

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission:

- Preapplication
 Application
 Changed/Corrected Application

* 2. Type of Application:

- New
 Continuation
 Revision

* If Revision, select appropriate letter(s):

* Other (Specify)

* 3. Date Received:

08/11/2009

4. Applicant Identifier:

5a. Federal Entity Identifier:

* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

Executive Office of the Commonwealth of Pennsylvania

* b. Employer/Taxpayer Identification Number (EIN/TIN):

23-6003107

* c. Organizational DUNS:

188655898

d. Address:

* Street1:

Commonwealth Avenue

Street2:

207 Finance Building

* City:

Harrisburg

County:

Dauphin

* State:

PA: Pennsylvania

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

17120

e. Organizational Unit:

Department Name:

Executive Office

Division Name:

Office for Information Tech

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Mrs.

* First Name:

Brenda

Middle Name:

* Last Name:

Orth

Suffix:

Title: Deputy Secretary for Information Technology

Organizational Affiliation:

Same as Applicant

* Telephone Number:

717-787-5440

Fax Number:

717-787-4523

* Email:

borth@state.pa.us

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9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Department of Commerce

11. Catalog of Federal Domestic Assistance Number:

CFDA Title:

*** 12. Funding Opportunity Number:**

0660-ZA29

* Title:

State Broadband Data and Development Grant Program

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Pennsylvania statewide; includes 67 counties and all congressional districts in PA

*** 15. Descriptive Title of Applicant's Project:**

Commonwealth of Pennsylvania Broadband Mapping Initiative

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

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16. Congressional Districts Of:

* a. Applicant PA-017

* b. Program/Project PA-A11

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

* a. Start Date: 10/01/2009

* b. End Date: 09/30/2014

18. Estimated Funding (\$):

* a. Federal	3,993,048.00
* b. Applicant	0.00
* c. State	1,000,000.00
* d. Local	0.00
* e. Other	500,000.00
* f. Program Income	0.00
* g. TOTAL	5,493,048.00

* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on .
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

 ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Ms. * First Name: Brenda

Middle Name:

* Last Name: Orth

Suffix:

* Title: Deputy Secretary for Information Technology

* Telephone Number: 717-787-5440 Fax Number: 717-787-4523

* Email: borth@state.pa.us

* Signature of Authorized Representative: Luc Miron * Date Signed: 08/11/2009

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*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

Project Abstract

The Commonwealth of Pennsylvania (“Commonwealth”), acting through the Department of Community & Economic Development (“DCED”) in partnership with the Governor’s Office of Administration (“OA”), submits a request for funding assistance under the State Broadband Data and Development Program administered by the NTIA in the amount of approximately \$4,000,000 for broadband mapping and \$500,000 for planning activities. DCED has been designated by the Governor of Pennsylvania as the entity authorized to apply on behalf of the Commonwealth of Pennsylvania. Pursuant to the BDIA, DCED is an eligible recipient of the State Broadband Data Program grant since it is an agency or instrumentality of the State.

The Commonwealth will build upon current broadband mapping efforts previously undertaken and required under state statute. Following completion of state compliant vendor procurement, the will enlist the assistance of qualified outside consultant(s) to collect and compile the data and information required by NTIA in conformity with Technical Appendix A as amended by subsequent NTIA Clarification. Certain select non-proprietary data layers will be made available in a public portal with a GIS interface and will be searchable at street address level. The Commonwealth will achieve substantial data collection efforts by February 1, 2010, and will provide complete data set by March 1, 2010. Pennsylvania mapping data will be updated on at least a semi-annual basis. Project duration is five years.

This project also includes a planning and collaboration component aimed at encouraging adoption by select constituents and more vulnerable communities through implementation of state broadband plan, inter-agency participation, and engagement of various stakeholders.

Commonwealth of Pennsylvania
State Broadband Data and Development Program

PROGRAM NARRATIVE

Executive Summary

The Commonwealth of Pennsylvania (“Commonwealth”), acting through the Department of Community & Economic Development (“DCED”) in partnership with the Governor’s Office of Administration (“OA”), submits a request for funding assistance under the State Broadband Data and Development Program administered by the NTIA in the amount of approximately \$4,000,000 for broadband mapping and \$500,000 for planning activities. DCED has been designated by the Governor of Pennsylvania as the entity authorized to apply on behalf of the Commonwealth of Pennsylvania. Pursuant to the BDIA, DCED is an eligible recipient of the State Broadband Data Program grant since it is an agency or instrumentality of the State.

The Commonwealth will build upon current broadband mapping efforts previously undertaken and required under state statute. Following completion of state compliant vendor procurement, the will enlist the assistance of qualified outside consultant(s) to collect and compile the data and information required by NTIA in conformity with Technical Appendix A as amended by subsequent NTIA Clarification. Certain select non-proprietary data layers will be made available in a public portal with a GIS interface and will be searchable at street address level. The Commonwealth will achieve substantial data collection efforts by February 1, 2010, and will provide complete data set by March 1, 2010. Pennsylvania mapping data will be updated on at least a semi-annual basis. Project duration is five years.

This project also includes a planning and collaboration component aimed at encouraging adoption by select constituents and more vulnerable communities through implementation of state broadband plan, inter-agency participation, and engagement of various stakeholders.

1.1 Introduction & Background

The Commonwealth of Pennsylvania (“Commonwealth”), acting through the Department of Community & Economic Development (“DCED”) in partnership with the Governor’s Office of Administration (“OA”), submits a request for funding assistance under the State Broadband Data and Development Program administered by the NTIA. DCED has been designated by the Governor of Pennsylvania as the entity authorized to apply on behalf of the Commonwealth of Pennsylvania. Pursuant to the BDIA, DCED is an eligible recipient of the State Broadband Data Program grant since it is an agency or instrumentality of the State and DCED is the single eligible entity in the State that has been designated by Pennsylvania Governor Edward G. Rendell to receive a grant under this program. A copy of the Governor’s designation letter is attached to and part of this application.

The Commonwealth's lead agency in terms of broadband mapping is the Department of Community & Economic Development (DCED). DCED is responsible for the implementation and maintenance of the state broadband mapping inventory enacted under Act 183 of 2004 ("Act 183"), more commonly referred to as the reauthorization of Chapter 30 of state Public Utility Code (66 Pa. C.S. P.L. 1398). Pennsylvania's legislatively mandated broadband mapping inventory was one of the first such enactments in the country, if not the first. Since that time, best practices have emerged in terms of data collection and data display. Additionally, the convergence of:

- policy formulation and public infrastructure investment which requires reliable data;
- federal involvement in the broadband mapping arena (Broadband Data Improvement Act; State Broadband Data and Development Program; and FCC National Broadband Strategy);
- broadband stimulus funding programs that require documentation of unserved and underserved communities; and
- increasing public demand for coverage information

emphasizes the need for better broadband mapping information both in terms of quality and quantity.

The Governor's Office of Administration, Office for Information Technology (OA/OIT) is the executive agency responsible for leading and coordinating information technology services in the Commonwealth of Pennsylvania and providing enterprise-wide technology, policy, standards, architecture, information, and solutions to enhance system interoperability, security, and cost effectiveness.

1.2 Current PA Mapping Inventory & Capability

Act 183 requires DCED to maintain and periodically update an inventory of coverage data for broadband services. § 3014(m) of Act 183 specifies that DCED must collect *general* coverage information from all telecommunications providers, regardless of technology used (copper, fiber, cable, wireless, etc.) that it must publish this statewide inventory and map on governmental website (available at www.broadbandinpa.com). A variation worth noting - "broadband" is defined in state Act 183 as "a communication channel using any technology and having a bandwidth equal to or greater than 1.544 megabits per second (Mbps) in the downstream direction and equal to or greater than 128 kilobits per second (kbps) in the upstream direction."

The pictures below (screen captures from public mapping portal) depict statewide views of broadband availability through DSL, cable, and limited wireless coverage data as reported by providers to DCED. Users may search by county or zip code to obtain a listing of providers. The inventory currently does not have street-level search capability, and is limited in terms of its functionality. The information collected by the state does not contain any of the elements required under Technical Appendix A, as amended by Clarification issued by NTIA on August 7, 2009. The statute is vague as to provider obligations, lacks specificity as to required granularity of information, omits frequency of

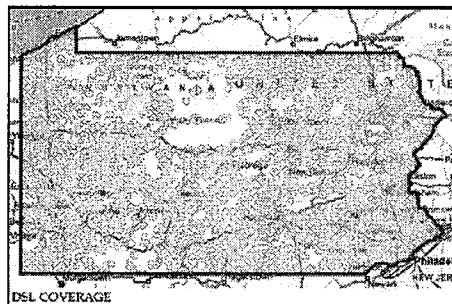
reporting, and does not contain enforcement and compliance provisions. The Pennsylvania Public Utility Commission (PUC) is responsible for oversight and regulation of Incumbent Local Exchange Carriers (ILECs), Competitive Local Exchange Carriers (CLECs) and Competitive Access Providers (CAPs) only. The Federal Communications Commission (FCC) is responsible for oversight and regulation of cable, cellular, and wireless providers.

In support of its Act 183 mapping requirements, the Commonwealth has maintained a relationship with iMapData, Inc., a Virginia-based company. Additionally, this vendor has created the Pennsylvania Technology Investment Map (PTIM) which is an internet-based interactive map that allows government and private sector partners to view detailed maps of the Commonwealth's telecom infrastructure. At its core, the mapping and report system provides a visual depiction of broadband infrastructure and availability in relation to other data elements such as: detailed population demographics, business demographics, schools, hospitals, government facilities, and a myriad other interdisciplinary data sets compiled by DCED and other peer Commonwealth agencies. In support of the homeland security mission, iMapData has produced extremely detailed datasets for physical infrastructure including telecommunications, education facilities, transportation infrastructure, and so forth. This project will seek to build upon data elements already collected by the Commonwealth and leverage prior investments made by the Commonwealth in developing the current mapping application.

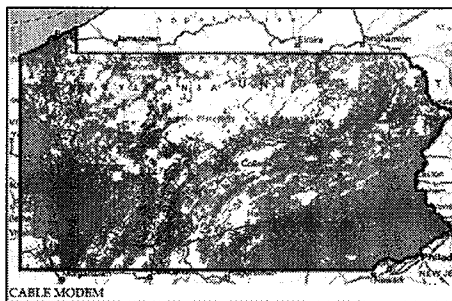
1.3 Current Data Collection and Mapping Methodology

Lengthy negotiations in 2005 and 2006 with the two largest state industry associations (Pennsylvania Telephone Association and the Broadband Cable Association of Pennsylvania) and the execution of Non Disclosure Agreements ultimately led to delivery of proprietary data points (eg. remote terminals and DSLAM). From this information, the Commonwealth derived coverage as depicted on the maps below.

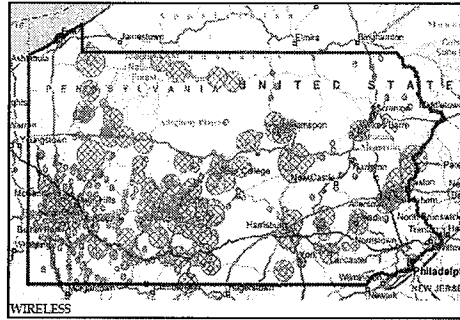
DSL Coverage – DCED collected Central Office locations and Remote Terminals from all ILECs in Pennsylvania and depicted crop circles for deployed facilities spanning 16,000 feet around wire center boundaries to create the DSL coverage map to the right. ILECs providers supplied remote terminal information once assured that street level search would not be available



Cable Modem Coverage – DCED collected broadband coverage information from all cable operators in Pennsylvania at the census block level. Census block level was supplied only when cable operators were satisfied that street level search would not be available.



Wireless Coverage – A few small fixed wireless providers provided location of facilities, beam radius, azimuth and coverage range. Despite many requests, none of the large mobile and cellular providers have contributed any information to the Commonwealth. As such, wireless mapping information is particular deficient in a relative sense.



This has given Pennsylvania a good start and a better appreciation of the location and extent of the digital divide. However, there is room for improvement in terms of data collection, accuracy, consistency, maintenance, and information submission. As previously noted, some segments of the industry, the wireless and cellular carriers, in particular, have been resistant to providing critical mapping information to Pennsylvania state government notwithstanding their statutory obligation to do so under state Act 183.

The highly prescriptive nature of the Notice of Funding Availability (NOFA) and clarity related to data collection requirements, the substantial resource allocation by the federal government, and the possibility of FCC involvement will help alleviate the current challenges of ambiguity, sustainability and compliance, respectively.

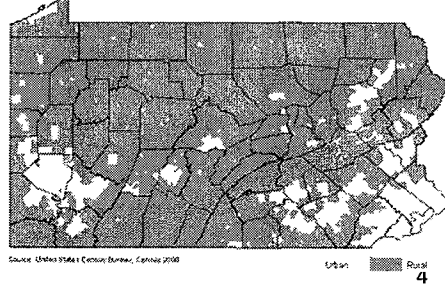
1.4 Demographic and Geographic Considerations

Pennsylvania is home to nearly 12,500,000 residents, and is the 6th most populated state in America. It measures 283 miles east to west, and 160 miles north to south – a total of 46,058 square miles – making it the 33rd largest of the 50 states. The Commonwealth has the nation’s third largest population over age 65 (behind Florida and West Virginia) and the third largest rural population (behind Texas and North Carolina) in the United States.

Pennsylvania is topographically diverse. Pennsylvania’s mountains, forests, and winding river valleys present significant challenges to broadband deployment. Over 50% of the state is still covered by forests. Much of the level land is primarily rural, as evidenced by the 63,000 farms in the state.

According to the Center for Rural Pennsylvania, in 2007, nearly 3.4 million people, or 28 percent of the state’s residents, lived in Pennsylvania’s 48 rural counties. About 9 million people, or 72 percent of the state’s population, lived in the state’s 19 urban counties. The map to the right reflects this urban-rural reality in Pennsylvania.

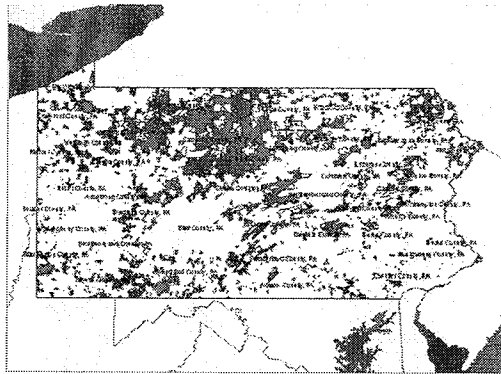
Pennsylvania’s Rural Municipalities



1.5 Prioritization of Unserved and Unserved Areas

The Delaware River establishes the state's eastern border and features relatively level terrain in the populated Philadelphia metropolitan area. Progressing east to west, the state has rolling hills, irregular lowlands, and occasional mountains. These rise into the forested, mountainous Appalachian Plateau which dominates the northern and western regions except for the lowlands along the Lake Erie shore. The highest preponderance of the digital divide in Pennsylvania is in the northern tier/north central region that lies in the east-west corridor between Interstate 80 and the Pennsylvania-New York State border. This is corroborated by the Act 183 coverage maps depicted above. In the wake of the joint release of the NOFA by NTIA/RUS, Pennsylvania has modeled suspected unserved/underserved regions which, as depicted below, once again coincide with the northern tier and north central region of Pennsylvania.

Consequently, for both its deployment and mapping efforts, the state will prioritize the northern tier/north central portion of Pennsylvania.



[Red=unserved; Yellow=underserved]

1.6 Compliance with State Broadband Plan

The Commonwealth recently published a State Broadband Plan which contains certain key Guiding Principles, including "Goal 2 – Information and Mapping". In particular, Goals 2.2 and 2.4 include:

2.2 – Expand existing broadband inventory mapping initiative to achieve compliance with statutory mandates such as Act 183 of 2004 and in the pursuit of federal stimulus objectives and the Broadband Data Improvement Act

- Prepare comprehensive data and imagery (e.g. mapping) reference materials on existing telecommunication infrastructure, providers, demographics, and critical broadband consumers (businesses, healthcare providers, educational

institutions, public safety agencies, etc.). Include identification of Last Mile, Middle Mile, and Long Haul/Backbone infrastructure, availability and type of broadband service to communities and critical anchors (schools, libraries, etc.), the location of communications (cell) towers, and other applicable assets that can help identify broadband coverage deficiencies.

- Explore opportunities and benefits of collaboration with other public service information and mapping initiatives, such as county-level assessment and 911 systems.

2.4 – Facilitate broadband awareness and education programs that will increase adoption and sustainability

- Facilitate efforts by Commonwealth departments to obtain basic information about broadband and its value to the agency and its constituents, promote awareness of broadband initiatives of use to the agency, and encourage the agency to identify opportunities to integrate broadband into its policies, projects, and programs.
- Encourage broadband training and awareness initiatives for “user groups” (including, but not limited to local and county government, regional public service providers, distressed and vulnerable populations, public safety agencies, hospitals, schools, and senior citizens).
- Facilitate efforts to make broadband providers aware of unserved and underserved areas through introductions to local stakeholders, promotion of applicable broadband assistance websites, agencies, programs, and related strategies.
- Acknowledge and promote successful, replicable broadband projects, including illustrations of “Best Practices” (models) and Exemplars (role models).

Section 2 NTIA Review Criteria

This section of the Commonwealth’s Project Narrative addresses the 5 distinct NTIA Review Criteria:

- 1) Data
- 2) Project Feasibility
- 3) Expedient Data Delivery
- 4) Repeated Data Updating
- 5) Planning and collaboration

Formatted: Bullets and Numbering

Vendor Procurement Considerations - This project application is being submitted by the Department of Community & Economic Development (DCED) in partnership with the Governor’s Office of Administration on behalf of the Commonwealth. The state intends to outsource the data collection, verification, maintenance and hosting functions of this project to an outside vendor subject to applicable Commonwealth procurement considerations. Outside partner(s) will be selected prior to project commencement and

Commonwealth will advise NTIA of any selected outside contractor(s) and will provide evidence of credentials and approved scope of work. This vendor selection will be an augmentation of the current Act 183 mapping services provided by iMapdata, Inc.

In anticipation of this project, the Commonwealth has undertaken the process of identifying potential vendors that may be in a position to provide the necessary services and consulting skills to carry out the necessary tasks that align with the NOFA. Some of these entities include: CostQuest, Connected Nation, L.R. Kimball & Associates, iMapdata Inc, Apex Covantage, Telogical Systems, Rolka Loube Saltzer, eCopernicus, and ESRI to name but a few. Related to the implementation of this project, the Commonwealth is contemplating the selection of a qualified vendor from competitive state procurement process called Invitation to Qualify (ITQ). The Commonwealth will issue a Request for Qualifications (RFQ) which will contain a Scope of Work that is consistent with this grant submission and with the NOFA requirements, as amended.

The remainder of the Commonwealth's submission to NTIA will address Review Criteria enumerated in the NOFA for the State Broadband Data and Development Program.

1. Data:

(a) Data Gathering.

The first phase of the project will relate to identification of providers, development of the base map parameters, and the collection and compilation of broadband availability data either in the form of address-specific data as described in the original Notice and subject to Clarification issued by NTIA on August 7th providing for an alternative collection method of census blocks and/or street segments with address ranges for wireline providers, and availability by shapefile for wireless services not provided to a specific address, technology, speed, infrastructure, , and spectrum used for wireless broadband. This will support the creation of a consistent, best-available data set of broadband coverage and provider information that is to be provided to the NTIA and to the FCC in support of the data standards and requirements outlined in *Technical Appendix A* as amended by subsequent Clarification issued on August 7, 2009.

Due diligence will be performed to first document the Data Workflow Methodology and data design including, but not limited to, geospatial domain rules, topology rules, security measures, and data storage requirements needed to support the data standards outlined in *Technical Appendix A*. The Data Workflow Methodology will include, but not limited to, mechanisms for data collection, transfer and sharing (how the data will be provided / received), where the incoming data will be stored, how the data will be stored, how the data will be secured, QA/QC measures, data verification processes, how the data will be managed and administered, data storage requirements, and how the data will be provided to the federal government.

Consideration will be given to the feasibility of linking / integrating the collected broadband data with existing Commonwealth GIS data assets and with Community

Anchor Institutions (i.e. schools K-12, hospitals, etc.). This will provide for a seamless integration between broadband data and Community Anchor Institutions within Pennsylvania, while enhancing and leveraging Commonwealth existing data assets.

Throughout the Data Gathering phase, various types of broadband data will be gathered in accordance with *Technical Appendix A*, as amended by clarification issued by NTIA on August 7, 2009, and the data will be incorporated into a common database that adheres to the standards outlined in the guidelines published by the NTIA for *State Broadband Data and Development Grant Program*.

The Commonwealth is currently working with a legislative House Committee to amend a state bill (HB192). If successful, this amendment would incorporate the data collection requirements of this NOFA, including the particulars of Technical Appendix A. It is the Commonwealth's expectation that the Pennsylvania House of Representatives will consider this amendment during the fall legislative session which is scheduled to begin in September 2009.

i. Data Gathering - Administrative

The vendor(s) selected by the Commonwealth will be expected to perform critical data gathering tasks. For instance, a list of broadband providers within Pennsylvania will be developed forming the starting point to obtain their information and service boundaries. Since some carriers are regulated at the federal and some at the state level, the licensed broadband providers and operators will be identified through several public data sources, such as:

- Pennsylvania PUC lists ILECs, CLECs, Interexchange resellers and toll facilities based carriers, Competitive Access Providers:
http://www.puc.state.pa.us/telecom/telecom_tariffs.aspx
- FCC Form 477 provides standardized information about subscribership to high-speed services, including advanced services, from wireline telephone companies, cable system operators, terrestrial wireless service providers, satellite service providers, and any other facilities-based providers of advanced telecommunications capability
<http://www.fcc.gov/Forms/Form477/477systemguide.pdf>
- FCC list of Cable Operators in PA
<http://www.fcc.gov/mb/engineering/list/PA.xls>
- FCC list of Wireless Broadband PCS
http://wireless.fcc.gov/services/index.htm?job=service_home&id=broadband_pcs

It will be essential to nurture and develop relationships with the service providers and industry associations during this project phase in order to acquire the necessary customer data from each service provider. This will be completed by leveraging existing broadband service provider relationships created under

the Act 183 process and establishing new ones through a series of regional meetings held across the state, in addition to one-on-one meetings as necessary. This will involve dialogue with the Pennsylvania Telephone Association, the Broadband Cable Association of Pennsylvania, and the Pennsylvania Wireless Association. Unlike the telephone and cable industry groups, the latter is a looser ad hoc consortium of wireless and cellular providers.

Non-Disclosure Agreements (NDA) and/or Data Sharing Agreements will be drafted and negotiated by the vendor in order to meet the data collection requirements and to adhere to the NOFA and to the *Technical Appendix A*, as amended by clarification issued by NTIA on August 7, 2009. Commonwealth Legal Counsel may assist with drafting and with negotiation of the terms and conditions contained within NDAs / Data Sharing Agreements. The NDAs / Data Sharing Agreements will be the foundation for protecting the proprietary and competitively sensitive information and will allow service providers to understand how their data will be utilized without compromising the location of key infrastructure or concerns for public safety, as well as proprietary business data of service providers.

The Commonwealth's Right-to-Know and Records Management Officers can also be made available as a resource to assist in ensuring that the data under this project remains protected as deemed appropriate through Commonwealth processes, directives, and/or laws.

Base Maps will be developed upon which the broadband provider and coverage data will be overlaid. These base maps will include layers such as street data, census data, political boundaries, and Public Buildings and Community Anchor locations such as schools and colleges, public buildings, libraries, and hospitals.

Quality Assurance / Quality Control plans will also be established within the Data Workflow Methodology to ensure planned data gathering activities are adequate to meet project objectives and to provide for data evaluation activities that will verify pre-defined requirements for quality.

ii. **Data Gathering – Technical**

Preliminary research conducted by the Commonwealth indicates that some of the data required to be collected under *Technical Appendix A* as amended by subsequent Clarification resides in multiple formats ranging from basic and simplistic hand drawn maps to sophisticated information technology systems where Extensive Markup Language (XML) data transfers could potentially be established to broadband data already existing in geospatial data format. To succeed, this project must employ several mechanisms for data / information exchange in order to capitalize on achieving the greatest possible outcome for this project investment. These include:

1. **Meetings** will be facilitated with each provider by setting up regional meetings to include all local service providers within a regional landscape. Necessary follow up will also be conducted via telephone interviews to acquire any missing information or incomplete information from each service provider.
2. **Face-to-Face Survey Interviews** will be scheduled to gather all pertinent data necessary with each respective service provider that could not attend one of the regional meetings. The face-to-face surveys would allow for the categorizing of each service provider as to their service footprint and infrastructure in terms of broadband speed and rates.
3. **Web Technologies** will provide a means to gather information from service providers in the form of electronic surveys and communications. Service providers could login to a website securely and provide information through on-line surveys or submit electronic survey documents where all data is collected efficiently through backend databases resulting in more timely reports and information back to the Commonwealth of Pennsylvania.

Citizens could fill out a web form containing broadband usage questions and submit the information for analysis. The web form could be made publicly available or targeted to authenticated users. A web mapping interface could also be used for collecting data as well as publishing finished data.

A project collaboration website will be developed to allow for more timely acquisition and dissemination of data / information exchange to and from service providers, consumers, and stakeholders. Collaboration websites have been found to be an invaluable tool in efficient data / information exchange, especially under tight project schedules. Service providers that possess file-based information such as maps or other documents can use a web interface to upload those files for use in building the geodatabase.

Service providers that possess file-based information such as maps or other documents can use a web interface to upload those files for use in building the geodatabase. Robust and scalable tools could be built to upload files of any size from the user's browser to a central location for later processing, in addition to establishing a standard XML data / information exchange model for broadband mapping data exchange. Files could also be made available for downloading through the same interface, if desired. This functionality would be secure and available to authenticated service providers.

4. **Digitizing** will occur when service providers supply hardcopy maps, scans and/or drawings. Digitizing will leverage prior federal and state investments in PA Imagery and LiDAR (elevation) data, in addition to other base mapping data available within the Commonwealth's extensive GIS data repository.
5. **Geocoding** will occur when service providers supply street level addresses. Existing Commonwealth geocoding services and tools can be leveraged for this project.

GIS Data Creation will occur once the data / information is gathered, assessed, and verified for accuracy through quality assurance / quality control measures. The GIS data will provide the basis for the spatial analysis assessment to determine better accuracy for the unserved and underserved areas in Pennsylvania. Leveraging existing Commonwealth GIS data assets (including data elements contained in the enterprise TANA license), obtaining or creating infrastructure information such as towers, fiber nodes, building locations, etc. is vital as service providers, state, and federal government look at how the broadband gaps can be closed.

Metadata Creation will follow the Commonwealth's Geospatial Metadata Standards, which mimic the Federal Geographic Data Committee (FGDC) standards. FGDC compliant metadata will be created for each broadband mapping data layer that will be delivered through this project, and provided to NTIA along with the GIS broadband data in support of the National Broadband Map.

- (b) *Accuracy and Verification.* Applicants must provide a description of what methods the applicant intends to employ to verify data accuracy.

Service providers often will not willingly share this information because of concerns related to competitive vulnerability. Additionally, provider centric mapping will invariably inject provider bias, incomplete/inaccurate information, and lacks transparency. So the optimal solution will entail a hybrid model comprised of carrier-provider data but verified through external, additional sources including consumer-supplied data points. Therefore, a scientific, defensible methodology including field-validation of provider-supplied data is essential

The assessment and inventory must clearly incorporate mechanisms or processes for verification and for periodic updates to the datasets. Related activities may consist of:

Assistance from state entities (Public Utility Commission and Office of Consumer Advocate) and verification and validation by stakeholders (eg.

Local Development Districts, Intermediate Units, Local Governments, Technology Councils) that can help validate coverage information by virtue of knowledge of local conditions.

Field Audit Collections to validate provider-supplied broadband service data including location of terminating equipment, such as remote terminals, central offices and wireless towers, from which broadband service is made available. Additionally, this could include

- GPS readings
- Spectrum analysis for wireless connectivity speeds

Performance of speed tests

Review issuance of permits, Right-of-Ways, site acquisitions to confirm location of facilities, structures and backbones

Correction and Adjustment of datasets to include terrain-corrected and building-corrected transmission areas for fixed-wireless broadband providers (so that areas blocked from service by buildings, mountains, or hills are shown as not receiving service)

Market Intelligence including research/reports such as regulatory filings, consumer and business survey reports, and provider analytics.

Survey Instruments and questionnaires administered in select locations to provide statistical sampling that will validate or correct provider supplied data

A **Quality Assurance** plan will be established to ensure planned data gathering and maintenance activities are adequate to meet project objectives. The activities outlined in this plan will ensure the data gathering processes are defined and appropriate. It will primarily focus on the methodology, standards, and process elements of the project.

A **Quality Control** plan will be established containing data evaluation activities that will verify pre-defined requirements for quality. The activities outlined in this plan will focus on finding defects in specific project deliverables and to verify that data and functionality is not only correct, but useful.

Existing Commonwealth enterprise **Address Verification** and **Geocoding** tools will be used as a means of verifying street level addresses and assigning a latitude and longitude for accurate placement of the data on a map. The Commonwealth proposes to leverage:

- An **Address Verification** web service that provides access to the United States Postal Service (USPS) Quick Address Pro Web software and enterprise data for application address verification capabilities. The web service is used to verify addresses and uses the Quick Address Software Single Line engine.

Address verification data is provided specifically for the United States of America. Data is updated on a bi-monthly basis and data updates are performed in a timely manner due to expiration dates applied to the data sets as a requirement of the USPS data license.

- QAS Quick **Address Batch** software and enterprise data for **batch** address verification capabilities. This web service will be used to verify addresses in a **batch** file. Address verification data is provided specifically for the United States of America. Data is updated on a bi-monthly basis and data updates must be performed in a timely manner due to expiration dates applied to the data sets as a requirement of the USPS data license. The QAS Batch software is Coding Accuracy Support System (CASS) accredited. CASS is a software certification program designed to improve the accuracy of address data, including ZIP and ZIP+4 codes, on mail pieces. CASS certification is controlled by the US Postal Service and CASS-certified addresses are eligible for mailing discounts.
- **USPS Geocoding** web services that provide a single point of access for both address verification **and** geocoding to produce a postal-verified, geocoded response for a batch file of addresses. The USPS geocoding web service processes the request by first verifying the address provided and then geocoding the address point to provide a latitude and longitude for the verified addresses.
- Significant investments in **Pennsylvania Imagery** will also be leveraged to verify accuracy of the data points. The Imagery was created as a seamless, consistent, high-resolution set of digital, geospatial data products. The map was compiled from new high-resolution aerial photography and elevation data, and from existing digital map resources developed by state and federal agencies, counties, regional agencies, and municipalities.

The vendor(s) selected by the Commonwealth will be expected to abide by stringent Quality Assurance (QA) and Quality Control (QC) steps to ensure the spatial, attribute, and topological accuracy of the GIS data, and to guarantee data assurance and random validation of provider information.

(c) *Accessibility.*

The Pennsylvania broadband mapping data will be made publicly accessible to the greatest extent possible while adhering to protecting the proprietary and competitively sensitive service provider information as outlined in the to-be established Non-Disclosure Agreements. The publication of spatial information on the internet has become common and most internet users have become very familiar with the use of maps to convey information, in addition to having performance expectations as demonstrated with popular mapping sites such as Google Maps, Yahoo Maps, MapQuest, etc.

The goal of the web design will be to keep the interface clean, simple and accessible to users not familiar with GIS technologies. The selector vendor will be required to develop a site that will use the latest geospatial technologies, such as ArcGIS Server 9.3.1, and utilize a freely accessible base mapping data cache services in order to provide a responsive interface for the most comfortable user experience possible. The map symbology will be designed to maximize display speed while still delivering attractive and easily interpreted maps.

The broadband data will also be accessed based on the user's authentication status to allow more sensitive data to be published for specific users. For example, the public and other stakeholders would have an easy way to view the broadband coverage information and determine the coverage at their own location, while need-to-know broadband technologists and system administrators would have access to the more sensitive data, in accordance with the NDAs.

If required, the Commonwealth can leverage existing infrastructure, such as the Commonwealth's public safety/homeland security, fault tolerant GIS infrastructure that includes hardware, GIS software, and enterprise database software, to serve the broadband mapping website for Pennsylvania.

In practical terms, the Pennsylvania statewide broadband map will be viewable on a public website and it is anticipated that it will be very similar in terms of "look and feel" to the existing mapping inventory available at www.broadbandinpa.com but it will be searchable at the street level, as required by NTIA.

The additional data elements required under Technical Appendix A and subject to subsequent NTIA Clarification will be collected by the Commonwealth's vendor and the data layers will be made available to the NTIA in accordance with the NOFA requirements.

In terms of data display, it is anticipated that the following information about broadband service available from a public or private broadband service provider will be publicly displayed (subject to alternative data collection requirements permitted under NTIA Clarification to NOFA issued on August 7 and further subject to data collection and display restrictions contained in Non Disclosure Agreements with providers):

- Geographic areas in which broadband service is available.
- The technologies used to provide broadband service in such areas.
- The spectrum used for the provision of wireless broadband service in such areas.
- The speeds at which broadband service is available in such areas.
- Broadband service availability at public schools, libraries, hospitals, colleges and universities and all public buildings owned or leased by agencies or instrumentalities of the Commonwealth or municipalities or other subdivisions of the Commonwealth and its respective agencies or instrumentalities.
- Such other information as may be permitted by the broadband service provider.

If feasible and allowed by providers, the information will be searchable by address or as close to the address level as practicable considering the technology type being employed. The type and speed of broadband services will be provided. For broadband service providers of wireless broadband service, the spectrum used for the provision of services will be provided. More likely though, coverage will be searchable and discernable in accordance with the revised method permitted by virtue of Clarification issued by NTIA on August 7th providing for the alternative collection and display method of census blocks and/or street segments with address ranges for wireline providers, and availability by shapefile for wireless services not provided to a specific address.

Data not displayed: It is anticipated that the following information about broadband service available from a public or private broadband service provider will not be publicly displayed, unless the service provider consents to the display of this information.

- The identity of the broadband service provider.
- Data concerning the average revenue per user (since no longer required per Clarification, will be collected only if permitted by the providers); and
- Data regarding the type, technical specification, or location of infrastructure owned, leased, or used by a broadband service provider will be collected as provided under Technical Appendix A as amended by August 7 Clarification issued by NTIA.

(d) *Security and Confidentiality.*

In terms of Confidentiality, the Commonwealth and/or its selected vendor(s) shall execute a Non Disclosure Agreement which shall treat any data that is a trade secret, commercial or financial information, or privileged or confidential, as a record not subject to public disclosure except as otherwise mutually agreed to by the broadband service provider and the Commonwealth. However, under no circumstances will the Commonwealth and/or its selected vendor(s) agree to a more restrictive definition of confidential information than that definition of confidential information established in the NOFA as amended by Clarification to NOFA issued by NTIA on August 7, 2009.

Related to Security, it is worth noting that the Commonwealth of Pennsylvania continues to be one of the state leaders in Security and was the recipient of the 2009 Information Security Project of the Year with its "Safeguarding Citizen Data" project.

With security concerns surrounding the service provider data, the confidential / sensitive data is taken into account, and unique coding and restrictions are applied to sensitive broadband data to keep that data secure.

Below are the security guidelines that the Commonwealth intends to follow to ensure both transparency of process and protection of collected data, including confidential information, in accordance with the NDAs:

i. Identity Management and Access, Authentication and Authorization Integration

1. Centralized User Store & Single Sign-On – Products or applications will invoke the appropriate and necessary active directory and support one factor authentication methods (i.e. user ID and password, or two+ factor authentication methods).
2. Can access identities and attributes managed by Identity management. Products / Applications should be able to access all identities and appropriate attributes, including groups, roles etc. from multiple identity management stores. This may or may not require a synchronization of such information within the tool.
3. Authentication against Active Directory – Products / Applications should have the ability to support importing from or authenticating against Microsoft NT/2000/2003 Domains, Lightweight Directory Access Protocol (LDAP).

ii. Auditing and Activity Tracking Framework

1. End User Auditing – Products / Applications should be able to record user entry and exits, and denial or authorization of access to services.
2. Application Auditing – Products / Applications should perform error logging.
3. License Auditing – Products / Applications should have the ability to monitor and track the number of licensed users.

iii In-Built Secure Access Features

1. Supports 128-bit Secure Socket Layer (SSL) data encryption – Products / Applications can transmit information, data and requests securely, using 128-bit SSL to back end sources.
2. Supports Secure Remote access beyond the Metropolitan Area Network (MAN) using SSL VPN or IPSEC VPN – Products / Applications should support secure remote access, which enables remote users to securely access the product and its services over the public Internet and beyond the MAN.
3. Passwords - Passwords if stored within the system should not be in clear text. Passwords should be encrypted wherever they are stored or logged.
4. The Products / Applications are compliant with Commonwealth policy SEC007 Minimum Standards for User IDs and Passwords as required at:

http://www.portal.state.pa.us/portal/server.pt?open=512&objID=416&PageID=200500&mode=2&contentid=http://pubcontent.state.pa.us/publishedcontent/publish/cop_general_government_operations/oa/oa_portal/omd/p_and_p/itbs/domains/security/itbs/itb_sec007.html

5. Ability to assign roles and privileges or group users by roles / privileges - Citizen, Advocate/Business Partner, Commonwealth Trustee or Employee will be assigned appropriate access to the services offered based on their credentials and needs identified.
 - a. Ability to support multiple communities
 - ~~a-b~~. Enabling efficient administration for large number of users
 - ~~a-c~~. Tighter file security around web files (restricted to role based access)
6. Application Security - Supplier is able to prove independent routine, documented vulnerability and penetration testing of their product.
7. Patching - Security updates for critical security issues are included free for lifecycle of GIS mapping products, software, and broadband mapping applications.
8. Database – Database security should have the capability to lock-down the service provider data with unique IDs and Passwords, and an independent schema should be used to store the data if existing enterprise GIS databases are to be leveraged.

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iv. The (CA)² process is an assessment process that measures a proposed E-Government initiative's compliance with IT security policies, procedures, and standards. The (CA)² process also identifies the inherent risks associated with an existing or proposed E-Government initiative.

The (CA)² process is incorporated into the Commonwealth's System Development Life Cycle (SDLC) process and starts with a policy compliance assessment which occurs at the end of requirements gathering phase and ends with a web application vulnerability assessment while the application is in staging. Applications that successfully go through the process will be deemed accredited and will receive a seal from the Office for Information Technology showing the application's accreditation status.

Web applications that go through the process and have risks that cannot be remediated will be required to have a risk mitigation plan. The risk mitigation plan will identify the risks associated with the Web application and identify how the owner plans to mitigate these risks. This plan will be attached to the (CA)² submission and reviewed by the Office for Information Technology to determine if the application can go into production with a conditional accreditation.

Additional information about (CA)² is located at http://www.portal.state.pa.us/portal/server.pt?open=512&objID=416&PageID=200500&mode=2&contentid=http://pubcontent.state.pa.us/publishedcontent/publish/cop_general_government_operations/oa/oa_portal/omd/p_and_p/itbs/domains/security/itbs/itb_sec005.html.

2. *Project Feasibility:*

(a) *Applicant Capabilities.*

The Commonwealth submits the following budget and budget narrative providing detailed description of proposed project costs and sources of in-kind match.

Project Budget

The total budget for the Mapping project is \$3,993,048 as more particularly itemized in the Excel spreadsheet submitted as part of this application (budget details and narrative).

We feel that the requested amount is reasonable in light of the following factors:

1. It falls within the range of grants suggested by the NTIA.
2. Pennsylvania is a large, diverse, state in terms of its population; as previously mentioned it 3rd most rural state in the country.
3. Data collection and validation will be subject to geographical and topographical challenges (mountainous locations and sparse population settings).
4. Pennsylvania is one of most fragmented political jurisdictions in the US with 2,500 local government units (cities, towns, boroughs, townships) scattered across 67 counties. There are also 500 school districts in PA distributed across 29 regional Intermediate Units. This diversity and stratification will require a great level of coordination to collect Community Anchor Institution information from the education, health care, local government, public safety and other applicable communities.
5. The target audience for data collection purposes is significant since there are many broadband providers in Pennsylvania, estimated to be in the low hundreds. Provisionally, we believe that there are 100-200 broadband providers in this state although the exact number is unknown since most the majority of providers are not regulated by our state Public Utility Commission. There are in excess of 50 known cable operators in PA. On the wireline side, there are at least 37 ILECs in PA. There are countless CLECs, Competitive Access Providers (CAPs), Interexchange resellers, Access Charge Providers. While the exact number of fixed and mobile wireless broadband providers is not currently known, we expect that there will be several dozen from which data will need to be collected.

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This grant submission also includes a request for \$500,000 for planning activities (described separately in section 5 below).

Match Discussion

The Commonwealth submits a match request of \$1,000,000 in support of this grant application. This amount represents to sum of pre-award expenditures incurred by the Commonwealth and In-Kind Contributions. Particulars are as follows:

\$200,000 --- Pre-Award Costs. On May 20, 2009, DCED expended \$200,000 in order to renew its arrangement with iMapdata, Inc. This was done in anticipation of the ARRA broadband mapping program in order to safeguard the integrity, relevance and usefulness of the data elements and to perpetuate the foundation for the existing Pennsylvania broadband mapping initiative required under state Act 183. But more importantly, this arrangement was renewed in anticipation of the release of the NOFA in order to provide the state with the continuation of a template and format that will lead to accelerated compliance with BDIA requirements. According to the NOFA, reasonable costs incurred after the enactment of the Recovery Act (February 17, 2009) but prior to the effective date of the award directly pursuant to and in anticipation of the award where such costs are necessary to comply with the proposed delivery schedule or period of performance. The Commonwealth respectfully requests the granting of \$200,000 as an allowable pre-award cost.

\$800,000 --- In-Kind Contributions. Since the passage of Act 183 in late 2004, the Commonwealth has expended considerable resources in developing, maintaining and updating the mapping portal and tool with its current vendor iMapdata, Inc. Over and above the \$200,000 in eligible pre-award costs incurred in 2009, the Commonwealth also expended in excess of \$600,000 to maintain the online mapping tool since 2004. The prior expenditures cannot be claimed as in-kind since they occurred prior to ARRA. But these expenditures do, however, demonstrate the significant financial investment made by the Commonwealth to develop and maintain a mapping portal which serves as a meaningful and useful 'starting point' to achieve compliance with BDIA and with the requirements of this NOFA. But for the Commonwealth's prior actions, all of these steps would have to be undertaken or replicated de novo, presumably at the expense of this new program.

In addition, the Commonwealth has expended substantial time and effort in negotiating and securing invaluable information that can legitimately and expeditiously utilized in the State Broadband Data and Development Program administered by the NTIA. This includes substantial and sensitive data collection over the past several years by the Commonwealth from broadband providers. While this list is not exhaustive, some collected data elements which are relevant to this project include: cable modem coverage down to the census block level from all cable operators in Pennsylvania, all Central Office and Remote Terminal locations for all ILECs, and an array of tower locations and attributes for wireless providers (e.g. latitude, longitude, structure height and type) and particulars of wireless coverage (e.g. beam radius and azimuth).

The Commonwealth also has an enterprise license with TeleAtlas North America (TANA). Imagery and address verification tools contributed by the

Commonwealth will be important to the project and will help overcome some challenges associated with gaps in data for rural areas.

The Commonwealth, through some of its agencies, will assure contribution and verification of certain important data elements such as schools and higher ed institutions (Dept of Education), hospitals and health care providers (Dept of Health), local government units and political subdivisions (Center for Local Government Services), public safety agencies (PEMA), regulatory filings from providers (PUC), and so forth.

According to the NOFA, In-kind contributions can include the ascertainable fair market value of data previously collected and related to the BDIA-eligible uses under this Program. *The Commonwealth estimates that the reasonable market value ascribed to this information is \$800,000 and respectfully requests the recognition of that value as an allowable in-kind contribution.*

(b) Applicant Capacity, Knowledge and Experience.

A partner in this project, the Governor's Office of Administration, Office for Information Technology (OA/OIT) is the executive agency responsible for leading and coordinating information technology services in the Commonwealth of Pennsylvania and providing enterprise-wide technology, policy, standards, architecture, information, and solutions to enhance system interoperability, security, and cost effectiveness.

The Office for Information Technology has highly-qualified personnel and a well rounded team with subject matter expertise in conducting projects of similar scope and scale in the areas of project management, broadband telecommunications, security, and Geospatial Technologies/Geographic Information Systems (GT/GIS).

The Deputy Secretary for Information Technology / **State CIO** has been employed as an Information Technology professional with the Commonwealth since 2003 and has more than 25 years of management experience in the field of Information Systems. Prior to joining the Commonwealth, the State CIO served 20 years with Exxon Mobil Corporation as an IT Professional. Her achievements include the implementation of major, multi-national IT business projects and the implementation and management of large strategic IT systems and initiatives. The State CIO has a proven track record of delivery and has earned several recognition awards for exceptional achievement in the field of Information Technology.

Broadband policy expertise for this project will be provided by the **ARRA Broadband Program Manager**, who joined the employ of the Commonwealth in October 2003 as the Director of Strategic Technology Initiatives for the Department of Community & Economic Development. In that role, he was involved in the negotiation and drafting of Chapter 30 reauthorization and was responsible for the development and implementation of the broadband mapping tool created by DCED under Act 183. He joined the

Governor's Office of Administration during the spring of 2009 in order to become primary point of contact for ARRA broadband initiatives. He reports to the state CIO and has a JD and earned an MBA and advises the Governor's Office on the substance of policy and regulation related to telecommunications.

The Pennsylvania Geospatial Technologies Office is housed in the Office for Information Technology and is led by the Commonwealth's Geospatial Information Officer (GIO) with oversight from the Chief Technology Officer and Deputy Secretary for Information Technology. The Geospatial Technologies Office develops the Geospatial Enterprise Architecture for Pennsylvania, enhances the Commonwealth's geospatial preparedness, coordinates Executive agency and enterprise geospatial initiatives, and facilitates geospatial interoperability and data sharing across all levels of government in support of defined Pennsylvania priorities and the National Spatial Data Infrastructure (NSDI).

The **Commonwealth's GIO** has served since October 1, 2005 and previously served as the Geospatial Technologies Manager for the GTO since August 2004 assisting with all Commonwealth GIS related initiatives. She was responsible for the project management of enterprise geospatial technology projects, including 5 large-scope grant projects, coordinating geospatial initiatives, fostering partnerships under the Governor's jurisdiction, and managing the Geospatial Enterprise Server Architecture (GESA). The GIO has served the Commonwealth for 18 years, including serving as the GIS Coordinator for the Department of Conservation and Natural Resources and providing IT solutions for the PA Public Utility Commission, and has worked in the information technology field for over 13 years with an emphasis on project management, web application development, geospatial enterprise architecture, coordination of geospatial initiatives, and data management.

The **Commonwealth's Chief Technology Officer (CTO)** has over 20 years as a United States Naval Officer, with over 15 years experience in information technology management with the Department of Defense. As Program Director with the Defense Information Systems Agency, Computing Services Directorate, the CTO oversaw the total enterprise SAS 70 audit operations encompassing 17 computer centers spread across the United States, Europe, and Hawaii. In addition, the CTO served as the Executive Officer of the Defense Enterprise Computing Center, Mechanicsburg, PA. The CTO earned a Masters of Science degree in Information Technology Management from the US Naval Postgraduate School, a Bachelor of Arts in Mathematics from the University of Colorado, and received a Federal CIO Certification through Carnegie Mellon University.

Security expertise for this project will be provided by the **Commonwealth's Chief Information Security Officer (CISO)**, whom joined Pennsylvania in July 2005 as an IT Consultant managing the Enterprise Security Auditing and Monitoring project, a component of PA Operation Secure Enterprise. The CISO has worked in the information technology field for over 20 years serving both public sector agencies and private corporations. During that time period he has consulted for public agencies such as the Pennsylvania Higher Education Assistance Agency, the Pennsylvania State Senate and

House of Representatives. He also served as an IT Manager at the Pennsylvania Health Care Cost Containment Council and the Hospital & Health System Association of Pennsylvania.

Program management responsibilities for the mapping initiative will also be assigned to the **Program Manager** for Broadband Initiatives at DCED since 2007. These programs include broadband mapping, demand aggregation, and acceleration of deployment. Her current portfolio of projects under management includes over 40 technology-based economic development and broadband projects, totaling more than \$38 million. At DCED since 2000, she became director of the CyberStart Program, a technology and education initiative to make computers, internet access, training and technical assistance available to day care facilities. Documented program impact reached over 4,300 computers to 1,735 locations statewide, impacting over 6,000 teachers and more than 50,000 pre-school aged children. She holds a B.S. in Business Administration from Gannon University.

With the grant award, the Commonwealth will be hiring through the Commonwealth procurement mechanism qualified vendor(s) to carry out the project tasks. The skills, qualifications, and experience sought will be in the areas of broadband map data collection, GIS data creation and data management, non-disclosure agreements, web mapping technologies, and project management, with a specified number of years experience in the aforementioned technology disciplines. An important component of the Commonwealth's vendor selection will hinge upon proposed project staffing and adequate credentials, experience and qualifications for each Vendor Staff Resource, or subcontractor, to be assigned to this project.

3. *Expedient Data Delivery:*

Listed below are the major project goals along with anticipated dates of data delivery. The timelines provided below have been ambitiously designed for the Commonwealth of Pennsylvania to be successful in this project endeavor for NTIA and to facilitate the delivery of the data required by *Technical Appendix A*, as amended by NTIA Clarification issued on August 7, 2009.

The Commonwealth is proposing an alternative date for delivery of "Substantially Completed" data set to NTIA of February 1, 2010, due to the significant efforts that are needed within Pennsylvania to get to the level of data granularity outlined in *Technical Appendix A*, as amended through Clarification. While some data has been collected under Act 183, the definition of 'broadband' under this NOFA varies from the state definition. More importantly, the data that is required under Technical Appendix A of the NOFA has never been sought or obtained by the Commonwealth and significant effort is involved given the number of providers operating in Pennsylvania and given the geographic, topographic and demographics attributes of Pennsylvania.

The Commonwealth intends to competitively bid for vendor(s) to provide data as required by the NOFA. The state will require that data collection, verification and

authentication efforts undertaken by the vendor be aligned with BDIA and with the technical requirements of the NOFA. Pennsylvania will only contract out to a Vendor that will confirm its willingness and ability to provide a substantially complete set of data by February 1, 2010, and its ability to complete all data collection by March 1, 2010.

Following is a proposed timeline for major project goals, with corresponding anticipated dates of project task delivery. This is for illustrative purposes only; all dates are tentative and subject to change. (Note: this timeline may include overlapping/parallel tasks)

Project Kick-Off and Planning

Start Date: Tentatively October 19, 2009 (or sooner depending on the grant award date, contract execution, and vendor selection)

Duration: Approximately 5 weeks

End Date: November 20, 2009

Non-Disclosure Agreements / Data Sharing Agreements / Outreach & Communications Process

Development of surveys, portals, communication materials, meeting agendas, etc. as identified in the Outreach Methodology to be created under the Project Planning phase of this project.

Duration: Approximately 6 Weeks

Start Date: October 19, 2009

End Date: November 27, 2009

Data Identification & Collection Task

Identification of data sources, and collection of comprehensive state-level broadband mapping data as outlined in Data Workflow Methodology

Duration: Approximately 8 weeks

Start Date: November 9, 2009

End Date: December 25, 2009

Data Accuracy and Verification

Will be guided by the QA/QC plans that will be created under the Project Planning task

Duration: 9 Weeks

Start Date: November 16, 2009

End Date: January 15, 2009

Data Transfer to NTIA

Duration: 1 Week

Start Date: January 25, 2010

End Date: January 29, 2010

Web Mapping Development, Design, Deployment, Go-Live

Includes the application development of the PA broadband mapping application, creation and loading of GIS data to the database, security tasks, deployment through staging and production environments, and end user testing and signoff throughout this task.

Duration: 16 Weeks

Start Date: November 9, 2009

End Date: February 26, 2010

Data Maintenance – Semi-Annual Data Updates & Periodic Web Updates

Includes the carrying-out of items outlined in the Data Workflow Methodology to-be created under the project planning task of this project. It will include items such as gathering of updated data from service providers, data verification, formatting the data, transferring the data to NTIA.

NOTE: The schedule is designed to provide NTIA with semi-annual data updates by August 1 and February 1 of each respective year for a period of 5 years.

Duration: 5 years

Start Date: Spring 2010

End Date: July 31, 2015

A full narrative description of the anticipated tasks and milestones for the 5-year duration of this project as well as a visual depiction of the Project Schedule (Gantt chart) is included as an attachment to this grant submission.

4. *Process for Repeated Data Updating:*

After initial development of a statewide broadband map, it is imperative that the broadband mapping program be sustainable and that maintenance processes can accept new updated provider data on a semi-annual basis. In terms of ongoing Data Accuracy and Verification, the update process will include:

- Continued information gathering and updates of data to maintain broadband mapping
- Perform quality assurance reviews on GIS data gathered
- Technical support for duration of project
- Continued web mapping maintenance
- Re-issuance of pertinent maps or reports on scheduled basis as maps are updated with new information during maintenance phases

As required under the NOFA, the Commonwealth will select a vendor that will agree to provide for repeated updating of data on at least a semi-annual basis continuing for at least five (5) years after the date of the initial collection.

5. *Planning and Collaboration:*

The Commonwealth will play the primary role in planning and collaboration efforts underwritten by the NTIA award. The procurement process and documentation for the vendor selection will specify that the Commonwealth must remain engaged in the project and process for the entire duration of the proposed five-year program.

The Commonwealth will also enlist the participation and involvement of numerous parties in the data collection and data verification process. Collaboration with State-level agencies, local authorities, businesses and non-profit organizations will be a critical component of any successful data collection or mapping effort.

To ensure comprehensive, transparency and integrity of the process, the Commonwealth will enlist the participation and involvement of numerous parties in the data collection and data verification process. These will include several state agencies that have an interest in matters related to broadband deployment

such as: Department of Community & Economic Development; Governor's Office of Administration including the Office of Information Technology and state Geospatial Technology director; Department of Education; Department of Health; Department of Labor & Industry; Department of Aging; Department of Public Welfare; Public Utility Commission; Governor's Center for Local Government Services; and Office of Consumer Advocate.

The Commonwealth will also include other relevant and interested outside groups and interests. While this list is not intended to be exhaustive, participation is expected to come from:

- Telecommunications industry associations – Pennsylvania Telephone Association, Broadband Cable Association, Pennsylvania Wireless Association
- Broadband providers – representing a cross-section of ILECs, cable, wireless and cellular operators
- Economic Development Organizations – Local Development Districts, chambers of commerce, technology councils
- Educational Organizations – Pennsylvania Association of Intermediate Units
- Local Government Organizations – County Commissioners Association of Pennsylvania, Pennsylvania Association of Boroughs, Pennsylvania Association of Townships Supervisors
- Public Safety Organizations, including “Pennsylvania One Dial”
- Health Care Organization – Pennsylvania Medical Society, Hospital and Health Association of Pennsylvania, health care providers and insurers
- Consumer and public interest groups
- Minority and vulnerable populations associations

These outside organizations will help gather information from citizens and their constituents that will inform the identification of barriers to adoption and will further assist with the formulation of a more robust sustainable adoption program.

In addition to the primary application for a mapping grant, the Commonwealth of Pennsylvania is also requesting an additional \$500,000 to fund a comprehensive Broadband Data Improvement Act (BDIA) planning and collaboration component for planning projects designed to identify and address broadband challenges in the state.

The **planning** effort will revolve around implementation of the State Broadband Plan containing many facets including interagency collaboration, stakeholder engagement, and increased adoption and penetration. The **collaboration** component will help deploy a multi-disciplinary Regional Broadband Partnership framework across our Commonwealth.

When combined, the proposed planning and collaboration efforts will prioritize some of the BDIA-related purposes, namely:

- to identify and track the areas with low levels of deployment, the rate at which residential and business users adopt broadband service and other related information technology services, and possible suppliers of such services;
- to identify barriers to the adoption of broadband service and information technology services;
- to create and facilitate by county or designated region in a state, local technology planning teams;
- to collaborate with broadband service providers and information technology companies to encourage deployment and use;
- to establish computer ownership and Internet access programs in unserved and areas with lower than average penetration on a national basis;
- to facilitate information exchange regarding use and demand for broadband services between public and private sector users

BDIA § 106(e), 122 Stat. at 4100-4101

Planning Component

In anticipation of the release of the NTIA/RUS NOFA and the State Broadband Data and Development Program, the Commonwealth of Pennsylvania adopted a Statewide Broadband Plan. This plan includes four key goals that will be achieved through specific action items.

Goals One and Two are completely relevant to and consistent with BDIA goals and with the guidelines and requirements of the NTIA State Broadband Data and Development Grant Program. The Commonwealth intends to fully implement components of the State Broadband Plan as part of this activity. This effort would span over 2 years, commencing (tentatively) on November 1, 2009, and ending on October 31, 2011.

GOAL 1 – GOVERNANCE AND LEADERSHIP

Establish a governance structure to effectively implement the Pennsylvania Statewide Broadband Plan

1.1 – Continue with the Pennsylvania Broadband Leadership Team to guide and coordinate initiatives consistent with the Pennsylvania Statewide Broadband Plan

- *The Leadership Team shall be based within the Governor's Office of Administration (OA) and will include representatives from the Governor's Office, the Office of Administration (OA), the Department of Community and Economic Development (DCED), the Public Utility Commission (PUC), and others as required.*
- *The Leadership Team shall lead and coordinate broadband awareness, dialogue, planning, and deployment initiatives among Commonwealth agencies.*

- *The Leadership Team l will encourage involvement and collaboration among the private sector, all public sectors (education, healthcare, public safety, etc), and industry and subject-matter experts.*
- *The Leadership Team will explore additional governance and administrative strategies that facilitate implementation of the Statewide Broadband Plan.*

1.2 – Empower state agencies to increase efficiencies and improve programs and projects consistent with the Pennsylvania Statewide Broadband Plan

- *Each participating agency, in cooperation with the Pennsylvania Broadband Leadership Team, should assess their broadband assets and needs, explore collaboration opportunities, identify funding sources, and develop strategies to promote broadband as part of their existing mission and services.*

1.3 – Advocate for proactive Commonwealth legislation, policies, and regulations that support the vision of the Pennsylvania Statewide Broadband Plan

- *Monitor broadband technologies and markets and, as appropriate, recommend improvements to or remediation of Commonwealth legislation, policies, or programs detrimental to or insufficient in support of broadband deployment.*
- *Explore specific legislative and regulatory options that advance the Pennsylvania Statewide Broadband Plan, to enable consistent and timely information needed for broadband mapping.*

Identify Commonwealth regulatory and administrative practices that make broadband deployment more challenging – such as time-consuming right-of-way (ROW) procedures, permitting, licensing, etc. – and develop strategies to streamline these processes.

GOAL 2 – INFORMATION AND MAPPING

Collect, analyze, process, and disseminate information essential to the implementation of the Pennsylvania Statewide Broadband Plan

To achieve Goal 2, the Statewide Broadband Plan specifically includes the following action items that are consistent with the BDIA planning component, most notably:

2.4 – Facilitate broadband awareness and education programs that will increase adoption and sustainability

- *Facilitate efforts by Commonwealth departments to obtain basic information about broadband and its value to the agency and its constituents, promote awareness of broadband initiatives of use to the agency, and encourage the agency to identify opportunities to integrate broadband into its policies, projects, and programs.*

- *Encourage broadband training and awareness initiatives for “user groups” (including, but not limited to local and county government, regional public service providers, distressed and vulnerable populations, public safety agencies, hospitals, schools, and senior citizens).*
- *Facilitate efforts to make broadband providers aware of unserved and underserved areas through introductions to local stakeholders, promotion of applicable broadband assistance websites, agencies, programs, and related strategies.*
- *Acknowledge and promote successful, replicable broadband projects, including illustrations of “Best Practices” (models) and Exemplars (role models).*

The funds for the Planning Component could be comprised of salary and benefits for individual assigned to implementation of State Broadband Plan and associated tasks and/or for engagement of outside consultancy services to assist with same, or both.

Collaboration Component

Problem Statement:

There is not a structured information sharing and project collaboration network in Pennsylvania to facilitate the expansion of broadband infrastructure and services in unserved or underserved areas. As a result, efforts are occasionally duplicated and sometimes even in direct competition. Pennsylvania is the sixth most populated state in America. Its 12,500,000 citizens reside in three categories of political subdivisions, including over 2,500 municipalities, 500 school districts, and 67 counties (48 of which are classified as rural).

Proposed Solution:

Implementation and oversight of ten Regional Broadband Task Forces that will facilitate the two-way flow of information among local, regional, state, and federal stakeholders.

The Commonwealth already has a progressive network of regional partners to facilitate economic development activities. This includes the seven Local Development Districts recognized and funded by the federal Appalachian Regional Commission (identified as zones 1 through 7 in the map below) that serve the state’s Appalachian Region, as well as three other existing regional economic development and regional planning groups serving Pennsylvania’s southeastern quadrant.

The Commonwealth proposes to use BDIA Planning funds to:

- Develop a standardized Regional Broadband Task Force operational plan (identification of Task Force membership, proposed demand aggregation and public awareness activities such as Regional Broadband Summits, and specific tasks such as facilitating information sharing)
- Assist with the creation of the Regional Task Forces.
- Oversee the activities of the Regional Task Forces
- Support the Regional Task Forces (eg. development of survey instruments, questionnaire to collect information related to adoption barriers)

This Collaboration effort will occur over one year, tentatively, from November 1, 2009, until October 31, 2010.

Anticipated Outcomes – The Collaboration project is expected to significantly:

- 1) improve the exchange of critical information
- 2) foster collaboration at the local and regional level(s)
- 3) identify and prioritize priority deployment areas, especially in rural and un/underserved regions, lead to project development and implementation
- 4) identify barriers to adoption
- 5) develop activities and initiatives that will lead to sustainable adoption
- 6) establish computer ownership and internet access programs among the Commonwealth's most vulnerable and/or distressed constituents

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Proposed Planning & Collaboration Budget:

Planning Component	
To oversee the implementation of the state Broadband Plan (\$100,000 per year for 2 years)	\$200,000
Collaboration Component	
To implement the Regional Broadband Task Force initiative (\$30,000 for each of the 10 regional efforts)	\$300,000
	\$500,000

The 20% match component is offset through the excess portion of the \$1,000,000 matching contribution described in the Mapping component of this application.

Respectfully Submitted,

Commonwealth of Pennsylvania

Additional Documents

- Project Narrative
- Project Abstract
- Application for Federal Assistance Form 424
- Disclosure of Lobbying Activities, Form LLL,
- Assurances Non-Construction Program, Form 424B
- Budget Information, Form 424
- Certification Regarding Lobbying, Form 511,
- Letter of State Designation
- Excel Budget Spreadsheet
- Budget Narrative
- Gantt Chart (Project Schedule)
- Project Task Description (narrative)
- HB192 proposed Amendment

BUDGET INFORMATION - Non-Construction Programs

OMB Approval No. 4040-0006
Expiration Date 07/30/2010

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. State Broadband Data and Development Program	11.558	\$	\$	\$ 3,993,048.00	\$ 900,000.00	\$ 4,893,048.00
2. Planning and Collaboration	11.558			500,000.00	100,000.00	600,000.00
3.						
4.						
5. Totals		\$	\$	\$ 4,493,048.00	\$ 1,000,000.00	\$ 5,493,048.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	State Broadband Data and Development Program	Planning and Collaboration			
a. Personnel	\$ <input type="text"/>	\$ 500,000.00	\$ <input type="text"/>	\$ <input type="text"/>	\$ 500,000.00
b. Fringe Benefits	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. Travel	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. Equipment	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
e. Supplies	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
f. Contractual	<input type="text" value="3,993,048.00"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3,993,048.00"/>
g. Construction	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
h. Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
i. Total Direct Charges (sum of 6a-6h)	<input type="text" value="3,993,048.00"/>	<input type="text" value="500,000.00"/>	<input type="text"/>	<input type="text"/>	\$ <input type="text" value="4,493,048.00"/>
j. Indirect Charges	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	\$ <input type="text"/>
k. TOTALS (sum of 6i and 6j)	\$ <input type="text" value="3,993,048.00"/>	\$ <input type="text" value="500,000.00"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="4,493,048.00"/>
7. Program Income	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. State Broadband Data and Development Program	\$ <input type="text"/>	\$ 900,000.00	\$ <input type="text"/>	\$ 900,000.00	
9. Planning and Collaboration	<input type="text"/>	100,000.00	<input type="text"/>	100,000.00	
10. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
11. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
12. TOTAL (sum of lines 8-11)	\$ <input type="text"/>	\$ 1,000,000.00	\$ <input type="text"/>	\$ 1,000,000.00	
SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
14. Non-Federal	\$ <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15. TOTAL (sum of lines 13 and 14)	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
(a) Grant Program	FUTURE FUNDING PERIODS (YEARS)				
	(b) First	(c) Second	(d) Third	(e) Fourth	
16. State Broadband Data and Development Program	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ 0.00	
17. Planning and Collaboration	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
18. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
19. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
20. TOTAL (sum of lines 16 - 19)	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	
SECTION F - OTHER BUDGET INFORMATION					
21. Direct Charges: <input type="text"/>		22. Indirect Charges: <input type="text"/>			
23. Remarks: <input type="text"/>					

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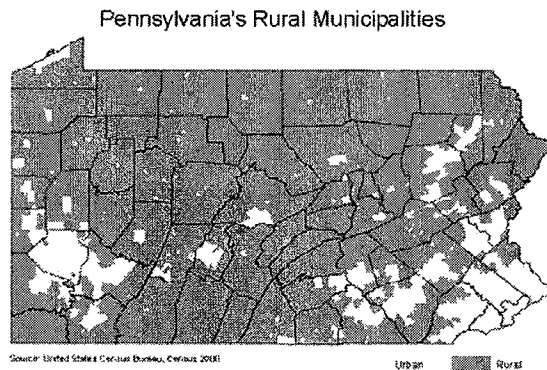
Budget Narrative

The Commonwealth of Pennsylvania is requesting \$3,993,048.00 from NTIA for the State Broadband Data and Development Program. The Commonwealth realizes this exceeds the \$3.8 million grant amount, however the NTIA has indicated that there is some flexibility in the range of grant award, based on a range of factors such as population, geographic and topographic issues, number of providers, number of anchor institutions, and so forth.

Pennsylvania is home to nearly 12,500,000 residents and is the 6th most populated state in America. Pennsylvania measures 283 miles east to west, and 160 miles north to south – a total of 46,058 square miles – making it the 33rd largest of the 50 states. The Commonwealth has the nation's third largest population over age 65 (behind Florida and West Virginia) and the third largest rural population (behind Texas and North Carolina) in the United States.

Pennsylvania is topographically diverse. Pennsylvania's mountains, forests, and winding river valleys present significant challenges to broadband deployment. Over 50% of the state is still covered by forests. Much of the level land is primarily rural, as evidenced by the 63,000 farms in the state.

According to the Center for Rural Pennsylvania, in 2007, nearly 3.4 million people, or 28 percent of the state's residents, lived in Pennsylvania's 48 rural counties. About 9 million people, or 72 percent of the state's population, lived in the state's 19 urban counties. The map to the right reflects this urban-rural reality in Pennsylvania.



The Commonwealth took this information into careful consideration and has based its detailed budget request in line with the diversity of the Pennsylvania terrain, population size, number of service providers, and personnel classification cost rates.

Project Budget

The total budget for the Mapping project is \$3,993,048 as more particularly itemized in the Excel spreadsheet submitted as part of this application (budget details and narrative). For summary purposes, the \$3,993,048 budget request is broken down into the following details:

- Project Planning - \$118,280
- NDA Process - \$186,000
- Creation of Outreach Tools - \$77,280
- Outreach for Data Gathering Process – \$321,600

- Incoming Data from Service Providers - \$217,720
- Data Accuracy and Verification - \$273,800
- Creation of Tab Delimited Files / GIS Data Creation / Testing - \$49,680
- Data Transfers to NTIA - \$15,760
- Web Mapping Requirements - \$27,600
- Web Mapping Design - \$22,960
- Web Mapping Development, Deployment, Go-Live - \$232,080
- 5-Year Data Maintenance/Eleven Data Updates – \$2,217,600
- 5-Year PA Broadband Web Map Support - \$32,688
- 5-Year PA Broadband Web Map Software Maintenance - \$200,000

The Commonwealth feels that the requested amount is reasonable in light of the following factors:

1. It falls within the range of grants suggested by the NTIA.
2. Pennsylvania is a large, diverse, state in terms of its population; as previously mentioned it 3rd most rural state in the country.
3. Data collection and validation will be subject to geographical and topographical challenges (mountainous locations and sparse population settings).
4. Pennsylvania is one of most fragmented political jurisdictions in the US with 2,500 local government units (cities, towns, boroughs, townships) scattered across 67 counties. There are also 500 school districts in PA distributed across 29 regional Intermediate Units. This diversity and stratification will require a great level of coordination to collect Community Anchor Institution information from the education, health care, local government, public safety and other applicable communities.
5. The target audience for data collection purposes is significant since there are many broadband providers in Pennsylvania, estimated to be in the low hundreds. Provisionally, we believe that there are 100-200 broadband providers in this state although the exact number is unknown since most the majority of providers are not regulated by our state Public Utility Commission. There are in excess of 50 known cable operators in PA. On the wireline side, there are at least 37 ILECs in PA. There are countless CLECs, Competitive Access Providers (CAPs), Interexchange resellers, Access Charge Providers. While the exact number of fixed and mobile wireless broadband providers is not currently known, we expect that there will be several dozen from which data will need to be collected.

Project Match

The Commonwealth submits a State Broadband Data and Development Grant Program match request of \$1,000,000 in support of this grant application (and the remainder of the amount shall serve as the match against the planning and collaboration request). This amount represents the sum of pre-award expenditures incurred by the Commonwealth and In-Kind Contributions. Particulars are as follows:

\$200,000 --- Pre-Award Costs. On May 20, 2009, DCED expended \$200,000 in order to renew its arrangement with iMapdata, Inc. This was done in anticipation of

the ARRA broadband mapping program in order to safeguard the integrity, relevance and usefulness of the data elements and to perpetuate the foundation for the existing Pennsylvania broadband mapping initiative required under state Act 183. But more importantly, this arrangement was renewed in anticipation of the release of the NOFA in order to provide the state with the continuation of a template and format that will lead to accelerated compliance with BDIA requirements. According to the NOFA, reasonable costs incurred after the enactment of the Recovery Act (February 17, 2009) but prior to the effective date of the award directly pursuant to and in anticipation of the award where such costs are necessary to comply with the proposed delivery schedule or period of performance. The Commonwealth respectfully requests the granting of \$200,000 as an allowable pre-award cost.

\$800,000 --- In-Kind Contributions. Since the passage of Act 183 in late 2004, the Commonwealth has expended considerable resources in developing, maintaining and updating the mapping portal and tool with its current vendor iMapdata, Inc. Over and above the \$200,000 in eligible pre-award costs incurred in 2009, the Commonwealth also expended in excess of \$600,000 to maintain the online mapping tool since 2004. The prior expenditures cannot be claimed as in-kind since they occurred prior to ARRA. But these expenditures do, however, demonstrate the significant financial investment made by the Commonwealth to develop and maintain a mapping portal which serves as a meaningful and useful ‘starting point’ to achieve compliance with BDIA and with the requirements of this NOFA. But for the Commonwealth’s prior actions, all of these steps would have to be undertaken or replicated de novo, presumably at the expense of this new program.

In addition, the Commonwealth has expended substantial time and effort in negotiating and securing invaluable information that can legitimately and expeditiously utilized in the State Broadband Data and Development Program administered by the NTIA. This includes substantial and sensitive data collection over the past several years by the Commonwealth from broadband providers. While this list is not exhaustive, some collected data elements which are relevant to this project include: cable modem coverage down to the census block level from all cable operators in Pennsylvania, all Central Office and Remote Terminal locations for all ILECs, and an array of tower locations and attributes for wireless providers (e.g. latitude, longitude, structure height and type) and particulars of wireless coverage (e.g. beam radius and azimuth).

The Commonwealth also has an enterprise license with TeleAtlas North America (TANA). Imagery and address verification tools contributed by the Commonwealth will be important to the project and will help overcome some challenges associated with gaps in data for rural areas.

The Commonwealth, through some of its agencies, will assure contribution and verification of certain important data elements such as schools and higher ed institutions (Dept of Education), hospitals and health care providers (Dept of Health), local government units and political subdivisions (Center for Local Government Services), public safety agencies (PEMA), regulatory filings from providers (PUC), and so forth.

According to the NOFA, In-kind contributions can include the ascertainable fair market value of data previously collected and related to the BDIA-eligible uses under this Program. *The Commonwealth estimates that the reasonable market value ascribed to this information is \$800,000 and respectfully requests the recognition of that value as an allowable in-kind contribution.*



COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

THE GOVERNOR

August 3, 2009

Ms. Anna Gomez
Deputy Assistant Secretary
U.S. Department of Commerce
National Telecommunications and Information Administration
Herbert C. Hoover Building (HCHB)
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Secretary Gomez,

The Commonwealth of Pennsylvania, acting through the Department of Community & Economic Development and in partnership with the Governor's Office of Administration shall serve as Pennsylvania's designated eligible entity under the State Broadband Data and Development Grant Program to receive a grant under this program.

Sincerely,

A handwritten signature in black ink that reads "Edward G. Rendell".

Edward G. Rendell
Governor

cc: Naomi Wyatt, Secretary of Administration
George E. Cornelius, Secretary of Community and Economic Development

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, 'New Restrictions on Lobbying.' The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

*** NAME OF APPLICANT**

Executive Office of the Commonwealth of Pennsylvania

*** AWARD NUMBER***** PROJECT NAME**

Commonwealth of Pennsylvania Broadband Mapping Initiative

Prefix:

Ms.

*** First Name:**

Brenda

Middle Name:*** Last Name:**

Orth

Suffix:*** Title:** Deputy Secretary for Information Technology*** SIGNATURE:**

Luc Miron

*** DATE:**

08/11/2009

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB

0348-0046

1. * Type of Federal Action: <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. * Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. * Report Type: <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change
4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee * Name: Executive Office of the Commonwealth of Pennsylvania * Street 1: 207 Finance Building Street 2: * City: Harrisburg State: PA: Pennsylvania Zip: 17120 Congressional District, if known:		
5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:		
6. * Federal Department/Agency: Department of Commerce	7. * Federal Program Name/Description: CFDA Number, if applicable:	
8. Federal Action Number, if known:	9. Award Amount, if known: \$	
10. a. Name and Address of Lobbying Registrant: Prefix * First Name n/a Middle Name * Last Name NOT APPLICABLE Suffix * Street 1 Street 2 * City State Zip		
b. Individual Performing Services (including address if different from No. 10a) Prefix * First Name n/a Middle Name * Last Name NOT APPLICABLE Suffix * Street 1 Street 2 * City State Zip		
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.		
* Signature: Luc Miron		
* Name: Prefix Ms. * First Name Brenda Middle Name * Last Name Orth Suffix		
Title: Deputy Secretary for Information Technology	Telephone No.: 717-787-5440	Date: 08/11/2009
Federal Use Only		Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

<p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p>Luc Miron</p>	<p>* TITLE</p> <p>Deputy Secretary for Information Technology</p>
<p>* APPLICANT ORGANIZATION</p> <p>Executive Office of the Commonwealth of Pennsylvania</p>	<p>* DATE SUBMITTED</p> <p>08/11/2009</p>

Standard Form 424B (Rev. 7-97) Back