PERFORMANCE PROGRESS REPORT

11.b. Describe any challenges encountered with vendors or subrecipients.

PROJECT CHALLENGES:

[1] Broadband Mapping - The team has experienced some challenges in obtaining the full cooperation of some broadband providers and outreach continues to improve participation levels among the provider community.

[2] State Capacity Building & Planning - Due to various factors including an administration change, agency reorganizations, personnel changes, and National Public Safety Broadband Network (PSBN) developments, it was necessary to reevaluate and delay these components to ensure the best approach and address sustainability. Decision-making with regard to organization direction is expected in Q3-2013. An interagency meeting took place in May 2013 to discuss next steps and further discussions are scheduled for August 2013. Resolution of this matter will allow for launch of any outstanding components.

REPORTING NOTES:

[1] In #9, Row 3, the % of Total Federal Funding Expended for this component (Capacity Building) equals 0.003% or, when rounded, 0%, however this field within the PDF template does not appear to calculate and return a value for percentages less than 1%, nor is the field editable to make the appropriate correction.

[2] In #10.b, per revised guidance of the Federal Program Office, this table now includes only federally paid recipient staff. Please note that 100% of the recipient-employed State Broadband Director's time continues to be paid using approved match and her time is distributed as follows:

Job Title	FTE %	Project(s) Assigned	Change
State Broadband Director	35%	Data Collection	No Change
	25%	Technical Assistance	No Change
	30%	Capacity Building	No Change
	5%	Original Planning Grant	No Change
	5%	Other - Research	No Change

The percentage of time dedicated to each project by the two recipient staff currently working on the program has not changed since Q4-2012, but will over time as additional project components are launched, stabilized, and completed.

[3] In #11.a, Rows 7-9 represent subcontract agreements yet to be determined.

[4] In #12, any difference found between the figures in the budget table and the sum of the individual project budgets included in the Excel attachments is due to rounding, as the Excel document allows for the enter of decimals and accounts for those in the sum, whereas the PDF document allows only whole numbers. Some minor/non-substantive adjustments by a few cents were made in a few fields to ensure things would match across documents.

PERFORMANCE PROGRESS REPORT (continued)

[5] In #12, the Total Matching Funds Expended column includes some costs not reflected in PA's approved match budget, but that were expended in carrying out the grant activities.

Given Commonwealth accounting practices to automatically code and track all expenses associated with the federal grant, these state-paid expenses (e.g. travel to SBDD events, specialized services associated to grant administration, etc.) are tracked and reported each quarter as part of our PPR and SF425 reporting. This does not suggest that our approved match sources have or will change, rather it simply reports overmatch in some categories.

We are hesitant to remove such expenses costs from our PPR reporting, as this action would: (1) result in a discrepancy between the matching expenses reported on the PPR and the SF425, and (2) require us to maintain a second financial tracking system to back-out such costs, which may increase the chances for error or confusion.

This situation has been discussed with the Federal Program Officer and we welcome guidance from NTIA and/or NIST on how to best address this situation in the event that our ongoing reporting of excess match dedicated to the project raises issues and/or is burdensome to federal program staff.

DATA COLLECTION

14.a.2. Describe any additional project milestones that have been accomplished over this reporting period (Ex. Updates to state broadband maps and websites, map outreach activities)?

PA Broadband Map Continues to Be Updated

- In accordance with Pennsylvania's work plan, the data collected through the SBDD program is being made available to the public online via a searchable, interactive interface. This mapping tool is available at www.broadbandinpa.com. An official press release about the public mapping tool was released in November 2010. Through Q2-2013, it has received 17,097 hits to the state broadband mapping entry page.

- Just prior to the end of Q2-2013, the PA outreach staff was contacted by a few providers indicating their data refresh would be coming even without us requesting their data. This is an indication providers are accepting the regularity of the semi-annual update process.

- Following are a series of maps that provide a geographic representation of the reported broadband coverage (excluding satellite provider data) included in the April 2013 data submission. The PA map is refreshed with each semi-annual data delivery to NTIA.

REPORTED WIRELINE/DSLCOVERAGE:

DATA COLLECTION (continued)

REPORTED CABLE COVERAGE:

REPORTED WIRELESS COVERAGE:

DATA COLLECTION (continued)

- **Data Confidence Scale Published:** With each NTIA data submission, the state broadband mapping website is updated with the latest data and data confidence scale. When someone queries the state broadband mapping website for available broadband service at a specific location, the data confidence scale is shown with each provider's service that is listed. The data confidence scale has been updated on the state broadband mapping website during Q2-2013 based on the April 2013 data submission.

- **Small Provider Technical Support:** Technical assistance will be provided to small providers, in preparation of their data updates for the October 2013 NTIA data submission and will continue to be provided for future data submission cycles.

- **Data Quality Feedback Loop with Providers:** With each NTIA data submission, the project team provides data quality feedback to the providers based upon findings during the validation process. In Q2-2012, Provider confidence maps were produced and distributed for corrective actions by the Providers for the October 2013 NTIA data submission.

- **Speed Geography:** The following speed tier map shows the maximum advertised download speeds offered across Pennsylvania that is reported in the April 2013 data submission.

DATA COLLECTION (continued)

- **Provider Density:** The following map shows the density of providers offering service in Pennsylvania, derived from the data reported in the April 2013 data submission.

Specific Mapping Enhancements Implemented or In Process:

- **Mobile Device Accessibility Deployed:** During Q2-2013, the beta version of Pennsylvania's broadband map (www.bakerbb.com/pamobileapp/map.html) remained accessible from mobile devices, including the iPhone (iOS), Android, Windows Phone, and Blackberry.

- **Provider Submission Portal Utilized:** For the April 2013 data submission, the project team witnessed increased usage of the new broadband mapping provider submission portal. It is anticipated the usage will increase even more with the October 2013 data submission. This secure, web-based application is designed specifically for providers to streamline the transmission of coverage data between providers and the project team and improve accuracy.

DATA COLLECTION (continued)

- **Secure Map Updated:** Recognizing that broadband data collected is most powerful as an economic development and planning tool when viewed and analyzed in context, Pennsylvania is building out a secure version of its public broadband. This interface is accessible by various state agencies, along with select internal and external partners.

  Permissions ensure the confidentiality of the data and enable users to access additional non-broadband data in the GIS interface and/or upload their own datasets to view in relation to broadband. This application is also used as a tool to facilitate stakeholder participation in data validation. During Q2-2013, the data on the website was refreshed with the April 2013 data submission information. The update of the secure website will continue for subsequent update cycles.

- **Propagated Coverages Generated:** For the April 2013 NTIA data submission, propagated wireless coverages were generated for the fixed wireless providers who either refused to participate, were non-responsive, or had supplied a questionable coverage.

CAI Outreach Enhanced: Pennsylvania implemented an online survey tool and leveraged existing data sources to amass data on 65% of identified community anchor institutions (CAI) collected for the April 2013 update. The previous NTIA data submission in October 2012 had 58.5% of identified community anchors collected which is an increase of 6.5% between the two submissions. Part of the increase in connectivity information for K-12 schools and libraries is attributed to a web scraping of www.usac.org website. The following table shows the current CAI outreach results. Data collection continues, with additional responses to be included in the October 2013 update.

Community Anchor Institution Type	*Number of Community Anchor Institutions Identified*	*Number of Institutions with Connectivity Attributes*
K-12 Schools	*3,304*	*3,219*
Libraries	*699*	*508*
Post-Secondary Schools	*539*	*98*
Police Departments	*1,025*	*280*
Hospitals	*278*	*63*
Health Departments	*616*	*30*
Other Non-Governmental	*7*	*7*
Other Governmental	*5*	*5*
Total:	***6,473***	***4,210***

DATA COLLECTION (continued)

- **Improved Middle Mile Inventory:** During outreach activities to providers, the project team continues to emphasize the importance of supplying middle mile with their service data. For the October 2013 data submission, the project team anticipates including additional middle mile points.

- **Reseller Data Included:** For the April 2013 data submission, additional reseller data was included. Although it has been a challenge getting resellers to participate, outreach will continue to increase their participation in the program in the coming data submissions. During Q2-2013, the state broadband mapping website was updated to include the participating resellers.

- **Typical Speed from Public Sources:** During outreach activities, the project team continues to emphasize the importance of supplying complete data. Where typical speed values will not be supplied by the provider, the missing typical speeds are calculated from public speed tests supplied by the FCC and collected from the state broadband mapping website.

- **WiFi Hotspots Published:** WiFi hotspots continue to be made available on the secure map and on the state broadband mapping website. In addition, a WiFi self-reporting application is available on the state broadband mapping website.

- **Data Sharing:** The project continues to make the raw data available for use by municipal and other entities to support their specific planning and mapping needs. The project team has provided the ability for municipal and other entities to download the non-confidential data from the public website after completing a short request form.

DATA COLLECTION (continued)

14.a.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.

Provider Stats: The Pennsylvania broadband mapping team is working hard to fulfill the obligations under the program and we are pleased with the progress thus far. To summarize the Commonwealth of Pennsylvania's broadband mapping project progress, the following table outlines Broadband Provider participation through June 30, 2013.

Status Categories	*# of Providers*
Total ISPs/Providers Identified/Contacted	*294*
Providers That Report They Do Not Provide Broadband Service in PA	*122*
Providers That Report They Are Resellers	*27*
Companies In Which We Are Unsure If They Provide Broadband Service	*20*
Known Broadband Provider Universe	*125*
Providers That Have Not Yet Responded to Contacts from the Project Team	*11*
Providers That "Will Not Provide Data"	*11*
Providers That "Have Submitted Partial Data"	*0*
Providers That "Will Provide Data" But Have Not Yet	*1*
Provider Data That Has Been Validated	*102*
Providers Included in the April 1, 2013 Delivery	*102*
Resellers Included in the April 1, 2013 Delivery	*5*

The matrix below indicates the progress made with each SBI data submittal through April 2013.

	As of May 2010	As of Oct. 2010	As of Apr. 2011	As of Oct. 2011	As of Apr. 2012	As of Oct. 2012	As of Apr. 2013
Total Number of Broadband Providers Identified	101	113	115	120	121	121	125
Providers that Have Agreed to Participate	75	93	99	101	95	98	103
Entities with which we have executed NDAs	40	40	41	41	41	41	41
Entities which we are actively negotiating NDAs	2	1	0	0	0	0	0
Providers that have submitted data	69	89	94	94	92*	96	102

* NOTE: Three (3) broadband providers who supplied data in previous data submissions but are no longer providing service and one (1) broadband provider supplying data for the 1st time.

We welcome feedback on any aspect of the project so that we can improve our processes for subsequent data update cycles and report submissions

TECHNICAL ASSISTANCE

14.b.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.

During Q1-2013, the network of 20 economic, community, and workforce development partners involved in this effort continued to carry out this scope of work to assist businesses and community anchor institutions adopt and/or make better use of broadband.

Technical Assistance cases are underway statewide and small business clients/community anchor institutions are being referred to and assisted through the program. During Q2-2013:

- The Pennsylvania Technical Assistance Program (PennTAP) closed 44 one-on-one technical assistance cases with small business or community anchor institution clients and had another 31 in process. This brings the number of closes cases to 199 (83% of commitment).
- PennTAP provided training or assistance to 353 individuals, bringing the cumulative total to 1,379 individuals impacted (79% of commitment).
- PennTAP placed an additional six (6) Penn State undergraduate IT students as interns within client organizations as part of an intensive technical assistance component to address specific technology issues and business problems related to broadband adoption by implementing broadband solutions. This brings the number of intern to date placements to 19 (48% of commitment).
- Prospective technical assistance clients continue to be referred to this educational webinar: https://online.ist.psu.edu/sites/ist402penntap/files/presentation/penntap_broadband.swf
- PennTAP is wrapping up development of a broadband-related online course targeting IT professionals. This curriculum will become available as an open source course through Penn State University in August 2013. PennTAP and PSU's College of IST are in the planning stages of how to market this learning opportunity.
- Specialists are involved in their regional economic and community development groups and at a recently attended and spoke at a panel at the BTOP-funded Keystone Initiative for Network Based Education and Research (KINBER) annual Conference, where the team made connections with two community anchor institution clients needing assistance with regard to broadband.
- Clients have reported the creation or retention of 65 jobs due to the assistance provided

TECHNICAL ASSISTANCE (continued)

- The Industrial Resource Center (IRC) Network and its regional partners (who are also the federally-designated entities charged with assisting manufactures through NIST's Manufacturing Extension Program (MEP)) completed 25 Broadband Assessments and 28 Technology Strategic Plans for manufacturers during Q2-2013, bringing the total to 129 Broadband Assessments (64% of commitment) and 111 Broadband Technology Strategic Plans (56% of commitment) to date.
- Outreach and communication continue throughout the state and the subrecipients are actively engaging manufacturers to strengthen their knowledge and use of Broadband technology. Some manufacturers are now positioned to implement recommendations made in the Technology Strategic Plans are beginning to apply for Broadband Implementation Micro-grants to support their project implementations.
- The IRC Network and its partners shared the following observations related to assisting small and medium-sized manufacturers located within Pennsylvania include:

  - Most of the critical Broadband Technology needs of the manufacturing companies that are being served through the Broadband Program were related to the challenge of developing new or improved E-business strategies, including Broadband based Internet marketing, ERP software planning, and web-based capabilities.
  - Many companies are interested in new and improved web based technologies that run on high speed Broadband systems that include: web sites, social-media tools, product videos, increased access to on-line product data, on-line customer contact tools.
  - Clients are considering various cloud-based solutions as a cost saving, efficient way to broaden their business and marketing capabilities. Hosted cloud-based solutions are enabling some companies to upgrade their business systems when traditional server and software upgrades were unaffordable.
  - These Broadband based systems are critical part of a successful business growth strategy and are necessary for the company to compete more effectively in the global market place. New or improved Broadband Technology processes are now being used by these manufacturing companies to more effectively identify new prospects and win new customers. This contributes to improving the competitive position and top line growth of the company.
  - More emphasis on new broadband and cloud services, as well as customer access to information about available inventory and order status via the web, is being incorporated into the assessments. This will not only have a greater impact on our clients, but may position the recommendations as a higher priority investment.

- Many companies in the urban centers are found to be in good shape with regard to broadband speeds and utilization. However, in some cases IT issues were found to be outdated for the current marketplace.
- Some companies, particularly in the rural areas, find they are in need of faster broadband services. However, this may not be possible in their area depending on the provider and many companies do not have a choice in providers.
- Most of the critical Broadband Technology needs of the manufacturers in the southwest relate directly to the challenge of developing new or improved Internet Marketing and web-based capabilities, which are necessary for the company to compete more effectively in the global market place. More specifically, in order to grow their business and job opportunities, many of these manufacturers want to utilize Broadband Technologies to identify new prospects and win new customers (e.g. web sites, social media tools, product videos, increased access to on-line product data, on-line customer contact tools, and other similar technologies).
- Some companies participating in the Broadband Technology Program move slowly to provide the necessary time and information required to complete and review the assessment and technology plan. In smaller companies especially, many personnel are covering several roles and jobs, so it takes a lot of coordination and persistence to get everyone together that is involved in the Broadband project. Hence, sometimes there is a bit of longer lead time between when the initial assessment is completed and when the technology plan is completed and reviewed.
- The process of working with companies to get them to take action to implement changes resulting from the Broadband Technology Assessment and Plan has been sometimes slow. This is often a result of limited financial or human resources by some of the smaller companies.
- One notable challenge is companies not having the funds to implement some or all of the recommendations. The Broadband Implementation Micro-grant component provides financial incentive to these companies to move forward with their project implementations.

MICRO-GRANT IMPLEMENTATION ASSISTANCE:

- Recommendations are one thing, but if the company cannot/does not implement them, what good are they? To incent firms to actually pull the trigger and implement the technology plan recommendations provided, a reimbursement micro-grant program was established to support up to 50% of broadband project costs, up to $10,000 per company. Only companies who have graduated from the technical assistance process are eligible to apply and the project must be signed off on by the sponsor organization providing the assessment/plan indicating that it aligns with the broadband recommendations provided.

- During Q2-2013, we approved micro-grant assistance awards to 29 companies/ organizations from 15 counties, totaling $63,742 and supporting total broadband project investment of $662,409.
- Funding: 100% of the micro-grant funding to be provided to companies ($400,000) is funded by SBI; administrative costs related to management of the program are supported by matching state funds
- All recipients will report on the economic impacts resulting from assistance received, metrics include job creation/retention, increased revenues, cost savings, cost avoidance, capital investments, etc.

▪ The Local Development District network completed its Request for Proposal (RFP) related to the identification of a qualified vendor to support the rollout of its municipal/community broadband outreach/training program. Vendors proposals were vetted, with full launch of this program component to occur in Q3-2013.

TECHNICAL ASSISTANCE (continued)

14.b.5. Attach as a separate document any success stories or best practices you have identified. Please be as specific as possible.

Availability of Utilization? THE PROBLEM IS BOTH. Examples:

- ACCESS: Inclinator of America, a company who manufactures elevators, is located in a pocket in Harrisburg that cannot secure good high speed broadband access at an affordable price. They currently subscribe to DSL through Verizon (1.5 Mbps downsteam), but speeds typically are lower than 768Kbps. FiOS is unavailable and Comcast has quoted $170,000 to supply high speed cable internet to that section of Harrisburg. Interestingly, a UPS distribution facility is just across the street, which certainly has excellent connectivity. We have analyzed the area using the broadband map to are in the process of engaging providers, BTOP recipients, and other players to devise a solution that will not only improve connectivity for this manufacturer, but for 8-9 other firms on that road that are likely in a similar situation.

- UTILIZATION: Some manufactures do not even have websites. Berkley Surgical Corporation of Uniontown, PA, is the oldest and largest OEM provider of infection control face masks in the United States, took action to develop a web site to more effectively market and sell its products throughout the world. Berkley did not previously have a web site and is now also considering the development of a new web site for its sister company, Berkley Packaging Corporation, which manufactures green cleaning products. The new web site has not yet been officially launched, but can be viewed through the following link on the Catalyst Connection development site. Berkley is expected to increase sales, and to benefit from a more efficient and lower cost marketing strategy as a result of the new site. http://mfgpa.org/BerkleySurgical/

OTHER - RESEARCH

14.b.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.

Manufacturing Benchmarking Study:

Overview: The broadband technology manufacturing study and research will combine state and regional economic data with competitive insights from leading manufactures. The study is focused on the availability and contribution of broadband technology to the Pennsylvania manufacturing sector to provide an understanding of the barriers in accessing broadband technology and best practices in order to accelerate the adoption of broadband technology by manufactures to be globally competitive, impact growth, productivity, job creation/retention, and economic wealth in Pennsylvania. The study will include lessons learned from the state's leading manufactures, and in-depth understanding of the technology base of manufacturing in the Commonwealth and of each of the state's regional economies, and conclusions from the research that take the lessons and understanding to an actionable level, providing recommendations on ways to eliminate barriers and provide resources to accelerate the adoption and implementation of broadband technology in manufacturing, to improve the competitive position of manufacturing employers through the use of broadband technology.

Status: Survey and interview data is being collected to determine (1) whether or not companies were seeing value through broadband, (2) what motivated companies to adopt broadband, (3) what challenges these companies faced in using broadband, and (4) what company leaders thought the future of broadband might be in general and for their company. Preliminary analysis of the survey data indicates that:

- The uses of broadband vary widely among the companies there is no relationship between the size, industry or income and the use or lack of use of broadband technology
- Many manufactures use broadband only for e-mail, choosing to keep any of their other computer-based applications in-house
- Wirelessly enabled access is rare for most company operations
- Technically/engineering savvy companies are more likely to understand the potential of broadband and to use its capabilities for multiple areas of the business
- Traditional metal working shops, while reliant on computer application such as CAD, CAM and even CAE, do not generally access these using broadband or the cloud; their primary use is limited to e-mail communication
- Those who are not using broadband, have a lack of understanding of the potential benefits of the technology

Next Steps: The data from the surveys and interviews is now in the process of being analyzed and integrated to formulate conclusions. The remaining components in this research initiative are to:

- finish the data analysis
- compile the final report and presentation (NOTE: we will engage NTIA in this process)
- design the communication plan

OTHER - RESEARCH (continued)

How is this information being used? The observations/findings thus far are helping to guide the outreach and technical assistance effort, which is tweaked as needed to address barriers and obstacles to success.

Cost Modeling

Organizational change and strategic visioning related to the reevaluation of the capacity building component has delayed the launch of the Cost Modeling Study component. This process is necessary to ensure the best use of limited state/federal funds, leverage operational efficiencies, increase program impact, and promote sustainability. Decision-making with regard to organization direction is expected in Q3-2013. An interagency meeting took place in May 2013 to discuss next steps and further discussions are scheduled for August 2013. Resolution of this matter will allow for launch of any outstanding components.