. How much matching funds have been expended as of the end of last quarter? \$535,485 10s. How much Remains? \$1,167,064

10t. Budget Worksheet

Mapping Budget Element	Federal Funds Granted	Proposed In-Kind	Total Budget	Federal Funds Expended	Matching Funds Expended	Total Funds Expended
Personal Salaries	\$1,587,859	\$1,012,604	\$2,600,463	\$340,323	\$283,868	\$624,191
Personnel Fringe Benefits	\$473,128	\$305,177	\$778,305	\$84,413	\$68,409	\$152,822
Travel	\$58,000	\$0	\$58,000	\$6,463	\$7,481	\$13,944
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Materials / Supplies	\$163,480	\$39,000	\$202,480	\$0	\$9,137	\$9,137
Subcontracts Total	\$2,529,372	\$230,455	\$2,759,827	\$1,012,024	\$106,481	\$1,118,505
Subcontract #1	\$0	\$0	\$0	\$289,341	\$64,828	\$354,169
Subcontract #2	\$0	\$0	\$0	\$185,990	\$0	\$185,990
Subcontract #3	\$0	\$0	\$0	\$87,448	\$15,269	\$102,717
Subcontract #4	\$0	\$0	\$0	\$95,791	\$0	\$95,791
Subcontract #5	\$0	\$0	\$0	\$353,454	\$26,384	\$379,838
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$252,020	\$115,313	\$367,333	\$0	\$60,109	\$60,109
Total Direct Costs	\$5,063,859	\$1,702,549	\$6,766,408	\$1,443,223	\$535,485	\$1,978,708
Total Indirect Costs	\$1,547,137	\$0	\$1,547,137	\$450,580	\$0	\$450,580
Total Costs	\$6,610,996	\$1,702,549	\$8,313,545	\$1,893,803	\$535,485	\$2,429,288
% Of Total	80	20	100	78	22	100

Hardware / Software

10u. Has the project team purchased the software / hardware described in the application? Yes No

10v. If yes, please list

1 laptop, \$2028, Q4 2010 (charged as mapping match)
2 laptops, \$3452, Q1, 2011 (charged as tech asst match)

10w. Please note any software / hardware that has yet to be purchased and explain why it has not been purchased

GIS software license costs may be charged to the grant in the future if the State begins to charge e-NC for use of the license.

10x. Has the project team purchased or used any data sets? Yes No

10y. If yes, please list

Web-mined data from Telogical Systems, \$25,000, Q4 2009

10z. Are there any additional project milestones or information that has not been included? Yes No

10aa. If yes, please list

Beyond continued implementation and refinement of the data collection process which currently uses provider data, and minor improvements to e-NC's online map and mapping tools, the key goals for e-NC moving forward include: determining how best to integrate other data or verification methods into the baseline provider data, how to best and most accurately aggregate data for reflection in the online map, how to quantify the data collected, how to respond to needs for more granular data, and how to effectively use the map in the fuller context of what e-NC is working on with broadband adoption and use. e-NC will continue to evaluate these issues. A method for estimating broadband access by percent of total households in a given area (state, county, multi-county region, municipality) has been developed, and is being further refined. The methodology is based on those explained by the federal program office at the SBDD grantee conference in Texas, May 2011. e-NC awaits a complete description of the program office's methodology, as mentioned in previous discussions, for comparing and/or aligning results on estimated households served. Also during this quarter the e-NC Authority has continued to refine the details of its new SBDD programs funded under the NTIA supplemental funding, looking at how these programs can complement the mapping work.

10bb. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing

- Non-Participation from Some Providers: Continued Outreach, Assistance Offered
e-NC continues to address the issue of non-compliance by individual providers directly through one-on-one interaction and more generally with collective outreach efforts (email contact, a resource page for providers on e-NC's website, instructional meetings and webinars) and the development of tools to assist their submission of data in the appropriate format. Templates for submission of data by providers continue to be provided along with opportunities for consultancy on individual provider questions, and hands-on help in identifying geographic extent of service areas.
- Timeliness of Submission: Firmer Deadline, More Standardized Process
Another challenge that remains is submission of data by providers well after deadlines set for them by e-NC, allowing insufficient time for processing and follow up, as was the case with the spring 2011 submission. For the fall 2011 submission e-NC set a firm and early deadline of July 29, to allow additional time for formatting, checking and mapping the data. Data will be accepted after the deadline on a case by case basis, although e-NC may submit prior data for providers that have submitted in past data pulls, but miss the current deadline. A request was made for providers to notify us if no change in their footprint had been made since the Spring data submission. As importantly, once the data collection process becomes even more standardized (without changes) from NTIA and e-NC, the process should be smoother.

(For the remaining challenges, please refer to the Q2 2011 Supplemental Answers Document.)

10cc. Please provide any other information that you think would be useful to NTIA as it assesses your Broadband Mapping Project

Although there have been delays in completing the evaluation of data collection methods, we feel that the overall design and approach taken is still valid and will deliver important insights to guide our mapping efforts going forward. We are anticipating the delays and challenges that moving to 2010 Census Blocks will pose for providers in the fall, and are planning additional technical assistance to offer them specifically on this issue. We also continue to look at opportunities to document best practices within this project, related to data verification systems and also specific collection methods such as the wireless propagation study.

11. Broadband Planning

11a. Please describe progress made against all goals, objectives, and milestones detailed in the approved Project Plan. Be sure to include a description of each major activity / milestone that you plan to complete and your current status

In February 2011 e-NC submitted its Detailed Project Plan to the NTIA. In June, e-NC received the grant amendment acknowledging receipt of the plan, timeline and cost estimates. Included in the plan are detailed activities for the following programs: Capacity Building, Technical Assistance, and Computer Ownership (LITE-UP). General plans for the Address File Development project were submitted with more detailed plans to follow. As explained in the plan, the remaining original broadband planning work has been rolled

into the Capacity Building program. All programs are on-track with short-term delays in the LITE-UP program. More specific updates are included in 11j.

11b. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing
The NC General Assembly, in its current session, did not extend the December 31, 2011 sunset date for the e-NC Authority. (The Senate extended it, but it was not considered in the House.) The state budget passed in June 2011 has directed that e-NC work to transfer the NTIA grant to the NC Department of Commerce. Essentially, the Republican legislature eliminated the matching funding for the e-NC Authority and placed the money in Commerce and asked Commerce to manage the grant or contract out the grant. e-NC held a conference call with the NTIA on June 1 to discuss this transfer, and has worked to keep NTIA up to date on this transition issue. As of this date, we are awaiting the conclusion of the July legislative session to see if there are any further changes. The grant may also be contracted to the Rural Center from Commerce. This has been noted to the NTIA Program Director. At the conclusion of the July legislative session we will work with relevant parties to cement a plan to continue to move the grant forward. At that time we will notify the NTIA and make all possible efforts to work with NTIA to see that NTIA can allow the grant to go forward.

11c. Does the Project Team anticipate any changes to the project plan for Broadband Planning? Yes No

11d. If yes, please describe these anticipated changes. Please note that NTIA will need to approve changes to the Project Plan before they can be implemented

Changes may need to be made to some of the elements of the supplemental programs depending on how the grant transition is finalized. The Capacity Building section will need to be reworked to reflect plans for a new state broadband initiative, rather than a state broadband authority. But in general, our intention is to protect the goals and activities of the programs as they are currently outlined, despite the transition. All changes will be submitted to NTIA for approval through our Program Officer (Lynn Chadwick). We expect it may be necessary for us to meet directly with the NTIA project office and go over the transition plan in detail. We are happy to come to Washington, DC to meet in person to ensure NTIA is fully aware of all the transition details and comfortable with the plan moving forward. Our goal is to work with partners to finalize the general transition plan in August, with a detailed plan to be submitted to NTIA by early October.

Funding

11e. How much Federal funding has been expended as of the end of the last quarter? \$0

11f. How much Remains? \$0

11g. How much matching funds have been expended as of the end of last quarter? \$0

11h. How much Remains? \$0

11i. Planning Worksheet

Personal Salaries	\$0	\$0	\$0	\$0	\$0	\$0
Personnel Fringe Benefits	\$0	\$0	\$0	\$0	\$0	\$0
Travel	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Materials / Supplies	\$0	\$0	\$0	\$0	\$0	\$0
Subcontracts Total	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #1	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #2	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #3	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #4	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #5	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0
Total Direct Costs	\$0	\$0	\$0	\$0	\$0	\$0
Total Indirect Costs	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs	\$0	\$0	\$0	\$0	\$0	\$0
% Of Total	0	0	0	0	0	0

Additional Planning Information

11j. Are there any additional project milestones or information that has not been included?

- Technical Assistance: All milestones for Quarter 2 of this program, and for the year, are on track. e-NC continues to collect

information on broadband projects and contacts around the state and work is continuing to reach out to counties on a one-on-basis. We still expect to reach all 40 Tier 1 counties by the end of the year. There have been some delays in the program due to the grant transition, as far as public relations. We want to make sure we are clear with the counties about the plan for the program moving forward and we will work to relay our transition plan once it is finalized. We are continuing to develop the broadband tool kit materials (these are being developed in-house instead of being purchased). But the communications materials will need to be re-branded once the new identity of the state broadband initiative is defined. The "My County" resource on the e-NC Website is mostly complete, with the exception of the relevant Community Anchor Institution data and information on broadband service providers (by county) (which is still being linked to the site). Currently, e-NC is finalizing a broadband survey to be distributed to counties which will serve as an assessment tool for the technical assistance program. In the project plan, this survey is referred to as The County Technology Index. In looking at how best to evaluate the technical assistance program, we have determined that an index tied more specifically to broadband will be most useful to this program. We are happy to share the final survey instrument when it is completed in Quarter 3. (For the remaining project updates, please refer to the Q2 2011 Supplemental Answers Document.)

11k. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the Project Team is employing

As noted in the last Quarterly Report, our program deliverables have been proceeding on target until this quarter. Noted above are the issues that we have encountered. The interruption (by the legislature) could not be controlled by the e-NC Authority. Despite this transition, we are working hard to keep all the grant programs moving forward and to develop a transition plan that will protect the initial intent and detailed programs of the grant.

11l. Please provide any other information that you think would be useful to NTIA as it assesses your Broadband Mapping Project

Our Broadband Mapping Project is proceeding well. Our mapping data was submitted for the Spring. Within the next two weeks, we will be submitting the research program deliverable on various methods of mapping data and cost to collect the data. Dr. Ed Feser of the University of Illinois Champaign Urbana has been the chair of our evaluator team. The three other evaluators worked with Dr. Feser to identify issues and concerns with respect to the hypothesis of our research design, the research process and recommendations for testing with respect to one more research initiative—using only one county and meshing the recommendations from the evaluator team into that county's research design. We hope that there will be enough interest to allow us to use some of the Best Practice funds in a proposed new project that will take into consideration the evaluator team recommendations on data collection methods to find the best path for verification of data in one county.

12. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purpose set forth in the award documents.

12a. Typed or Printed Name and Title of Authorized Certifying Official

Angie Bailey

12c. Telephone
(area code, number, and extension)

12d. Email Address

abailey@e-nc.org

12b. Signature of Authorized Certifying Official

Submitted Electronically

12e. Date Report Submitted
(Month, Day, Year)

07-28-2011