

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 Public Safety broadband developments, it was necessary to reevaluate and delay these components to ensure the best approach and address sustainability. Resolution is expected in Q1/Q2-2013.

REPORTING NOTES:

- [1] In #9, Row 3, the % of Total Federal Funding Expended for this component (Capacity Building) equals 0.002% 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 #9, Row 6, the % of Total Federal Funding Expended appears in error as 23% despite no project or dollar amounts being associated with this line. The correct value should be blank or 0%, however this field within the PDF template appears to replicate the % value calculated for Row 5, nor is the field editable to make the appropriate correction.

- [3] 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 Q3-2012, but will over time as additional project components are launched, stabilized, and completed.

- [4] In #11.a, the start dates for the contract agreements listed in Rows 5 and 6, were inadvertently transposed in the prior Q3-2012 report. This report corrects that prior error.

PERFORMANCE PROGRESS REPORT (continued)

[5] In #11.a, Row 7 represents an amendment in process to the agreement shown in Row 4 related to administration of the implementation micro-grant assistance fund. This amendment fully executed in Q1-2013. Therefore, in the next report, the dollar amounts in Row 4 will be increased accordingly and Row 7 will be used for the next agreement executed or to be determined.

[6] In #11.a above, Rows 8-10 represent subcontract agreements yet to be determined.

[7] 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. For example, we identified:

- A \$1 discrepancy in the Total Approved Match between the Excel “Overall” tab (\$2,168,399) and the Budget Table (\$2,168,400) which matches the SF424A. This was resolved by adding \$0.40 to the Approved Fringe Match for Data Collection.
- A \$1 discrepancy in the Total Matching Funds Expended between the Excel “Overall” which sums the actual decimal figures and the Total calculated in the Budget Table in #12 which does not accept decimals and therefore sums the rounded figures, resulting in the discrepancy. See below for additional details.

MATCHING FUNDS EXPENDED	ACTUAL FIGURES SUMMED	ROUNDED FIGURES SUMMED	Difference
Salaries	\$ 342,773.18	\$ 342,773.00	\$ 0.18
Fringe Benefits	\$ 67,803.32	\$ 67,803.00	\$ 0.32
Travel	\$ 416.00	\$ 416.00	\$ -
Equipment	\$ -	\$ -	\$ -
Materials/Supplies	\$ -	\$ -	\$ -
Subcontracts Total	\$ 207,369.41	\$ 207,369.00	\$ 0.41
Construction	\$ -	\$ -	\$ -
Other	\$ 424,189.38	\$ 424,189.00	\$ 0.38
Total Direct Costs	\$ 1,042,551.29	\$ 1,042,550.00	\$ 1.29
Total Indirect Costs	\$ -	\$ -	\$ -
Total Costs	\$ 1,042,551.29	\$ 1,042,550.00	\$ 1.29

PERFORMANCE PROGRESS REPORT (continued)

[8] 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 codes 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.

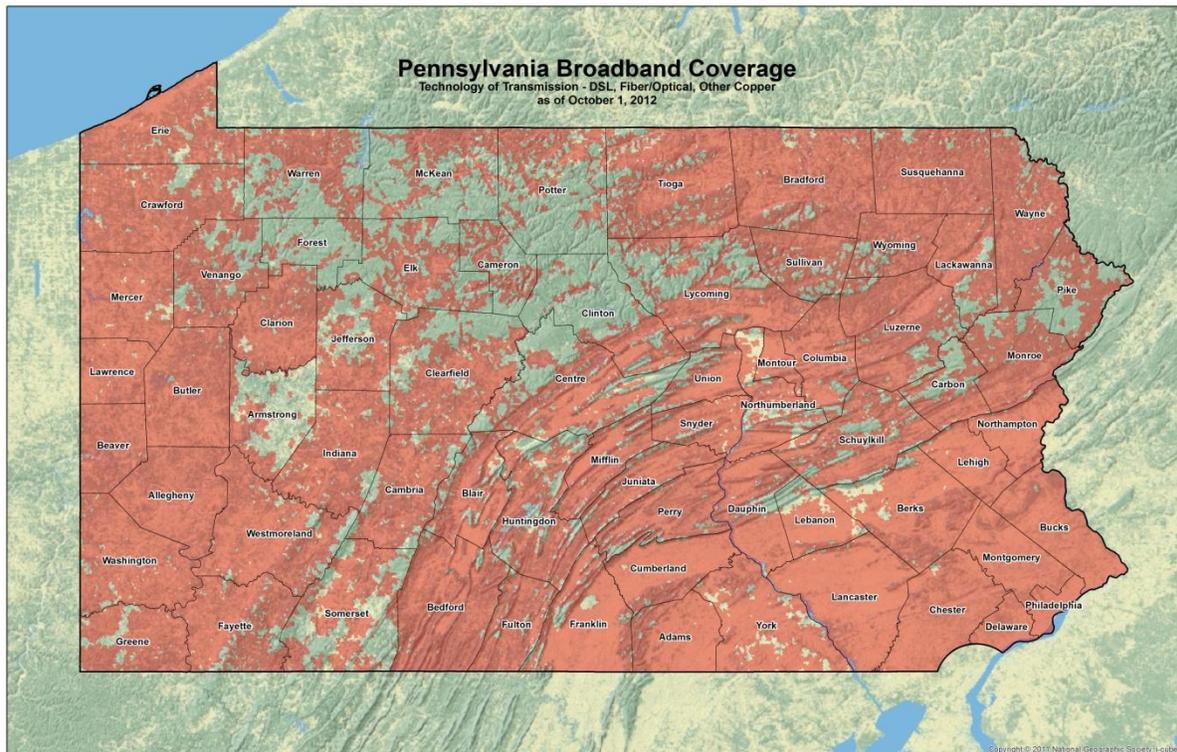
DATA COLLECTION

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

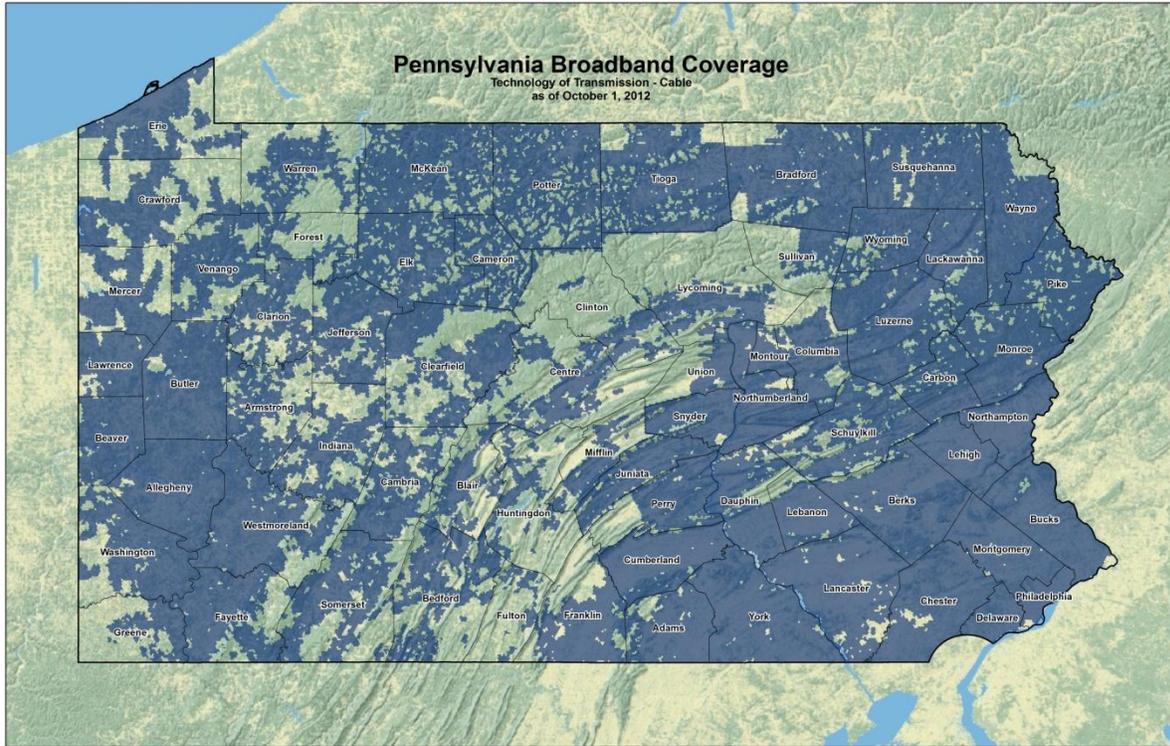
- In accordance with Pennsylvania's work plan, the data collected through the SBDD program is being made available to the public online via a searchable, interactive interface. This mapping tool is available at www.broadbandinpa.com. An official press release about the public mapping tool was released in November 2010. Through Q4-2012, it has received 9,099 hits to the state broadband mapping entry page.
- Following are a series of maps that provide a geographic representation of the reported broadband coverage (excluding satellite provider data) included in the October 2012 data submission. The PA map is refreshed with each semi-annual data delivery to NTIA.

REPORTED WIRELINE/DSL COVERAGE:

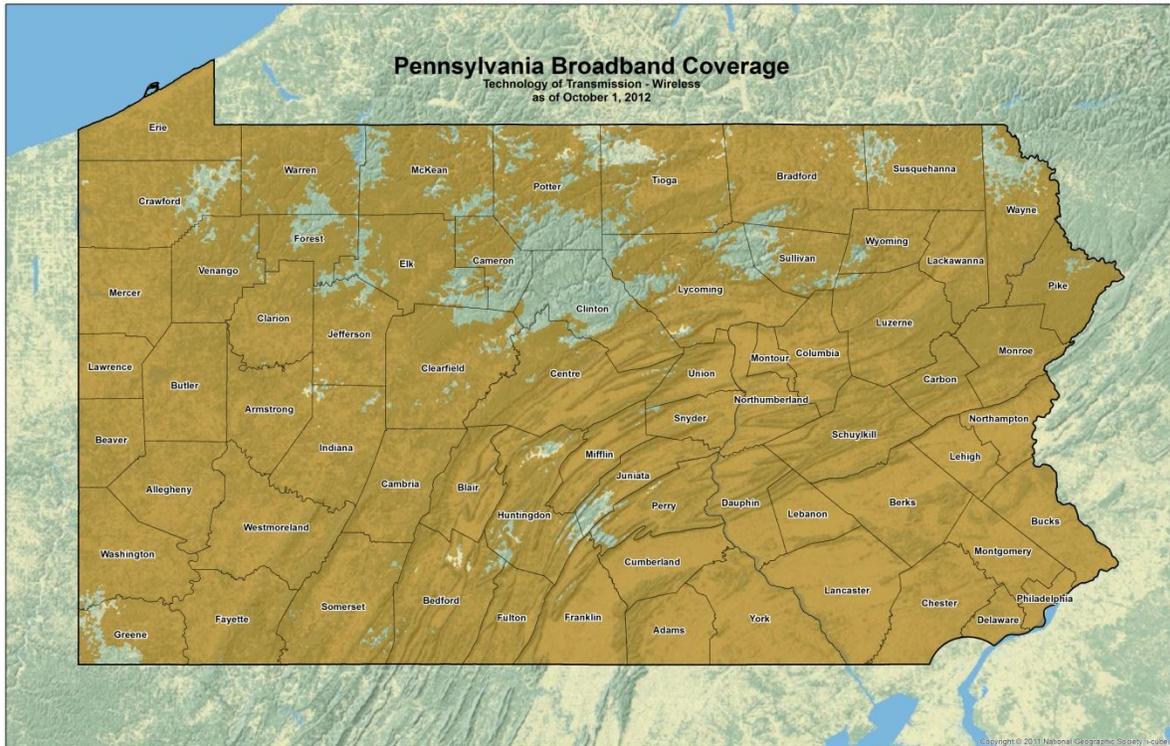


DATA COLLECTION (continued)

REPORTED CABLE COVERAGE:

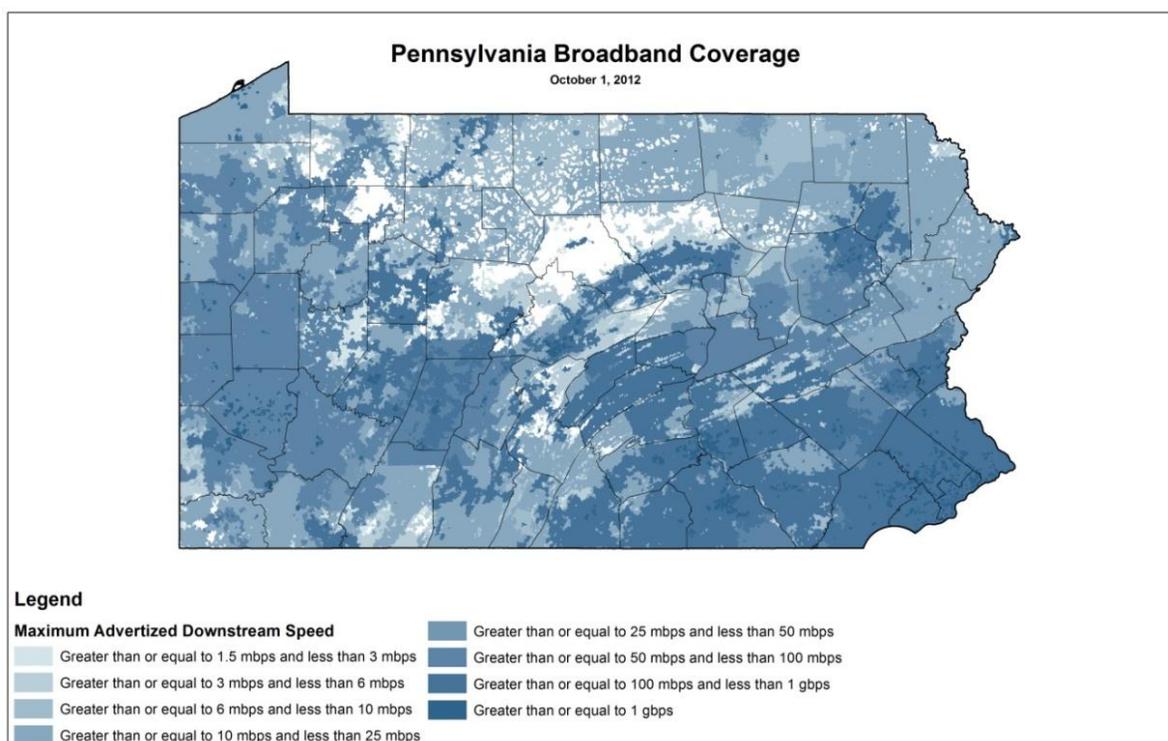


REPORTED WIRELESS COVERAGE:



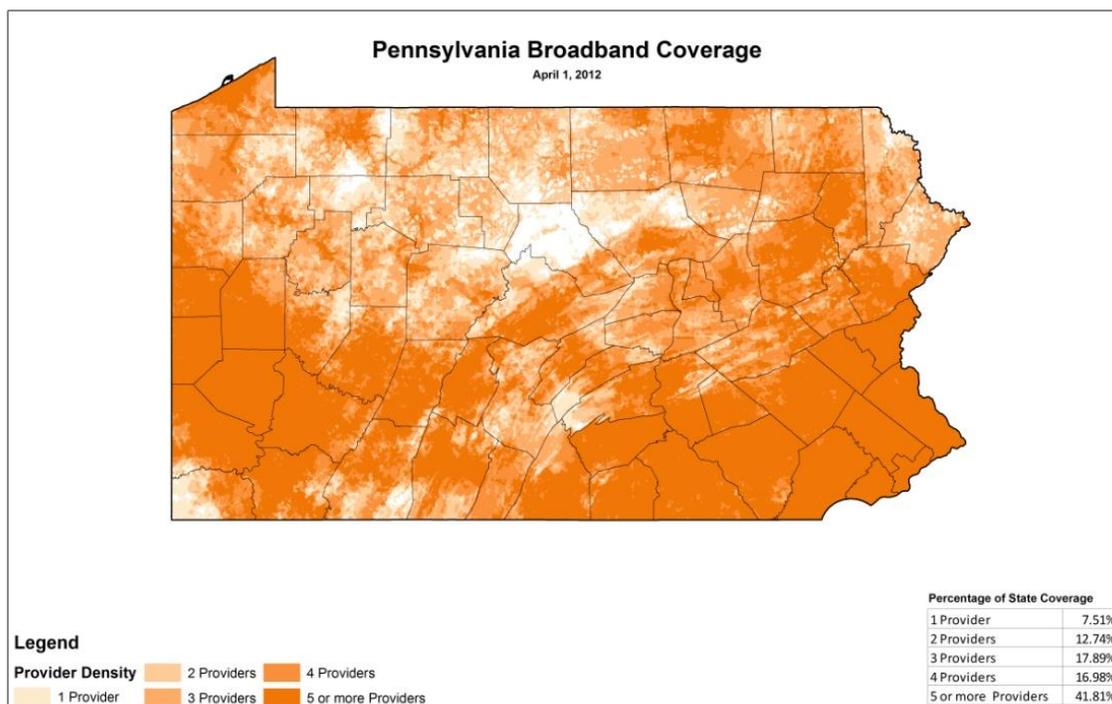
DATA COLLECTION (continued)

- **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 was updated on the state broadband mapping website in Q4-2012 based on the October 2012 data submission.
- **Small Provider Technical Support:** Technical assistance will continue to be provided to small providers, in preparation of their data updates for the April 2013 NTIA data submission.
- **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 Q4-2012, Provider confidence maps were produced and are being distributed for corrective actions by the Providers for the April 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 October 2012 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 October 2012 data submission.



Specific Mapping Enhancements Implemented or In Process:

- Mobile Device Accessibility Development Started:** During Q4-2012, development started to have Pennsylvania’s broadband map accessible from mobile devices, including the iPhone (iOS), Android, Windows Phone, and Blackberry. The beta version will be deployed and tested in Q1-2013.
- Provider Submission Portal Utilized:** For the October 2012 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 April 2013 data submission. This new 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 Q4-2102, the data on the website was refreshed with the October 2012 data submission information. The update of the secure website will continue for subsequent update cycles.

- Additional Propagated Coverages Generated:** For the October 2012 NTIA data submission, propagated coverages were generated for nearly 50% of the fixed wireless providers who either refused to participate, were non-responsive, or had supplied a questionable coverage. During Q4-2012, the propagation mapping task continued for non-participating and questionable fixed wireless providers. Approximately 30% of the final 50% remaining coverages were generated for inclusion in the April 2013 NTIA data submission.

CAI Outreach Enhanced: Pennsylvania implemented an online survey tool and leveraged existing data sources to amass data on 58.5% of identified community anchor institutions (CAI) collected for the October 2012 update. The previous NTIA data submission in April 2012 had 47% of identified community anchors collected which is an increase of 11.5% between the two submissions. The following table shows the current CAI outreach results. Data collection continues, with additional responses to be included in the April 2013 update.

<i>Community Anchor Institution Type</i>	<i>Number of Community Anchor Institutions Identified</i>	<i>Number of Institutions with Connectivity Attributes</i>
<i>K-12 Schools</i>	<i>3,323</i>	<i>3,097</i>
<i>Libraries</i>	<i>710</i>	<i>224</i>
<i>Post-Secondary Schools</i>	<i>542</i>	<i>99</i>
<i>Police Departments</i>	<i>1,026</i>	<i>279</i>
<i>Hospitals</i>	<i>279</i>	<i>63</i>
<i>Health Departments</i>	<i>616</i>	<i>30</i>
<i>Other Non-Governmental</i>	<i>7</i>	<i>7</i>
<i>Other Governmental</i>	<i>5</i>	<i>5</i>
<i>Total:</i>	<i>6,508</i>	<i>3,804</i>

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 April 2013 data submission, the project team anticipates including additional middle mile points.
- **Reseller Data Included:** For the first time, reseller's data was delivered in the October 2012 data submission. 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 Q4-2012, 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, during Q4-2012, are now published on the state broadband mapping website. In addition, a WiFi self-reporting application was deployed in Q4-2012 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. During Q4-2012, the project team launched the ability for municipal and other entities to download the non-confidential data from the public website after completing a short request form.
- **Outreach Preparations:** Near the end of Q4-2012, preparations began for outreach to Providers and Resellers for the April 2013 NTIA data submission. Outreach letters were updated for distribution to Providers and Resellers in early January.

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 September 30, 2012.

<i>Status Categories</i>	<i># of Providers</i>
Total ISPs/Providers Identified/Contacted	294
Providers That Report They Do Not Provide Broadband Service in PA	102
Providers That Report They Are Resellers	37
Companies In Which We Are Unsure If They Provide Broadband Service	34
Known Broadband Provider Universe	121
Providers That Have Not Yet Responded to Contacts from the Project Team	12
Providers That "Will Not Provide Data"	11
Providers That "Have Submitted Partial Data"	0
Providers That "Will Provide Data" But Have Not Yet	2
Provider Data That Has Been Validated	96
Providers Included in the October 1, 2012 Delivery	96
Resellers Included in the October 1, 2012 Delivery	2

The matrix below indicates the progress made with each SBI data submittal through October 2012.

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

* 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 Q4-2012, 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 Q4-2012:

- The Pennsylvania Technical Assistance Program (PennTAP) closed 24 one-on-one technical assistance cases with small business or community anchor institution clients and had another 20 in process. This brings the number of closes cases to 113 (47% of commitment).
- PennTAP provided training or assistance to 167 individuals, bringing the cumulative total to 894 individuals impacted (51% of commitment).
- PennTAP continued to recruit businesses and Penn State undergraduate IT students as interns for participation in the intensive technical assistance component to address specific technology issues and business problems related to broadband adoption by implementing broadband solutions.
 - Prospective technical assistance clients continue to be referred to this educational webinar: https://online.ist.psu.edu/sites/ist402penntap/files/presentation/penntap_broadband.swf
 - Intern request activity is way up. Over 20 businesses located throughout Pennsylvania have requested intern placements to implement broadband related projects. Currently, the project team is matching students to those businesses for internships beginning in Spring 2013 through Summer 2013 and we expect to report on a large number of those within Q1-2013.
- Businesses assisted by PennTAP reported one job created and 34 jobs retained as a result of the assistance received through this program.
- The Industrial Resource Center (IRC) Network and its partners completed 21 Broadband Assessments and 18 Technology Strategic Plans for manufacturers, bringing the total to 80 Broadband Assessments (40% of commitment) and 60 Broadband Technology Strategic Plans (30% 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.

TECHNICAL ASSISTANCE (continued)

- The IRC Network and its partners shared the following observations related to assisting small and medium-sized manufacturers located within Pennsylvania include:
 - 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.
 - Due to the current economic climate, many clients have decided to hold off on implementing recommendations or having assessments done until some certainty has been established and they have greater comfort in pledging cash for capital expenditures.
- The Local Development District network executed subcontracts and drafted Requests for Proposal (RFPs) related to its municipal/community broadband outreach/training program.
- Planning arrangements continued around the launch of the proposed micro-grant implementation assistance fund, which will assist and incent clients of this program to implement the recommended broadband solutions. Client eligibility guidelines, funding parameters, and governance considerations are being prepared and a draft will be shared with NTIA once finalized.

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.

CASE STUDY: BROADBAND TECHNICAL ASSISTANCE TO PA'S TOURISM SECTOR

The owner of The Gateway Lodge & Inn and the Black Bear Cabins located in rural Jefferson County had always wanted to expand her clientele to include corporate events and retreats, but could not due to its poor and unreliable Internet connection provided via satellite. As part of the SBI-supported statewide broadband technical assistance program targeting small businesses and community anchor institutions, a technical specialist from the Pennsylvania Technical Assistance Program (PennTAP) worked one-on-one with the owner to understand the business's needs, then met with Internet service providers and walked rights of way with several service providers to determine the cost of deploying new service, including comparing the cost of running cable underground versus utilizing utility poles, or continuing with satellite. The assistance, expertise, and persistence provided through this project were integral in obtaining a waiver from the local electric utility company to gain access to an aerial path to run fiber. Receipt of the waiver to run the cabling aerially provided a 50% reduction in costs and resulted in better and more reliable service than what they could have obtained from Satellite.

Two undergraduate student interns from Penn State University's College of Information Sciences and Technology (IST) were then placed within the business to provide the hands-on implementation assistance needed to employ tools that were now available due to its improved broadband capabilities by:

- Implementing back-up systems and sharing programs;
- Designing networking strategies, analyzing, re-configuring, and drawing up schematics on five networking systems;
- Implementing a video surveillance systems, installing 21 security cameras and a system coving the lodge and the cabins a distance away;
- Developing a social media marketing plan; and
- Training employees on new technologies.

As a result of assistance provided, the business initially reported over \$360,000 total economic benefits, as well as the retention of 32 jobs. In addition, the business expects to improve sales in 2013 by 40-50% and the college students were able to apply their knowledge and gain real-world work experience within their field.

"My experience at the Gateway Lodge has been monumental in providing insight to the technology needs of a small business. I gained problem solving skills that will help me as I build a career in the technology field." ~ IST Intern, Pennsylvania State University

"I would highly recommend considering a PennTAP referral for internship. This was a great program."
~Owner/Inn-Keeper, Gateway Lodge & Inn and Black Bear Cabins

TECHNICAL ASSISTANCE (continued)

CASE STUDY: BROADBAND TECHNICAL ASSISTANCE TO PA'S MANUFACTURING SECTOR

Gerome Manufacturing, located in rural Fayette County, is a manufacturer of custom precision sheet metal products. As part of the SBI-supported statewide broadband technical assistance program targeting manufacturers, Catalyst Connection, the Industrial Resource Center (IRC) serving the southwestern PA region worked in conjunction with the University of Pittsburgh Institute for Entrepreneurial Excellence (IEE) to meet with Gerome's executive management and conduct an assessment of the company's current Broadband and Information Technology (IT) processes. As a result of findings of the Broadband/IT Assessment, Catalyst Connection has developed a Broadband Technology Action Plan that will recommend specific upgrades and improvements to Gerome Manufacturing's Broadband/IT Systems. Catalyst, in conjunction with the IEE, performed a SWOT analysis of Gerome's main IT systems and executed a broadband technology action plan. Gerome Manufacturing will retain the University of Pittsburgh Small Business Development Center (SBDC) to implement a new Enterprise Resource Planning (ERP) software module and facilitate the start of a new IT Management Services Contract. This will include the improvement of systems that support Broadband Technology based business processes.

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:

Progress Highlights:

- Research methodology, approach, and timeline have been developed.
- Secondary research completed.
- Survey methodology was agreed upon.
- Survey questions were finalized.
- On-line survey tool was selected.
- On-line survey was designed and questions uploaded.

In addition to contract management and reporting, activity during this quarter included completing the development of the survey methodology and questions and analyzing online survey options. It was determined that the primary research component of this project would be an online survey deployed to PA manufacturers. Qualtrics was selected as the online survey tool because it contains essential features, is user friendly both on the back end and front end, and was the most cost effective. The survey questions were uploaded into the system and the survey was designed. We worked with Trendscape to test the survey to ensure that all elements were included and that the questions were accurately reflected.

As a result of analyzing survey software packages and interfacing with that software directly, our timeline has been pushed back slightly. Plans are now in place to deploy the primary research tool in mid-January 2013. Following the survey responses and analysis, we will conduct one-on-one company interviews for further detail on the company's use of broadband. The main components in the approach to this research initiative are as follows:

- Secondary Research
- Study Approach
- Survey Design
- Finalize and Pilot Survey
- Revise survey if needed
- Distribute Survey
- Complete survey process
- Annotated analysis
- Determine face to face interview questions
- Complete face to face
- Annotated data outputs – key themes
- Compile final report - presentation
- Begin design – communications plan

OTHER - RESEARCH (continued)

Cost Modeling

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. Resolution and launch of this component is expected in Q1/Q2-2013.