

U.S. DEPARTMENT OF COMMERCE

Performance Progress Report

2. Award Or Grant Number

37-50-M09002

4. Report Date (MM/DD/YYYY)

04-26-2011

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:

03-31-2011

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

In continuing to verify all the large and small providers operating or serving the state, e-NC has updated its count of providers from 114 to 102 (meaning some that operated at one point are no longer in business). Out of the 102 identified providers, only 4 have indicated that they will not provide data for the SBDD program. These four include:

- Carolina Cable-Red Fox TV
- 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 59 providers submitting new full or partial data sets, plus 6 whose data from a prior submission has been resubmitted. The remaining identified providers have been non-responsive or said they plan to participate but have not submitted the 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 and offer 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

Through the Spring 2011 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/early 2010). e-NC is still awaiting the final report from its external evaluators where they are comparing data collection methods and providing recommendations on which methods offer the best solutions for broadband data collection. e-NC has received a draft of the report and expects it to be completed in Quarter 2, at which time e-NC will finish assessing how best to move forward with additional methods. e-NC is also continuing its GIS-based modeling to map wireless coverage areas based off of equipment specifications provided by the wireless companies. e-NC plans to continue to map and refine individual wireless providers' coverage areas every six months as new data is collected.

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. This input could be used to further verify collected data. e-NC is still determining how to incorporate additional data collection methods and feedback into the provider data.

10g. Have you initiated verification activities? Yes No

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

Details on the verification activities already initiated are also included in the latest White Paper/Data Collection Methodology submitted to NTIA.

- Implementation of the newly-provided SBDD Check Submission tool - implemented for Spring 2011 submission: This recent 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 flag 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.
- Comparison and evaluation of current data collection methodologies– final report to be completed in Q2 2011: While this activity was initially planned to be completed in 2010, it has proved to be more complex than anticipated. Recent completion of the SDE-in-PostGreSQL database has better facilitated cross-method and cross-data pull comparison. The external evaluators for e-NC are currently completing the final report to e-NC which should be finalized in Q2 2011.

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 first quarter of 2011 include the following time funded through ARRA for this SBDD grant program: The e-NC Authority: 4.49 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: 0.24 FTEs for development and maintenance of the broadband database and geo-database. Michael Baker Jr., Inc.: 0.34 FTEs in GIS analysis, program development, programming and project management. Under the planning and technical assistance portion of the SBDD project, the following contractors contributed time paid by ARRA funds this quarter: Topsail Technologies: 0.69 FTEs for Website development. The total for the quarter from the e-NC Authority and contractors is 5.76 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	60	
Assistant Director, The e-NC Authority	50	
Dir. of Research & Development, The e-NC Authority	30	
Sr. Telecommunications Specialist, The e-NC Authority	7	

Data Administrator/GIS Specialist, The e-NC Authority	55	02/01/2010
Communications & Outreach Director, The e-NC Authority	29	
Research Associate, The e-NC Authority	51	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	42	01/19/2011
President, Topsail Technologies (contractor/database project)	0	01/05/2010
Sr. Software Developer, Topsail Technologies (contractor/database project)	24	01/05/2010
President, Topsail Technologies (contractor/Website project)	29	10/01/2010
Sr. Software Developer, Topsail Technologies (contractor/Website project)	34	10/01/2010
Graphic Designer, Topsail Technologies (contractor/Website project)	6	10/01/2010
GIS Associate, Michael Baker, Inc. (contractor/mapping)	10	08/01/2010
GIS Specialist, Michael Baker, Inc. (contractor/mapping)	18	08/01/2010
Sr. Software Developer, Michael Baker, Inc. (contractor/mapping)	4	08/01/2010
Technical Manager, Michael Baker, Inc. (contractor/mapping)	2	08/01/2010

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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	11/11/2011	270,877	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	63,019	0
Topsail Technologies, Inc.	Database Development and Maintenance for e-NC	Y	Y	01/05/2010	12/31/2011	90,069	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	50,908	0
Topsail Technologies, Inc.	e-NC Website Upgrades and Maintenance	Y	Y	10/01/2010	12/31/2011	33,670	0

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Funding

10p. How much Federal funding has been expended as of the end of the last quarter? \$1,614,721 10q. How much Remains? \$4,996,275

10r. How much matching funds have been expended as of the end of last quarter? \$436,406 10s. How much Remains? \$1,266,143

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	\$252,254	\$218,395	\$470,649
Personnel Fringe Benefits	\$473,128	\$305,177	\$778,305	\$62,252	\$52,339	\$114,591
Travel	\$58,000	\$0	\$58,000	\$2,305	\$7,437	\$9,742
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Materials / Supplies	\$163,480	\$39,000	\$202,480	\$0	\$9,109	\$9,109
Subcontracts Total	\$2,529,372	\$230,455	\$2,759,827	\$915,370	\$89,016	\$1,004,386
Subcontract #1	\$0	\$0	\$0	\$270,877	\$64,828	\$335,705
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	\$90,069	\$0	\$90,069
Subcontract #5	\$0	\$0	\$0	\$280,986	\$8,919	\$289,905
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$252,020	\$115,313	\$367,333	\$0	\$60,110	\$60,110
Total Direct Costs	\$5,063,859	\$1,702,549	\$6,766,408	\$1,232,181	\$436,406	\$1,668,587
Total Indirect Costs	\$1,547,137	\$0	\$1,547,137	\$382,540	\$0	\$382,540
Total Costs	\$6,610,996	\$1,702,549	\$8,313,545	\$1,614,721	\$436,406	\$2,051,127
% Of Total	80	20	100	79	21	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. These are key items for e-NC and the mapping program that we continue to evaluate. For example, there is a bill in the NC General Assembly which defines unserved areas in the state as census blocks in which at least 50% of households either have no access to high-speed Internet service or have access to high-speed Internet service only from a satellite provider. e-NC is considering how these areas can actually be defined based on the granularity of the current e-NC data. e-NC will continue to look at these issues.

Also during this quarter the e-NC Authority has continued to work 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 conversations and more generally with collective outreach efforts (email contact, a new 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. Some providers understand their serviceable areas but not in terms of census block, so e-NC has helped them identify the census blocks using custom, interactive local area maps using ArcReader, a free downloadable map software by ESRI.

- 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 plans to set a firm and early deadline (possibly as early as July 31), to allow additional time for formatting, checking and mapping the data. Data will not be accepted after the deadline, although e-NC may submit prior data for providers that have submitted in past data pulls, but miss the current deadline. As importantly, once the data collection process becomes even more standardized (without changes) from NTIA and e-NC, the process should be smoother.

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. As explained in the plan, the remaining original broadband planning work has been rolled into the Capacity Building program under the new SBDD supplemental programs. There are no new planning items to report on for quarter 1. Capacity Building is covered in 11.j.

11b. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing

None at this time.

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

None at this time.

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 1 of this program were met. The final technical assistance director (for Western NC) joined the e-NC staff in January 2011. e-NC held six of the seven scheduled Regional Meetings in Quarter 1 (with the last meeting to be held in Quarter 2). The meetings were held around the state and highlighted e-NC's new NC Broadband Map, the data collected from the broadband survey by Strategic Networks Group, the launch of the technical assistance program, and updates on the BTOP/ BIP grants in the regions. The technical assistance team has worked with the full e-NC staff to continue to look at details of the technical assistance program, the different types of broadband needs around the state, how best to reach the targeted counties, and what materials and resources are most needed by the communities. While program details and structure is being finalized, the TA team continued to respond to specific requests for assistance from counties and communities around the state in helping with their broadband projects.
- **LITE-UP (Linking Internet To Economically Underprivileged People)/Computer Ownership:** All quarterly milestones of this program were met in Quarter 1. In general, this quarter was dedicated to program planning and the first meeting of the advisory group was held on January 31. Tentative counties for the project, with the needed attributes, have been selected. The e-NC staff has been meeting with the telecommunications provider partners for the project and the local Departments of Social Services to further define the logistical and contractual details to be worked out in order to roll-out the program. e-NC has developed a draft LITE-UP process – from initially informing potential participants about the program, to sign-up, computer delivery, installation of DSL and training. For more details, please refer to the Q1 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

Since these programs are just being developed, we have not yet encountered any substantial challenges or obstacles. However, detailing the roll-out of the programs has taken much time and thought.

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

None at this time.

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)

04-29-2011