

U.S. DEPARTMENT OF COMMERCE

Performance Progress Report

2. Award Or Grant Number
37-50-M09002

4. Report Date (MM/DD/YYYY)
10-24-2010

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

8. Reporting Period End Date:
(MM/DD/YYYY)
09-30-2010

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
113	113	63	18	38	56

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 the Spring 2010 data submission, 46 of the 95 identified broadband companies in NC did not submit data, yet those that did participate provided data that covered almost all of the state's geographic area. Many smaller providers continue to indicate that they struggle with time and capacity for collecting and submitting the data or they do not respond at all. A few have specifically said that they will not participate and have asked that we not contact them further. The Fall 2010 data pull did experience an increase in responses (56 data submissions versus 47 in spring), but the list of total providers contacted also grew due to additional providers being identified, and the portion of nonresponsive providers remains at approximately half. Most of these are small wireless providers with whom e-NC is still working to make further contact and/or research to determine whether they are still in operation.

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

NC BRIM (NC Broadband – Rigor in Mapping) is the name for e-NC's overall mapping and planning project under the SBDD program. NC BRIM was designed as a highly structured experimental protocol to test alternative methodologies for collecting broadband data that meet the specifications of the NTIA. Four distinct approaches to collection of the NTIA specified data have been successfully deployed and data from all methods has been collected and entered into a database developed to support cross-comparisons at the census block level. The methods employed include: provider data obtained directly from providers, consumer data collected through survey sampling, statewide GIS-based wireless propagation studies, and Web-enabled data mining by an independent contractor. All individual methods are now complete. e-NC is still working with its database contractor and external evaluators to determine how to compare results within the broadband database and assess how the data from each method differs and which methods offer the best solutions for broadband data collection. The e-NC Authority expects to continue some, but not all of these additional data collection methods in future data pulls.

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

The NC BRIM project was designed to compare multiple methods of data collection, with the comparison of these multiple methods providing an avenue for data verification and determination of the strongest data collection methods. Within each method itself are also multiple opportunities for various internal verification processes. The consumer survey uses call-backs to respondents to verify responses. The wireless propagation uses field testing for verification. e-NC is still evaluating the data collection methods as mentioned above, including comparison of methods and strengths and accuracies within each method. In addition, as a result of working with the data for much of this year, we are working to develop and document verification processes that come through compiling and formatting the provider data and loading it into the geodatabase. Similarly, we are working to determine the optimum ways to use the database to help us compare data from one pull to the next and to avoid re-coding data for each pull. These verification processes continue to be developed and will be documented in a separate submission to NTIA.

10g. Have you initiated verification activities? Yes No

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

Verification activities are still in initial stages of implementation. The NC BRIM project is designed to assess the relative merit and accuracy of different approaches to broadband data collection, including provider-centric, consumer-based and technology-enhanced independent methods. It includes internal and cross-method validation of results. All data collection methods were deployed by the beginning of the second quarter and the collection phase for all methods except the wireless propagation study was completed by the end of the second quarter. The wireless data was completed during the third quarter, with the validation of the wireless propagation data through field studies conducted during full tree leaf canopy, and a final report will soon be submitted to e-NC. Since the NTIA-submission format changed (to geodatabase) from the structure used when the cross-method analysis was designed, conversion of the modeled wireless data must be completed and then we will be able to conduct the cross-method analysis using evaluators. Both manual and some automated verification on individual datasets have already been conducted on provider data, wireless model data, and consumer surveys. This verification is what we indicate by listing 56 datasets as verified for the Fall data submission.

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

We expect the analysis of the data collection methods, and comparison of data between methods, to be completed in fourth quarter 2010. Also in the fourth quarter, we will complete and submit an outline/white paper of verification methods we have been using in compiling and formatting of the provider data. We also believe that verification methods will continue to evolve and solidify during the life of the project.

Staffing

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

7.12 jobs were created or retained in third quarter 2010 as a result of the NTIA SBDD funding. This figure includes the ARRA-funded e-NC staff time and time from our sub-recipients.

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

The mapping project is fully staffed. e-NC has reorganized some of its positions over the past six months due to staff departures and new positions under the SBDD supplemental funding. The additional positions under the Technical Assistance piece of the supplemental funding will be in place in the fourth quarter. With the full staff in place under the supplemental funding, e-NC will be submitting to NTIA in the fourth quarter an updated schedule of personnel time allocation on each SBDD program, for NTIA's consideration, with the overall personnel line item remaining essentially unchanged.

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

e-NC staff time for year one of the mapping and planning work has been estimated at the equivalent of 2.45 FTEs. As mentioned above, e-NC is adding three staff members under the Technical Assistance program of the supplemental funding, which will be reported in next quarter's report. Time dedicated by sub-recipients is difficult to estimate as it changes each quarter depending on the work underway. Some agreements are fixed price agreements without a specific number of hours outlined in the agreements. Nevertheless, e-NC and all sub-recipients report their total hours spent on the project under ARRA-funding each quarter. Note: the staffing table below represents estimated personnel time in the original budget for year one. e-NC is currently working to revise its personnel time allocation based on staffing changes and personnel changes with the awarding of the supplemental funding. In next quarter's report we will include revised staffing information for year two which begins October 2010.

10n. Staffing Table

Job Title	FTE %	Date of Hire
Executive Director	20	
Dir. of Research & Development	35	
Data Administrator/GIS Specialist	75	02/01/2010
Telecommunications Specialist	30	
Telecommunications Network Specialist	60	

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	N	Y	12/01/2009	11/30/2010	\$265,981	\$64,828
University of North Carolina at Chapel Hill	Consumer Survey on Broadband Availability	N	Y	12/01/2009	07/31/2010	\$129,782	\$22,661
Foothills Connect Business & Technology Center	Collecting Broadband Data at the Consumer Level	Y	Y	01/01/2010	03/31/2010	\$35,980	\$0
Rockingham County for Rockingham County Business & Technology Center	Collecting Broadband Data at the Consumer Level	Y	Y	01/01/2010	03/31/2010	\$35,265	\$0
MCNC	Hosting and Storage of Broadband Data Database	Y	Y	01/01/2010	12/31/2011	\$70,489	\$0
Topsail Technologies, Inc.	Database Development and Maintenance for e-NC	Y	Y	01/05/2010	09/30/2010	\$49,250	\$0
East Carolina University	PLANNING - Citizen Surveys for Broadband Planning	N	Y	12/01/2009	12/31/2011	\$65,741	\$19,588

Strategic Networks Group, Inc.	PLANNING - Analysis of Broadband Adoption and Strategic Gaps	Y	Y	02/01/2010	09/30/2010	\$185,990	\$0
Michael Baker Jr., Inc.	GIS Mapping/Hosting for e-NC	Y	Y	08/01/2010	12/31/2010	\$148,938	\$0

Funding

10p. How much Federal funding has been expended as of the end of the last quarter? \$1,101,882 10q. How much Remains? \$5,509,114

10r. How much matching funds have been expended as of the end of last quarter? \$282,810 10s. How much Remains? \$1,419,739

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	\$104,391	\$100,296	\$204,687
Personnel Fringe Benefits	\$473,128	\$305,177	\$778,305	\$25,761	\$23,438	\$49,199
Travel	\$58,000	\$0	\$58,000	\$94	\$6,172	\$6,266
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Materials / Supplies	\$163,480	\$39,000	\$202,480	\$0	\$5,463	\$5,463
Subcontracts Total	\$2,529,372	\$230,455	\$2,759,827	\$711,592	\$87,531	\$799,123
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	\$252,020	\$115,313	\$367,333	\$0	\$59,910	\$59,910
Total Direct Costs	\$5,063,859	\$1,702,549	\$6,766,408	\$841,838	\$282,810	\$1,124,648
Total Indirect Costs	\$1,547,137	\$0	\$1,547,137	\$260,044	\$0	\$260,044
Total Costs	\$6,610,996	\$1,702,549	\$8,313,545	\$1,101,882	\$282,810	\$1,384,692
% Of Total	80	20	100	80	20	100

Hardware / Software

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

10v. If yes, please list

One (1) laptop for e-NC GIS Specialist, purchased first quarter 2010. An additional laptop purchased in third quarter 2010 for the Research Associate.

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

No additional hardware or software has been needed at this time.

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

10y. If yes, please list

Web-mined data from Telogical Systems (Oct. 2009)

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

10aa. If yes, please list

The e-NC Authority continues to work with our contractor to develop the online map to display broadband availability data by census block and street segment for the state of North Carolina. We anticipate that the first version of this map will be released online in early November. Also during this quarter the e-NC Authority worked closely with the NTIA to provide additional information on our Amended and Supplemental Application for the SBDD grant program which will provide extended mapping funds to e-NC through October of 2014.

10bb. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing
We are addressing the issue of non-compliance by individual providers directly through one-on-one conversations and more generally with both collective outreach efforts and the development of tools to assist their submission of data in the appropriate format. A webinar for providers for the second data pull was held on Monday, July 26. Providers were also invited and a number attended at the webinar site - the Rural Center. Providers reviewed the instructional attachment for this second data pull and had the opportunity to ask questions of our GIS data specialist. Templates for submission of data by providers are being 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 ArcExplorer, a free downloadable map software by ESRI. Mixed geometries for census block level data were provided to e-NC, which was disallowed in the fall, so e-NC worked with mapping techniques to "translate" 2009 geometry to 2000 while minimizing inaccuracies and developed a "best method" described in the metadata. Our change to an externally-created geodatabase for fall data with new business rules while still processing spring data from multiple methods in a tabular database format for follow-through on evaluation created a bottleneck effect on staff resources and sharply limited the implementation of more robust validation techniques e-NC had planned to conduct in fall. To mitigate this problem e-NC has discussed the process as a team, begun training a staff member to help the GIS Specialist with data collection from providers, budgeted some funds to acquire contracted backup assistance with geocoding and perhaps other mapping processes, and is pursuing some streamlining approaches to the provider update process designed to save overall time required with subsequent data pulls.

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 some delays in obtaining data according to the original schedule and in implementing the evaluation project, 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 changing to 2009 Census Blocks will pose for providers, 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. With completion of the wireless model, a write-up on best practices and lessons learned from the wireless study is currently being finalized. This report will be submitted directly to NTIA program officers.

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

Citizen Survey: The Citizen Survey conducted by East Carolina University was completed during the first quarter of 2010, with the final results compiled and analyzed in the second and third quarters of 2010. In the third quarter, a subset of questions on this survey was carefully matched to similar questions on the Consumer Survey to provide cross-validation between the statewide Citizen Survey and the 19-county Consumer Survey. The final Citizen Survey report will be provided to NTIA under separate cover.

e-Solutions Citizen and Business Benchmarking by our contractor, Strategic Networks Group (SNG): research was initiated and completed during the second quarter 2010, with the final report almost completed at the end of the third quarter. More than 63,000 businesses and 30,000 homes were surveyed on issues related to broadband adoption and use. In addition, sector-focused surveys of specific areas of telehealth, nonprofits and government were conducted statewide. Staff of e-NC worked with SNG and sector leadership to tailor the survey to these sectors and obtain the appropriate contact information. A draft technical report was reviewed. E-strategies solutions have been proposed. We will now move to the next process of implementation. We will deliver the most useful information to the various constituencies targeted by this study-households and businesses, as well as health, local government and

nonprofit industries. Results have already been used in developing plans for extended outreach, technical assistance and capacity building efforts that comprise the planning initiatives proposed in the e-NC's supplemental SBDD application. The final SNG report will be provided to NTIA under separate cover. (See additional reporting in the extra attachment to this report.)

11b. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing
Not all of the original planning projects have been completed in year one of the grant. However, in the first month of the fourth quarter we have completed hiring for three major positions of our team (2 members of our new technical assistance team and a new Communications & Outreach Director). With the recruitment of one additional technical assistance team member, this will bring us to full strength in our technical assistance team and our full e-NC staff for the next several years. Our technical assistance and outreach team, with the SBDD supplemental funding, will allow for much expanded broadband planning work within the state in the upcoming year.

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

The broadband planning work will change just in that it will be integrated within the programs of the SBDD supplemental funding, especially the technical assistance program. We will still complete all the original planning goals, but will be able to complete much more extensive planning activities with this additional time and funding.

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

Planning Budget Element	Federal Funds Granted	Proposed In-Kind	Total Budget	Federal Funds Expended	Matching Funds Expended	Total Funds Expended
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?

No.

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

None other than those previously mentioned within the report.

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

Final reports from our completed studies (such as the Citizen Survey and SNG Survey) will be submitted to NTIA under separate cover, as mentioned earlier in the report.

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

Jane S Patterson

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

919 250-4314

Exec Dir, The e-NC Authority

12d. Email Address

jpatterson@e-nc.org

12b. Signature of Authorized Certifying Official

Submitted Electronically

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

10-29-2010

Performance Progress Report
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