GRANT # 42-50-M09065   RECIPIENT: Executive Office of the Commonwealth of Pennsylvania

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 some components to ensure the best approach and address sustainability. Decision-making with regard to organization direction was finalized in Q3-2013.

PA's broadband program director has been in communication with the federal program office about redirecting unused funds to expand the scale and reach of the state's extremely successful and impactful broadband Technical Assistance component to deepen impact on libraries statewide in partnership with the PA Department of Education. This approach aligns with the original intent of the Planning and Capacity Building components with the promise to generate more economic impact than the original work plan. An Award Action Request (AAR) being prepared by the recipient agency for submission to NTIA during Q4-2013. Resolution of this matter and receipt of authorization to proceed from NTIA will allow for full implementation of PA's SBI program and the commitment of all remaining SBI funds.

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 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. In total, 1.5 FTEs are dedicated to the program by the recipient.

Please note that the percentage of time dedicated to each project by the federally-funded recipient staff person listed in #10.b. (State Administrative Officer) changed since Q2-2013. These proportions will continue to change 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.

PERFORMANCE PROGRESS REPORT (continued)

[4] In #12, the Total Matching Funds Expended column includes some costs not reflected in PA's current 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, hardware and telecommunications costs 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 secondary 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.

[5] 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 entry of decimals and accounts for those in the sum, whereas the PDF document allows only whole numbers. Some minor/non-substantive adjustments of a few cents may have been made in a few fields by the preparer to ensure that the figures would match across documents.
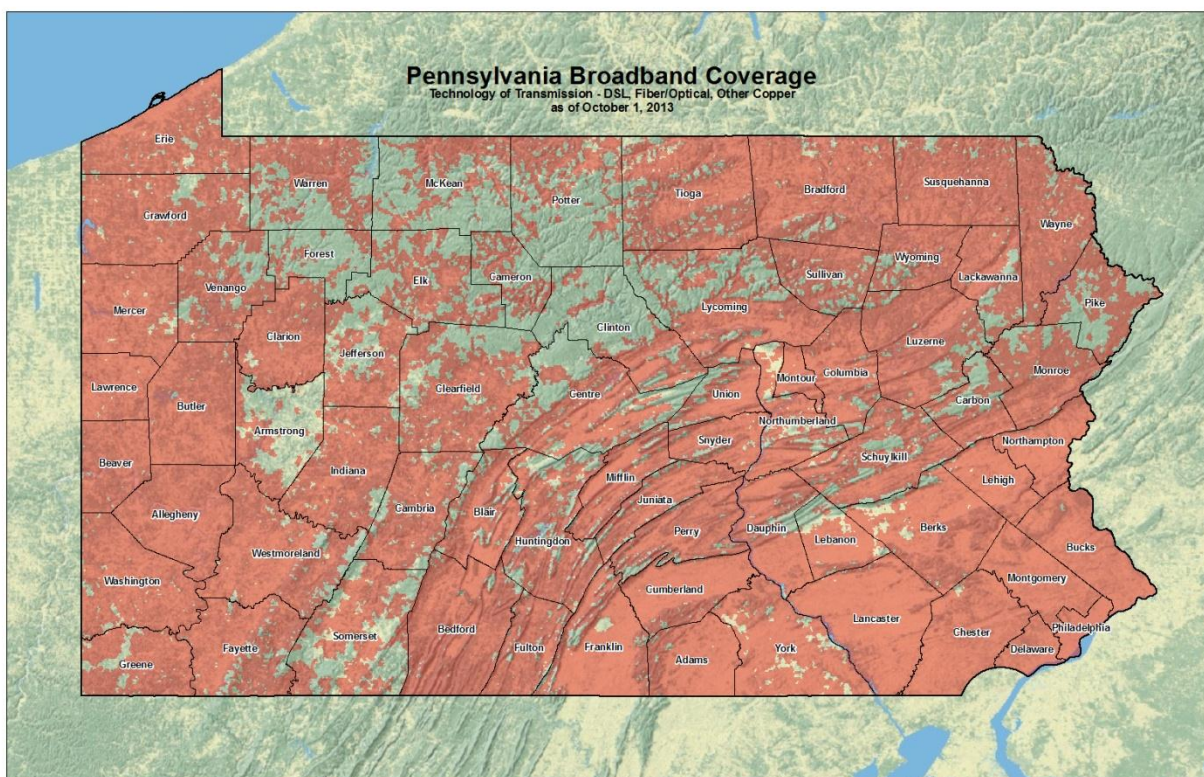
DATA COLLECTION

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)?**
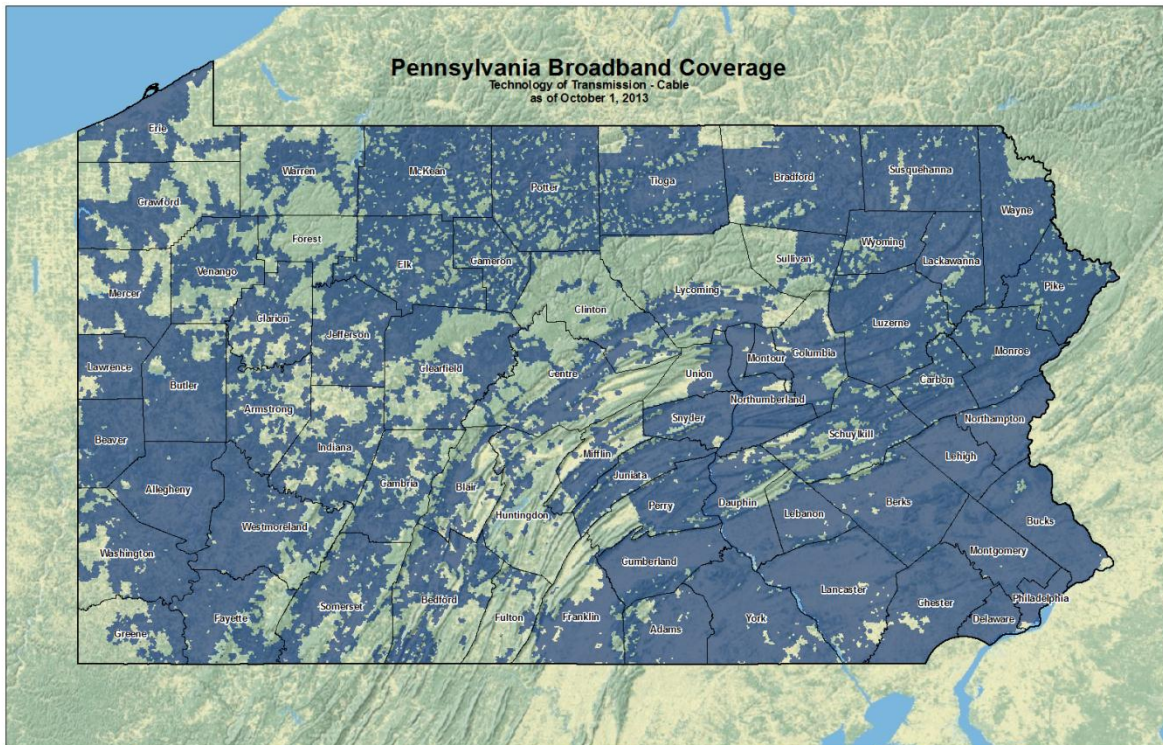
PA Broadband Map Continues to Be Updated

- 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 Q3-2013, it has received 19,408 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 2013 data submission. The PA map is refreshed with each semi-annual data delivery to NTIA.
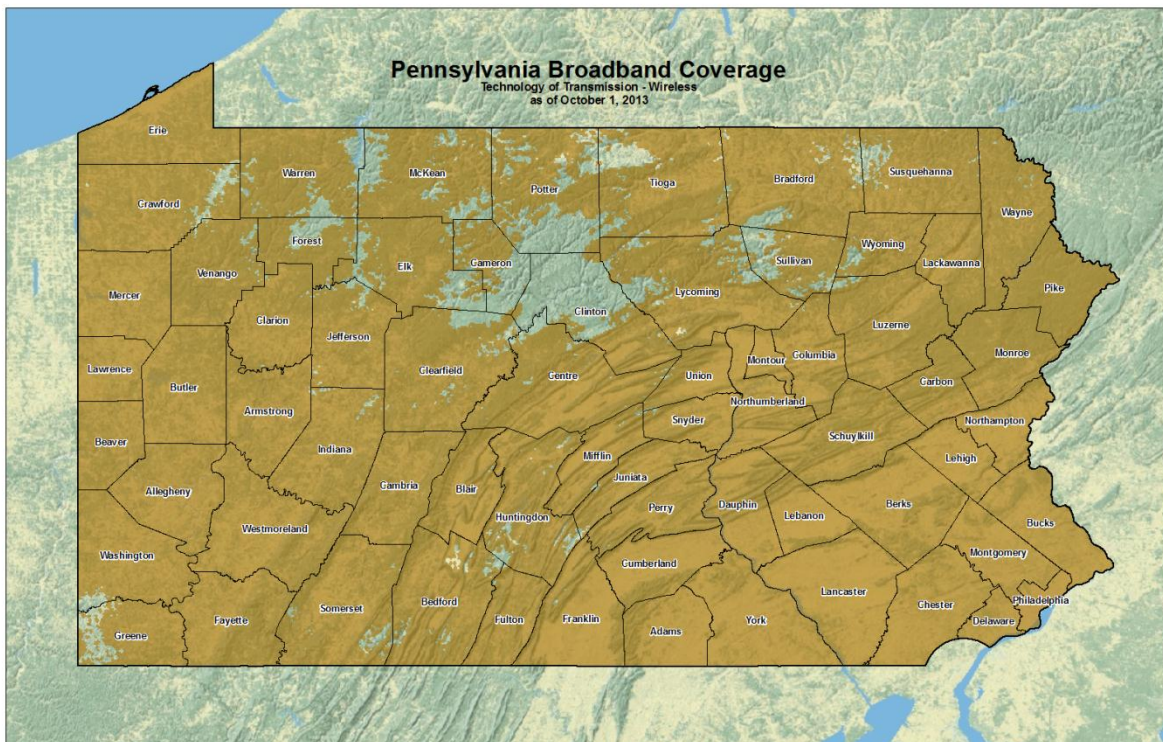
REPORTED WIRELINE/DSLCOVERAGE:

Pennsylvania Broadband Coverage
Technology of Transmission - DSL, Fiber/Optical, Other Copper
as of October 1, 2013

DATA COLLECTION (continued)
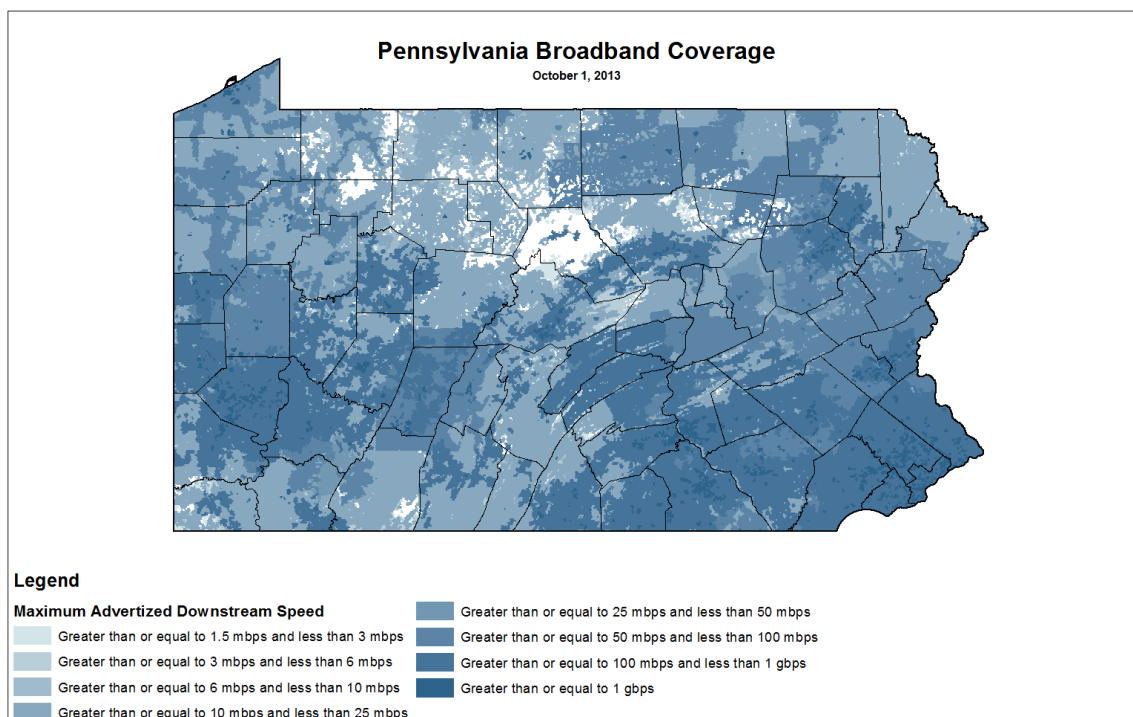
REPORTED CABLE COVERAGE:
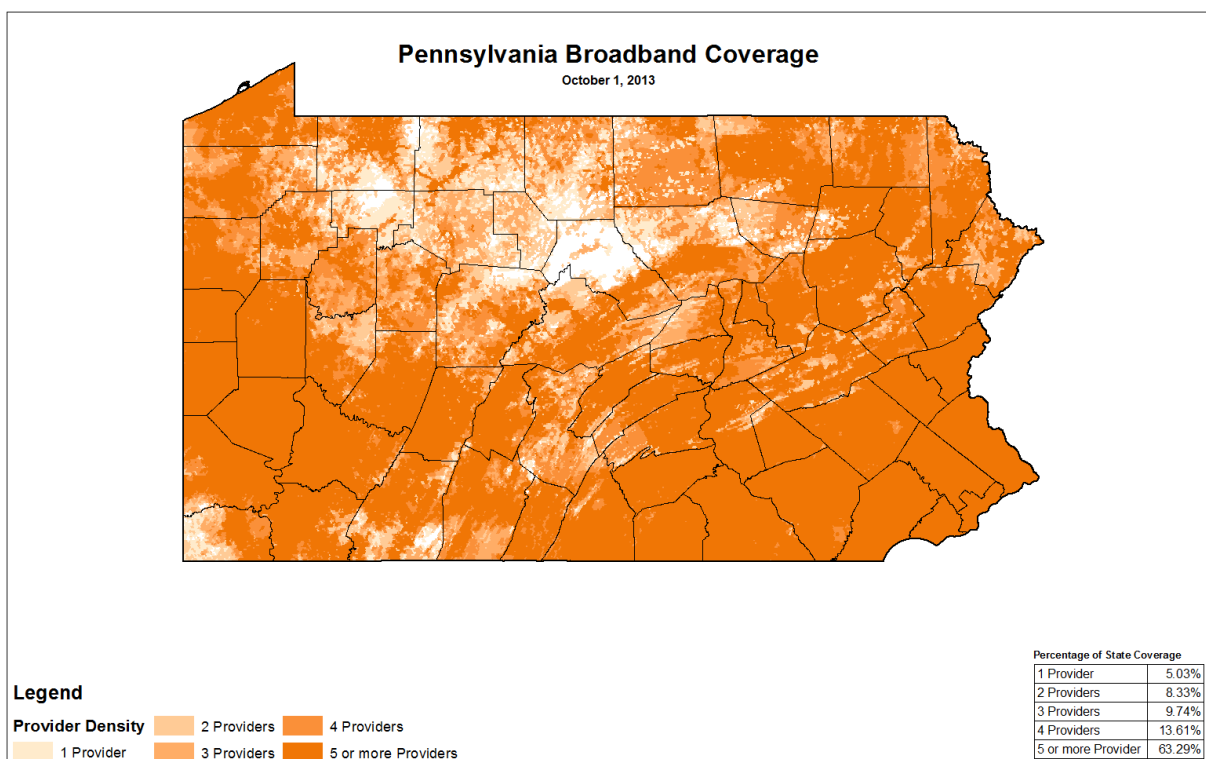

REPORTED WIRELESS COVERAGE:

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 will be updated on the state broadband mapping website during Q4-2013 based on the October 2013 data submission.

- **Small Provider Technical Support:** Technical assistance was 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 Q4-2012, Provider confidence maps will be produced and distributed for corrective actions by the Providers for the April 2014 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 2013 data submission.

Pennsylvania Broadband Coverage
October 1, 2013

Legend

Maximum Advertized Downstream Speed

Greater than or equal to 1.5 mbps and less than 3 mbps	Greater than or equal to 25 mbps and less than 50 mbps
Greater than or equal to 3 mbps and less than 6 mbps	Greater than or equal to 50 mbps and less than 100 mbps
Greater than or equal to 6 mbps and less than 10 mbps	Greater than or equal to 100 mbps and less than 1 gbps
Greater than or equal to 10 mbps and less than 25 mbps	Greater than or equal to 1 gbps

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 2013 data submission.

Pennsylvania Broadband Coverage
October 1, 2013

Percentage of State Coverage	
1 Provider	5.03%
2 Providers	8.33%
3 Providers	9.74%
4 Providers	13.61%
5 or more Provider	63.29%

Legend

Provider Density 2 Providers 4 Providers
          1 Provider 3 Providers 5 or more Providers

Specific Mapping Enhancements Implemented or In Process:

- **Mobile Device Accessibility Deployed:** During Q3-2013, 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 October 2013 data submission, the project team witnessed increased usage of the broadband mapping provider submission portal. It is anticipated the usage will increase even more with the April 2014 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 Q4-2013, the data on the website will be refreshed with the October 2013 data submission information. The update of the secure website will continue for subsequent update cycles.

- **Propagated Coverages Generated:** For the October 2013 NTIA data submission, propagated wireless coverages were included 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 64% of identified K-12 schools and 93% of identified libraries collected for the October 2013 update. During Q3-2013, a survey to collect libraries information for the Pennsylvania Department of Education Office of Commonwealth Libraries was leveraged to also collect broadband information which yielded a response from 93% of libraries in Pennsylvania. The following table shows the current CAI outreach results. Data collection continues, with additional responses to be included in the April 2014 update.

Community Anchor Institution Type	Number of Community Anchor Institutions Identified	Number of Institutions with Connectivity Attributes
K-12 Schools	4,898	3,118
Libraries	769	720
Post-Secondary Schools	535	104
Police Departments	1,025	280
Hospitals	278	63
Health Departments	616	30
Other Non-Governmental	7	7
Other Governmental	5	5
Total:	8,133	4,327

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 included four (4) additional providers' middle mile locations from the previous NTIA data submission.

- **Reseller Data Included:** For the October 2013 data submission, 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 Q4-2013, the state broadband mapping website will be 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 September 30, 2013.

Status Categories	*# of Providers*
Total ISPs/Providers Identified/Contacted	*310*
Providers That Report They Do Not Provide Broadband Service in PA	*122*
Providers That Report They Are Resellers	*28*
Companies In Which We Are Unsure If They Provide Broadband Service	*33*
Known Broadband Provider Universe	*127*
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	*0*
Provider Data That Has Been Validated	*105*
Providers Included in the October 1, 2013 Delivery	*105*
Resellers Included in the October 1, 2013 Delivery	*4*

The matrix below indicates the progress made with each SBI data submittal through October 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	As of Oct. 2013
Total Number of Broadband Providers Identified	101	113	115	120	121	121	125	127
Providers that Have Agreed to Participate	75	93	99	101	95	98	103	105
Entities with which we have executed NDAs	40	40	41	41	41	41	41	41
Entities which we are actively negotiating NDAs	2	1	0	0	0	0	0	0
Providers that have submitted data	69	89	94	94	92*	96	102	105

* 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.

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 Q3-2013, 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 Q3-2013:

- The Pennsylvania Technical Assistance Program (PennTAP) at Penn State University (PSU) closed 30 one-on-one technical assistance cases with small business or community anchor institution clients and had another 27 in process. This brings the number of closes cases to 226 (94% of commitment).

- PennTAP completed 17 additional cases of intensive technical assistance with businesses and community anchor institutions, bringing the total of intensive cases to date to 66 (165% of commitment).

- PennTAP provided training or assistance to 241 individuals, bringing the cumulative total to 1,620 individuals impacted (93% of commitment).

- PennTAP mentored and placed three (3) additional PSU 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 placements to date to 22 (55% 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

- PSU's College of Information Sciences and Technology (IST) continued finalizing development of the broadband-related online course targeting IT professionals. This curriculum will be made available as an open source course through Penn State University and the partners are developing a plan to market this learning opportunity.

- Social Media Marketing, Search Engine Optimization training with assistance for Mobile accessibility and utilizing Credit Card tools on mobile devices continued to be hot topics for both one-on-one and group trainings provided through the program.

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TECHNICAL ASSISTANCE

- The PennTAP Specialists attended a number of training sessions this quarter such as *Cyber Security*, *Cloud in the Business Environment*, *Cloud Governance & Security*, as well as *SEO-the Latest Algorithm,* so they can keep abreast of relevant broadband-related technologies and advancements that small businesses should be aware of. They are also closely engaged with their regional economic development, technology, and business support groups to share information and plan partnered trainings.

- Businesses recommended by PennTAP and chosen by students for their "Google Adwords" national competition were provided reports from the students with the results of the competition. One of the Penn State student teams placed in the top 15 out of 4,000 teams worldwide! Plans are being finalized to bring businesses to the teams with the goal to have one of PennTAP's broadband clients in the top 10 for 2014.

- PennTAP's clients receiving broadband technical assistance have reported the creation or retention of 65 jobs. In addition, $1,300,000 in economic benefits (includes increased revenues, cost savings, cost avoidance, capital investments, etc.) have been realized due to the assistance provided through this program.

- The Local Development District network selected a qualified vendor through its competitive procurement process to support the rollout of its municipal/community broadband outreach/training program. This program is now in the planning stages involving all regional partners and the selected vendor. Marketing and training delivery will launch in Q4-2013.

- 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 21 Broadband Assessments and 27 Technology Strategic Plans for manufacturers during Q3-2013, bringing the total to 148 Broadband Assessments (74% of commitment) and 138 Broadband Technology Strategic Plans (69% 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.

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:
  - 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.

TECHNICAL ASSISTANCE (continued)

➢ 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.
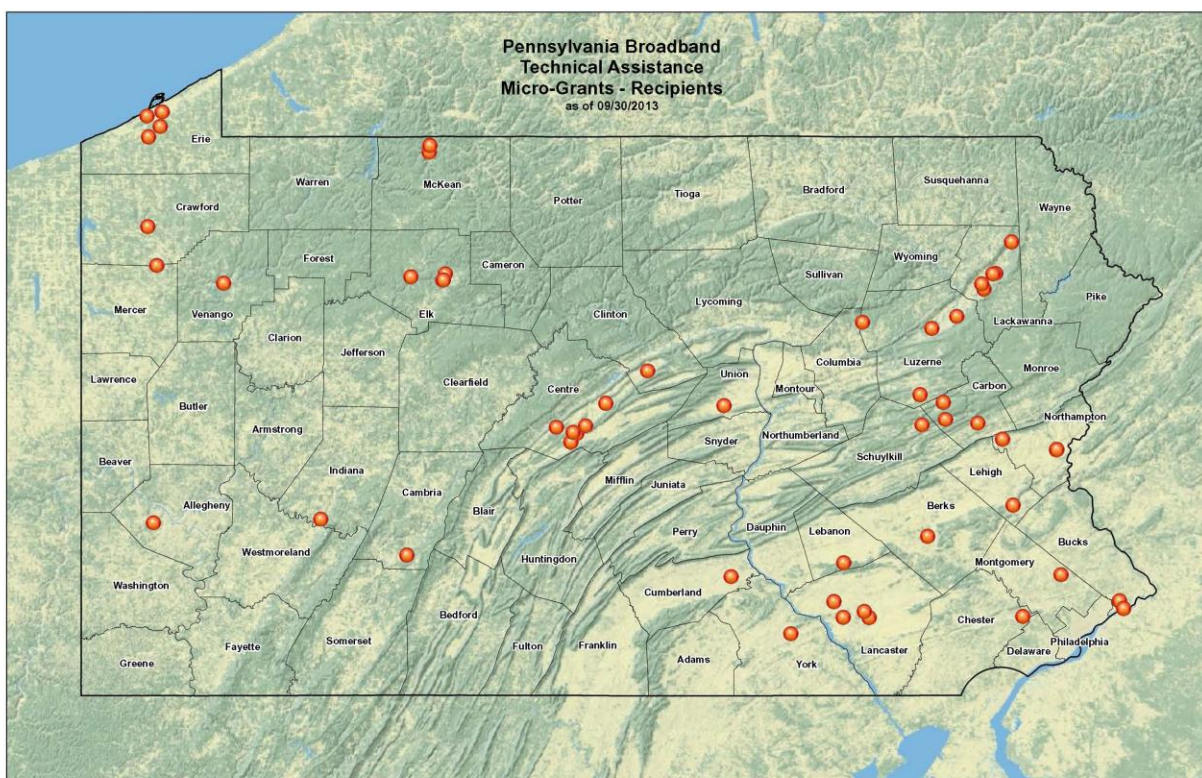
MICRO-GRANT IMPLEMENTATION ASSISTANCE:

Recommendations are one thing, but if the company cannot/does not implement them, what good are they?

• For this very reason, the Broadband Implementation Micro-grant program component was launched in Q1-2013 to incent firms to actually pull the trigger and implement the technology plan recommendations provided. $400,000 in total will be deployed to businesses and community anchors statewide to incent the implementation of broadband recommendations resulting from the Technical Assistance initiative. Clients are eligible to apply for 50% of their broadband project costs up to $10,000, which will be reimbursed upon project completion. Application rounds are held monthly. 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.

TECHNICAL ASSISTANCE (continued)

- 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, 27 micro-grant assistance awards to PA businesses and community anchor institutions were approved, totaling $107,221. These grants leveraged $688,380 of private investment this quarter alone.

- At the close of Q3-2013, seven (7) funding rounds had been completed. In total, 60 applications were received and reviewed in that time, of which 55 from 25 counties were approved, totaling $163,313 in micro-grants (41% of commitment), leveraging $1,324,624 in private company investment (8:1 leverage ratio) to support broadband-related project implementations. These projects will improve the operations of the client companies, while generating significant ROI, economic impact, job creation/retention.

- The map below illustrations the distribution of the micro-grant awards statewide:

Pennsylvania Broadband Technical Assistance Micro-Grants - Recipients as of 09/30/2013

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.

Centre Volunteers in Medicine, State College (Centre, County) – Student Internships

Centre Volunteers in Medicine (CVIM), a non-profit that provides medical attention to uninsured county residents, was struggling with how to increase community awareness of its services. The organization recognized the need for a more user friendly website and the ability to integrate new forms of social media to reach out to potential patients as well as community leaders whose support is vital to the organization. However, as a non-profit, CVIM consistently struggles between allocating resources to benefit their patients and promoting their mission. Through a partnership between Penn State's College of Information Sciences and Technology (IST), the University's Pennsylvania Technical Assistance Program (PennTAP), and Surge Business Development, CVIM was approached about the possibility of having a team of interns from IST seek solutions for their challenges. The team of interns was briefed on the broad outline of CVIM's needs then introduced to the organization. Over the course of two months, students:

- understood CVIM's needs, developed and implemented a plan.
- designed a new logo for the organization.
- re-built the website
- set up and use a twitter account
- created a list of Search Engine Optimization terms.
- provided bi-weekly status reports to PennTAP and IST Professor Peter Forster
- obtained real-world job experience while improving broadband presence and utilization for this important community anchor institution.

The Outcome: CVIM has the tools needed to increase the visibility of the important work it does in Centre County. CVIM will launch its new logo and website and announce its twitter account at a major fund raising event in late October 2013.

Friendship House, Scranton (Lackawanna County) – Micro-grant applied
Friendship House (FH) located in Scranton provides programs and services designed to enhance the emotional, behavioral and social well-being of children and families in the community. This small organization needed to implement an electronic healthcare records (EH) system and required monetary assistance to make it happen. Being a partner with the LDDs for the BB Implementation Micro-grant program made PennTAP a go-to organization when NEPA-Alliance was asked by FH who could assist them. Although the Economic Benefits have yet to be realized, FH is assured to realized well above the Micro-grant approved amount of $10k.

TECHNICAL ASSISTANCE (continued)

ITI Trailers and Truck Bodies

Social Media and Broadband Technology: The partners leveraged broadband technology as a marketing tool for this manufacturer by developing a product video for their rear steering expanded trailer for the oil &gas industry. The video is viewed by customers and prospects via Social Media (see YouTube Video below linked to their Facebook site)

   https://www.facebook.com/ITImfg

   http://www.youtube.com/watch?v=ypWivvYiz6Q

QE Manufacturing is a small manufacturing company in rural **Union County** that has been struggling with cash flow in recent years and has not invested in IT infrastructure or new broadband technologies. The company has been sharing computing assets with another manufacturer in the area by accessing programs remotely on the other company's systems. The speed for the shared programs is very slow. The Broadband Technology Assessment provided through this program uncovered opportunities for potential cloud-based access to these programs and, also uncovered deficiencies in the website and the email that needed to be addressed. The company applied for and was awarded an $8,309 Broadband Micro-grant funds in August 2013 to support the $16,717 project which will implement a broadband solution to address these issues. The project will kick-off on October 15.

Example of project funded through the micro-grant program

A micro-grant was approved to help upgrade one manufacturer's antiquated, DOS-based accounting system implemented in 1989 to a new cloud-based accounting platform to allow more accurate and timely reporting of financial performance for its three locations in PA and NC, while allowing for future growth in sales, product lines, and/or company acquisition. The project also is expected to generate annual cost savings of $100K, a reduction of 120 hours per month and will create 5 new non-IT jobs. Actual impacts will be reported upon project completion.

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:

The data from the primary and secondary research has been reviewed and preliminary analysis has begun. Additional analysis needs to be done to culminate all of the data and formulate conclusions.

The remaining components in this research initiative are to:
  ➢ consolidate Broadband Technical Assessment results,
  ➢ finish the data analysis and formulate conclusions,
  ➢ compile the final report;
  ➢ design the communication plan

Project Challenges:

Garnering participation in the company interviews, even from IRC network clients has been extremely difficult. To augment these results, the Network is looking at the Broadband Technical Assessments as an additional source of information regarding company needs and the state of technology within our target market.

Change in Network staff has caused delays and a lack of consistent direction.   To mitigate this problem, the Network recently assigned a Director lead to this project. The lead director has considerable background with the technology, the project and the vendor. As a result, project has increased emphasis from the Network and is moving ahead appropriately.