

14Q4_Supplemental Answers_Tennessee

Connected Tennessee

Grant Number 47-50-M09041

Reporting Period End Date 12-31-14

14 a_Project Attachment_Data Collection

2. Describe any additional project milestones that have been accomplished over this reporting period (exp: updates to state broadband maps and websites, map outreach activities).

Following the final semi-annual broadband data submission, maps were updated on the program website and were provided to stakeholders during Q4. Items updated with the October 1, 2014, datasets include the following:

- Broadband Availability Maps at 768 Kbps (kilobytes per second) Download/200 Kbps Upload
- Unserved Density Maps
- Broadband Availability Maps at 3 Mbps (megabytes per second) Download/768 Kbps Upload
- Maximum Advertised Download Speed Maps (Residential)
- Providers by County Lists (PDF and XLS)
- Underserved Area Maps
- Multi-Single Platform Maps
- Provider Density Maps
- My ConnectView Interactive Map
- County Availability Statistic Maps
- Broadband Growth Maps
- Congressional District Broadband Availability Maps

The interactive mapping web application, called My ConnectView, continues to be maintained. The application is housed in a highly available, monitored, and managed environment. My ConnectView is publicly available online at <http://www.connectedtennessee.org>. There were a total of 615 visits to the interactive map between October 1 and December 31, 2014.

During this quarter, the project received a total of 12 broadband inquiries. Additional information received through e-mail from consumers that was also used for verification purposes totaled 3 for this quarter.

4. Provide any other information or statistics that you think would be useful to NTIA as it assesses your broadband data collection, validation, and publication activities.

Geographic Information Systems (GIS) staff created Connect America Fund maps that displayed census blocks challenged by both price-cap and non-price cap carriers.

Engineering and Technical Services (ETS) staff continued working with providers this quarter in an effort to maintain relationships that might further assist the state as well as the provider community. In conjunction with other program resources, ETS staff helped providers to process their service data and

maps. Furthermore, as a result of the providers' comfort level with the program staff, ETS representatives responded to a number of varied questions and requests.

Additionally, special effort was made to keep providers and state stakeholders informed of broadband data collection activities. This included distributing materials and discussing information regarding the Federal Communications Commission (FCC) Form 477, and changes that were implemented by the FCC for the State Broadband Initiatives (SBI) final semi-annual data submission. Staff kept providers up-to-date on the various changes that took place between October and December. ETS staff also assisted many providers in obtaining and formatting the necessary data for the deployment portions of the Form 477, as much of this data paralleled the SBI data collection activities.

The ETS group worked to conduct in-depth reviews of unserved and underserved areas, with particular interest paid to those areas with close proximity to existing services. The goal of this review was to bring awareness of these areas to existing local providers and to further understand the dynamics of particular census blocks and the challenges that exist to offering services.

Community Anchor Institution (CAI) data collection continues to come in based on local community planning efforts across the state.

14a_Project Attachment_Capacity Building

2. Describe your progress meeting each major activity/milestone approved in the Project Plan for this project; any challenges or obstacles encountered and mitigation strategies you have employed; planned major activities for the next quarter; and any additional project milestones or information.

Capacity Building milestones for Year 5, Quarter 4 per approved project plan:

Milestone: Complete update of all priority location information on TVA website.

This milestone was met. Program staff has continued to monitor the Tennessee Valley Authority (TVA) maintained business site location data and correspondingly updates the interactive broadband map data layer. These sites, along with all priority Select Tennessee Certified Site locations announced to date, have been made publicly available for viewing and data request via My ConnectView, the program's interactive online broadband mapping application. Additionally, preliminary meetings with TVA representatives were held during Q4 2014, though subsequent follow-up meetings had to be rescheduled and will take place in Q1 2015.

Milestone: Review complete updated collection of all priority location data with State.

This milestone was met. Priority Select Tennessee Certified Sites were identified in consultation with the state's primary contact responsible for the program. Additional analysis including proximity to three nearest points-of-presence, middle-mile transmission technology, and maximum advertised residential download speed were performed for each of these priority sites and this information was supplied to the state contact during Q4 2014.

Year 5 Capacity Building Annual Outcomes per approved project plan:

Annual Outcome: Update the inventory and map of industrial parks, business parks, and other priority business sites and locations across the State of Tennessee as required by the State. Primary

corresponding activities include collecting current inventory of industrial sites from Tennessee Valley Authority (TVA), determine project requirements for park location mapping, creating a template for telecommunications information, beginning field work and geocoding, digitizing park information collected for mapping, incorporating broadband information into the datasets and working with providers to add telecommunications information.

This milestone was met. During 2014, program staff worked with provider, TVA, and state contacts to update the inventory and map of business and industrial sites and priority Select Tennessee Certified Sites identified by the state. The accomplishment of this milestone included collecting current inventory of industrial sites from TVA and Select Tennessee Certified Sites from the Tennessee Department of Economic & Community Development (ECD), creating the template for telecommunications information, mapping, and geocoding, and digitizing and incorporating broadband information for each.

14b_Project Attachment_Technical Assistance

2. Describe your progress meeting each major activity/milestone approved in the Project Plan for this project; any challenges or obstacles encountered and mitigation strategies you have employed; planned major activities for the next quarter; and any additional project milestones or information.

Technical Assistance milestones for Year 5, Quarter 4 per approved project plan:

Milestone: Close out technical assistance projects from Year 5.

This milestone was partially met. Meetings were held with local project teams to evaluate lessons learned and best practices from Year 5 projects, and a formal report on Year 5 projects is partially completed and anticipated to be completed and delivered to our stakeholders in Q1 2015.

Staff held a meeting in Henry County at the Chamber of Commerce on October 1 with a stakeholder group to discuss possible projects. The Transportation Coordinator/Grants Writer of the Northwest Development District, the CEO of TenCom, and several community leaders were present while the President and CEO of the Nashville Technology Council participated via teleconference. Changes in local leadership have influenced priorities and have slowed progress. However, they are working on a technology assessment through the employment of the Connected program.

Rutherford County Government submitted an expression of interest to the FCC as a part of the Rural Broadband Experiment application process. The expectation of such a project would be the ability to consumer demand for a population that continues to outpace projections. Rutherford County Government is seeking providers to expand and improve connectivity in the community. The Rutherford County leadership team has been engaged in the Connected process in an effort to assess the county's current state of broadband access, adoption, and use.

The City of Martin and Madison County are engaged and plan to continue to work on their technology assessment. They have identified action items to improve broadband connectivity in the community but have not actively begun implementation. In Madison County a provider is getting ready to roll out improved connectivity speeds.

Staff continued to engage Dyersburg stakeholders on the Connected community engagement program, but at this point they have other projects that are of higher priority for them.

Montgomery County leaders held an initial community meeting October 10 where discussion occurred regarding the county's participation in the technology assessment program. A community champion has been identified and the team has made great progress on their assessment. They hope to complete the assessment next quarter.

Program staff met with Bramblett Group in Chester County during Q4 2014. Mr. Bramblett is the new president of the Chamber and at this time the community is working closely with Aeneas to expand broadband in the area. The Chamber discussed the Connected community engagement program at the board meeting, but may not have sufficient staff to proceed with an assessment at this time.

The Washington County Technology Assessment Team, MBA (Masters of Business Administration) student research team, met on a weekly basis beginning in September through the first week in December. Bi-weekly conference calls were held with the research team and members of the Johnson City, Tennessee Chamber of Commerce to keep everyone on track to complete all aspects of the assessment by December. The research team's findings were presented on December 9, 2014 to 24 Technology Team members and invited guests including, the Washington County Mayor and representatives from Congressman Phil Roe's office. The presentation outlined the findings and provided unofficial access, adoption and use scores. The community is on track to be the third certified Connected community in the state. The priority project that resulted from the team's assessment process is a pilot program through Johnson City Power Board to deliver broadband via fiber to businesses within their service footprint. The project is planned to commence in March 2015.

Greene County completed their assessment and plans to hold a community meeting to discuss weaknesses in the areas of access, adoption, and use of broadband in Q1 2015.

Union County's vertical assets inventory including Engineering and Technical Services' in-depth review of viable broadband expansion options was completed in December 2014. The final document was delivered to Union County, via e-mail to their Chamber of Commerce President and the County Mayor, during Q4 2014.

Milestone: Analyze 2014 residential survey research results.

This milestone was met. Program staff finished the data collection and conducted initial analyses. After these initial research results were peer reviewed and verified, staff submitted the same to the National Telecommunications and Information Administration (NTIA), ECD, and other stakeholders. In addition, based on feedback from ECD and other stakeholders, staff performed further analyses and finalized results for public release.

Milestone: Finalize and distribute 2014 statewide residential survey research results.

This milestone was partially met. Program staff conducted initial analyses, generated reports detailing initial results, data collection, and analysis methodology, finalized these reports incorporating the peer reviewer's feedback and stakeholders' requests, and delivered finalized reports to NTIA and ECD as well as other stakeholders. The results have been released publicly via an update on the program website. In light of the holidays and in an effort to increase the number of media views for these findings, staff opted to wait until Q1 2015 to issue a press release highlighting the findings of the survey.

Milestone: Complete comprehensive report to cover work completed and best practices from technical assistance projects in Years 2, 3, 4, and 5.

This milestone was partially completed. Local projects from Year 5 were evaluated, while completion and distribution of comprehensive reports for Year 5 and Years 2-5 were still under development at the close of the quarter. The report is anticipated to be completed and delivered to stakeholders in Q1 2015.

Outstanding Technical Assistance milestones (previously partially met or unmet) per approved project plan:

Year 5, Quarter 3 Milestone: Perform 2014 analysis on targeted broadband growth areas.

This milestone was met. In Q3 2014, program staff developed and maintained resources regarding connectivity “problem spots” and worked with state, regional, and local stakeholders to promote awareness to the information and analyses. Multiple community partners organized and engaged around these efforts including stakeholder and provider outreach in Rutherford and Anderson Counties and Stage 1 of a vertical assets inventory in Union County.

In Q4 2014, ETS staff conducted, compiled, and released a build-out analysis report focused on the inventory and assessment of Union County vertical assets. The primary objective of ETS’s evaluation was to examine Union County’s overall fitness for broadband growth if existing vertical infrastructure were to be employed in expansion efforts. Prior to conducting on-site inspections and validations, the ETS Engineer conducted desktop research to determine where broadband access may be deficient as well as to gain a better understanding of both wired and wireless broadband availability throughout the county. Following the on-site evaluations, vertical asset inventory findings collected in the field were then used by ETS to develop Point-to-Point studies for each viable vertical asset. A final Composite Coverage Map and report were developed throughout the course of these studies to depict a “best case scenario” model of deployment on existing vertical assets.

Year 5 Annual Technical Assistance Outcomes per approved project plan:

Annual Outcome: Close out Year 4 technical assistance projects by planning and facilitating meetings with local project teams to evaluate lessons learned and best practices from Year 4 projects. Compile meeting notes, lessons learned, and best practices. Create formal report on best practices and lessons learned from Year 4 local projects and bring awareness to project successes via press releases, website updates, blog, or as required by stakeholders.

This milestone was partially met. Program staff conducted best practices evaluation for Year 4 technical assistance projects including the recognition of Sullivan County and Morristown as certified Connected communities and the engagement of local technology champions and teams in Jackson/Madison County, Green County, Washington County, the City of Martin, and the Frayser and Lakeland communities in Shelby County, among others. Meeting notes and best practices were documented and project successes were issued via media releases, blogs and website updates, as appropriate.

Annual Outcome: Collaborate with communities within the State of Tennessee using the Connected community engagement program to identify and develop criteria and priorities for technical assistance project selection for Year 5. Corresponding primary activities include coordinating local technology teams, planning, scheduling, and developing an agenda for the meeting, documenting meeting notes, criteria, evaluating community technology & broadband information, and priorities for project selection. Based on the communities' or State's guidance of criteria and priorities, 3 to 6 projects will be selected to be implemented in Year 5. Connected Tennessee will work with local project teams to develop project charters, kickoff the selected projects via press release or as

instructed by the community or State of Tennessee and continue to track and document project progress.

This outcome was met. Staff corresponded with local technology planning teams, scheduled, developed agendas, documented meeting notes, and assisted in the evaluation of community technology and broadband data. Teams engaged this quarter include Washington County, Greene County, and Union County.

The Washington County Technology Assessment Team, MBA student research team, met on a weekly basis beginning in September through the first week in December. Bi-weekly conference calls were held with the research team and members of the Johnson City Chamber of Commerce to keep everyone on track to complete all aspects of the assessment by December. The research team's findings were presented on December 9, 2014 to 24 Technology Team members and invited guests including, the Washington County Mayor and representatives from Congressman Phil Roe's office. The presentation outlined the finding and provided unofficial access, adoption, and use scores. The community is on track to be the third certified Connected community in the state. The priority project that resulted from the team's assessment is a pilot program through Johnson City Power Board to deliver broadband via fiber to businesses within their service footprint. The project is planned to commence in March 2015.

Greene County completed their assessment and plans to hold a community meeting to discuss weaknesses in the areas of access, adoption, and use of broadband in Q1 2015.

Union County's vertical assets inventory including Engineering and Technical Services in-depth review of viable broadband expansion options was completed in December 2014. The final document was delivered to Union County, via email to their Chamber of Commerce President and the County Mayor, in Q4 2014.

Annual Outcome: Complete 2014 analysis of broadband build out for areas prioritized based on level of need by identifying areas with the largest need for broadband build out from existing maps and research data, conducting an analysis of available assets for build out, and conducting a build out analysis study and compiling a report.

This annual outcome was met. In Q3 2014, program staff developed and maintained resources regarding connectivity "problem spots" and worked with state, regional, and local stakeholders to promote awareness to the information and analyses. Multiple community partners organized and engaged around these efforts including stakeholder and provider outreach in Rutherford and Anderson Counties and Stage 1 of a vertical assets inventory in Union County.

In Q4 2014, ETS staff conducted, compiled, and released a build-out analysis report focused on the inventory and assessment of Union County vertical assets. The primary objective of ETS's evaluation was to examine Union County's overall fitness for broadband growth if existing vertical infrastructure were to be employed in expansion efforts. Prior to conducting on-site inspections and validations, the ETS Engineer conducted desktop research to determine where broadband access may be deficient as well as to gain a better understanding of both wired and wireless broadband availability throughout the county. Following the on-site evaluations, vertical asset inventory findings collected in the field were then used by ETS to develop Point-to-Point studies for each viable vertical asset. A final Composite Coverage Map and report was developed throughout the course of these studies to depict a "best case scenario" model of deployment on existing vertical assets. The report will be distributed to relevant stakeholders in Q1 2015.

Annual Outcome: Initiate the 2014 statewide residential survey and the 2014 non-adopter oversample survey by creating spreadsheets with census-defined quotas and weights for 2014 and collect respondent data. After analysis and the review process that includes collaborating with the State, the 2014 residential survey and the 2014 non-adopter oversample survey will be delivered in-person to ECD and other stakeholders. Also survey results will be announced via press release, website update, and meetings with stakeholders.

This annual outcome was partially met. Program staff generated a spreadsheet with census-defined quotas and weights for the 2014 residential survey, collected a sufficiently large number of responses, and analyzed the results of the residential survey. After research results were peer reviewed and finalized, staff delivered final reports, outlining key findings, to ECD and other stakeholders and released the results publicly via website update. In light of the holidays and in an effort to increase the number of media views for the research findings, staff opted to wait until Q1 2015 to issue a press release highlighting the findings of the survey.

In April 2012, the project team submitted a revised Project Plan removing this task from the quarterly milestones. It was an oversight that the annual milestone was not amended as well. Ultimately, no non-adopter survey was scheduled or conducted in 2014.

Annual Outcome: Facilitate Year 5 peer review of survey results and resulting analysis for peer review. Review peer recommendation and update program as required.

This annual outcome was met. After conducting initial analyses on 2014 statewide business survey and residential surveys, staff provided these results along with the survey scripts, methodology of data collection, and analyses to the peer reviewer, Dr. Jack Geller from the University of Tampa. Dr. Geller was able to duplicate the research results, and agreed that the survey was well designed and the sample was reliable to examine some telecommunication issues among Tennessee businesses and residents.

Annual Outcome: Successful execution of the second community broadband summit. Connected Tennessee, in conjunction with the State of Tennessee and other key stakeholders, will host this open forum and present a unified front on broadband decisions. The summit will provide a means to gather and discuss broadband accomplishments, best practices, and to identify areas of need in the overall Tennessee broadband plan. Activities leading to the completion of the summit include planning and coordinating action items, preparing and distributing materials and information, and archiving lessons learned.

This annual outcome was met. Program staff, in conjunction with the State of Tennessee, the Metropolitan Government of Nashville and Davidson County, and Metropolitan Nashville Public Schools, held the Nashville Anytime Access for All Summit on May 21, 2014, highlighting goals for robust on-campus broadband connectivity to K-12 schools, off-campus availability, adoption of residential broadband for educational purposes, and best practices for implementation of 1:1 & Bring Your Own Device Programs, digital/ blended learning programs, community engagement, and financing via public-private partnerships.

Outstanding Annual Technical Assistance Outcomes (previously partially met or unmet) per approved project plan:

Year 4 Annual Outcome: Facilitate Year 4 peer review of survey results and resulting analysis for peer review. Review peer recommendation and update program as required.

This annual milestone was met. After the initial analysis on 2013 residential survey was completed, program staff provided results along with the survey script and methodology of data collection and

analysis to the peer reviewer, Dr. Mingjie Sun from Iowa State University, in Q1 2014. Dr. Sun was able to duplicate the research results provided by staff and agreed the survey methodology was solid to draw some useful conclusions regarding research questions of technology adoption and use by Tennessee businesses and residents.

Year 4 Annual Outcome: Initiate the 2013 residential survey and the 2013 non-adopter oversample survey by creating spreadsheets with census-defined quotas and weights for 2013 and collect respondent data. After analysis and the review process that includes collaborating with the State, the 2013 residential survey and the 2013 non-adopter oversample survey will be delivered in-person to ECD and other stakeholders. Also survey results will be announced via press release, website update, and meetings with stakeholders.

This annual outcome was partially met in Year 4 when the residential survey and non-adopter oversample survey were initiated. In Year 4, spreadsheets were created with census-defined quotas, and respondent data was collected. The milestone was fully met in Year 5 when program staff finished data analysis and provided results from the 2013 residential survey and the 2013 non-adopter survey to the peer reviewer, Dr. Mingjie Sun of Iowa State University, in Q1 2014. Feedback from the peer reviewer was incorporated along with requests for analyses from state stakeholders before staff finalized and delivered the results to NTIA, state stakeholders, and the public by way of website update, press release, and social media posts in Q2 2014.

Year 4 Annual Outcome: Complete 2013 analysis of broadband build out for areas prioritized based on level of need by identifying areas with the largest need for broadband build out from existing maps and research data, conducting an analysis of available assets for build out, and conducting a build out analysis study and compiling a report.

This annual outcome was met. The analysis of broadband build-out for areas prioritized based on level of need and the analysis of available assets for that build-out was completed in 2013. A report was drafted but analysis of the same was not finalized. In 2014, the report was peer reviewed by internal engineering professionals. Feedback from these reviews were incorporated into the document and the report was finalized and distributed to stakeholders.