

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:**

Completed by Grants.gov upon submission.

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:**

Pennsylvania State Police

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

25-1671669

*** c. Organizational DUNS:**

360700769

d. Address:

*** Street1:**

1800 Elmerton Avenue

Street2:

*** City:**

Harrisburg

County:

*** State:**

PA: Pennsylvania

Province:

*** Country:**

USA: UNITED STATES

*** Zip / Postal Code:**

17110

e. Organizational Unit:

Department Name:

Division Name:

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

Prefix:

*** First Name:**

Patrick

Middle Name:

D.

*** Last Name:**

Brinkley

Suffix:

Title:

Captain

Organizational Affiliation:

*** Telephone Number:**

717-783-9772

Fax Number:

*** Email:**

pbrinkley@pa.gov

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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:**

National Telecommunications and Information Admini

11. Catalog of Federal Domestic Assistance Number:

11.549

CFDA Title:

State and Local Implementation Grant Program

*** 12. Funding Opportunity Number:**

2013-NTIA-SLIGP-01

* Title:

State and Local Implementation Grant Program (SLIGP)

13. Competition Identification Number:

2013-NTIA-SLIGP-01

Title:

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

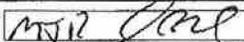
All 67 Counties in Pennsylvania

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

Pennsylvania Public Safety Broadband

Attach supporting documents as specified in agency instructions.

[Add Attachments](#) [Delete Attachments](#) [View Attachments](#)

Application for Federal Assistance SF-424		Version 02
16. Congressional Districts Of:		
* a. Applicant	PA-017	* b. Program/Project
		ALL
Attach an additional list of Program/Project Congressional Districts if needed.		
	<input type="button" value="Add Attachment"/>	<input type="button" value="Delete Attachment"/>
	<input type="button" value="View Attachment"/>	
17. Proposed Project:		
* a. Start Date:	07/01/2013	* b. End Date:
		06/30/2016
18. Estimated Funding (\$):		
* a. Federal		3,955,098.00
* b. Applicant		988,775.00
* c. State		0.00
* d. Local		0.00
* e. Other		0.00
* f. Program Income		0.00
* g. TOTAL		4,943,873.00
* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?		
<input type="checkbox"/> a.	This application was made available to the State under the Executive Order 12372 Process for review on	
<input checked="" type="checkbox"/> b.	Program is subject to E.O. 12372 but has not been selected by the State for review.	
<input type="checkbox"/> c.	Program is not covered by E.O. 12372.	
* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)		
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="text" value="Explanation"/>
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)		
<input checked="" type="checkbox"/> ** 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:	<input type="text"/>	* First Name: Scott
Middle Name:	<input type="text"/>	
* Last Name:	Neal	
Suffix:	<input type="text"/>	
* Title:	Director, Bureau of Communications & Informat	
* Telephone Number:	717-787-8596	Fax Number: <input type="text"/>
* Email:	RA-PSB@pa.gov	
* Signature of Authorized Representative:		* Date Signed: 06/17/2013

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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.

Supplemental Application Narrative

Section 1—Existing Governance Body

- a. *Describe the organizational structure and membership of the existing Statewide Interoperability Governing Body (SIGB), or its equivalent, that is responsible for public safety communications in the State.*

Pennsylvania's current SIGB is the Public Safety Communications Council (PSCC), defined in the Governor's Management Directive 245.15 Amended, Pennsylvania Statewide Radio Network, 7/24/2010 (MD 245.15). Reorganization of the PSCC is pending, defined in a draft Executive Order ready for the Governor's signature. The new PSCC has greatly expanded representation, greater focus on statewide public safety and emergency communications coordination and interoperability, higher visibility, and an improved decision-making structure. Because Pennsylvania is at a transition point in SIGB implementation, answers in this section are split between the current structure and the emerging structure.

The current PSCC has eight members, representing five state agencies and three counties, supplemented at meetings by a number of other attendees, primarily managers in state agencies, boards, and commissions with responsibility for public safety and emergency communications. The Commissioner of Pennsylvania State Police (PSP) chairs the meetings. The PSCC meets approximately four times a year for briefings and discussion of current topics, including Pennsylvania Statewide Radio Network (PA-STARNet) development and operation, communications interoperability, and agency capabilities, operations, and requirements.

The current governance structure also includes the Public Safety Communications Operations Committee, a stakeholder forum for PA-STARNet using agencies, business partners, and vendors. The Operations Committee, also defined in MD 245.15, serves as a discussion forum to share information about development and operation of the state's radio network and associated communications assets. Core membership comprises operational-level agency representatives responsible for coordinating agency participation in PA-STARNet. As part of the overall governance structure, the Operations Committee advises the PSCC concerning the operational and technical impact of strategic options and direction.

The proposed expanded PSCC is defined in the draft Executive Order presented for the Governor's signature and issue. Chaired by the Governor's Deputy Chief of Staff for Public Safety, the pending new PSCC comprises executive-level representatives of 18 state agencies, boards, and commissions; representatives of nine counties; four members of the Pennsylvania General Assembly; and representatives of nine to 12 professional associations for public safety practitioners, municipal government officials, and industry sectors with a role in public safety and emergency communications. The new PSCC is expected to meet up to four times a year. It will be responsible for plans, initiatives, and outcomes in the following general areas concerning statewide public safety and emergency communications:

- Planning, including the Statewide Communications Interoperability Plan (SCIP)
- Federal government liaison and communication in conjunction with the Statewide Interoperability Coordinator (SWIC)
- Inter-jurisdictional agreements
- Grant administration and coordination
- Policy development and oversight
- Outreach and education

Measurement and evaluation of outcomes

Accordingly, the new PSCC is expected to have a standing committee structure to include an executive committee responsible for overall organization and agenda planning, and the following additional committees:

- Planning
- Policy and Agreements
- Grants
- Outreach
- Measure and Evaluation

The Public Safety Communications Operations Committee will continue under the new structure in its present form, serving as a stakeholder forum and advising the PSCC on operational and technical matters.

Pennsylvania also expects to form one or more committees of the new PSCC to focus on Public Safety Broadband Network (PSBN) planning. These groups will be responsible for proposing PSBN direction and making recommendations for discussion and ratification by the full council.

The Commonwealth has been planning for the expanded PSCC for over a year, with the Governor's Office fully engaged in this process. Commonwealth managers involved in developing the Executive Order are fully confident of obtaining the Governor's signature. However, should there be a substantial delay for some reason, the PSCC, as currently constituted a fully functional body that meets regularly, is prepared to continue to serve as the Commonwealth's SIGB and to provide statewide guidance and oversight in planning for PSBN deployment in Pennsylvania.

Revisions to MD 245.15 are pending to realign its provisions with the July 1, 2012 transfer of the Statewide Radio Network (STARNet) Division from the Office of Administration to PSP. In the absence of an Executive Order expanding and redefining the PSCC, MD 245.15 could be further amended to realize at least some of the objectives for the expanded PSCC, including the addition of representatives. Management Directives, however, are limited as statewide policy instruments in that their primary purpose is to set policy for state agencies under the Governor's jurisdiction.

In any event, Pennsylvania is committed to realizing a fully developed governance structure in accordance with federal requirements, guidance, and best practices. The state expects to have an expanded, truly statewide SIGB in place through the Governor's Executive Order to facilitate PSBN planning and consultation with FirstNet, and there is also a contingency plan to continue with the current PSCC in the same role if necessary.

- b. Describe the SIGB's authority to make decisions regarding public safety communications and how these decisions are implemented.*

The current PSCC lacks a formal structure to support decision-making, operating instead by discussion and consensus. While its ability to influence county and municipal communications policy is limited by county participation that is restricted both numerically and geographically, the existing PSCC does have an important influence on the management of state assets. PSP, which is responsible for development and operation of PA-STARNet, organizes and participates in PSCC proceedings, and the Commissioner, PSP, is responsible for chairing meetings.

Decision-making structure and authority will be greatly expanded in the proposed new PSCC. The new PSCC will benefit from greatly expanded representation across a wide range of interested stakeholders. It will act with the clear authority of the Governor within the parameters set by the forthcoming Executive Order, which specifies that like the existing PSCC, the expanded body's role is advisory. Rather than making binding decisions, the PSCC will advise the Governor, agencies using PA-STARNet, and PSP management responsible for development and operation of PA-STARNet and for other duties specified in Management Directive 240.15 and carried out through PSP's STARNet Division.

The new PSCC will have bylaws establishing a clearly-defined decision-making process to arrive at recommendations to the state authorities and officials responsible for management of PA-STARNet, establishment of interoperability mechanisms to support intergovernmental communications for public safety and emergency response, and development and execution of statewide communications policy.

- c. *Describe how the State will leverage its existing SIGB, or its equivalent, to coordinate the implementation of the Public Safety Broadband Network (PSBN) in the State.*

The existing PSCC has been briefed regularly about developments in PSBN planning and technology. The Governor has placed responsibility for Pennsylvania's PSBN planning and coordination in PSP, which has in turn designated the PSCC as the steering and advisory body for the PSBN. Once created, the new expanded PSCC is expected to focus much of its initial effort on PSBN planning.

- d. *How does the State plan to expand its existing SIGB to include representatives with an understanding of wireless broadband and Long Term Evolution (LTE) technology in order to facilitate its consultations with FirstNet?*

As part of its responsibilities for PA-STARNet, PSP's Bureau of Communications and Information Services (BCIS) coordinates the existing PSCC and participates in its meetings, and it will continue to take a lead role in the new PSCC. Through its STARNet Division, BCIS manages development and operation of PA-STARNet, the statewide radio system used by PSP as well as 18 other state agencies. It also manages legacy radio assets to augment PA-STARNet for station and trooper communications. There is substantial understanding of wireless communications technologies including wireless broadband and LTE in the STARNet Division and elsewhere in BCIS.

In addition, PSP anticipates engagement of contractors with wireless broadband and LTE expertise through a competitive process to advise and assist the PSCC with PSBN planning as needed.

- e. *Does the State currently dedicate sufficient financial resources to adequately support the SIGB? Does the State intend to invest funds received from SLIGP to financially support the SIGB? If so, provide the amount the State expects to request and describe the SIGB functions that these funds will support.*

There are no specific budgetary allocations for the existing PSCC, whose activities are funded entirely through the operating budgets of participating agencies. This method of funding has been adequate to support the limited role played by this body to date.

Funding requirements for the expanded PSCC will be more demanding, and funding sources remain to be determined. The PSCC mandate created upon execution of the draft Executive Order should provide a firm basis for legislative funding requests.

Other than applying the value of time spent in meetings of governance bodies to the state's matching funds and drawing from funding budgeted for occasional catering, Pennsylvania does not anticipate applying SLIGP funds to financial support of the PSCC.

Supplemental Application Narrative

Section 2—Statewide Communications Interoperability Plan

- a. *Are there existing strategic goals and initiatives in your SCIP focused on public safety wireless broadband? If so, what are they?*

While Pennsylvania's SCIP in its current form does not contain specific reference to public safety wireless broadband, PA-STARNet can easily be adapted for PSBN deployment, and it will support FirstNet implementation standards and guidance.

As Pennsylvania stated in its 2012 SCIP Implementation Report, in addition to the initiatives described in the original SCIP, the state has been reviewing options and planning for participation in PSBN design and deployment.

- b. *Describe how the State has engaged local governments and tribal nations, if applicable, in public safety broadband planning activities that have been completed to date.*

Pennsylvania is working with two Regional Task Forces, the South Central Task Force (SCTF) and Pennsylvania Region 13 (the southwestern region of the state), to share MPLS-managed microwave bandwidth with a capacity of 150 megabits per second (Mbps). The resulting network connects eight county Public Safety Answering Points (PSAPs) in the SCTF and 13 PSAPs in Region 13 to PA-STARNet. PA-STARNet in turn provides connections to the State Emergency Operations Center and to state agencies.

These connections were funded with federal Homeland Security and NTIA grants. Future similar connections are planned for the Northeast Pennsylvania Emergency Response Group and the North Central Task Force.

- c. *Does the State intend to use SLIGP funding to support efforts to update the SCIP by adding public safety wireless broadband strategic goals and initiatives? If so, provide the amount the State expects to request and describe the activities that these funds will support.*

Pennsylvania does intend to use SLIGP funding to update the current SCIP to include public safety wireless broadband strategic goals and initiatives. The commonwealth's SLIGP budget includes \$100,000 for this purpose.

As public safety broadband initiatives are recognized and developed, Pennsylvania will incorporate them into the SCIP. The state will use data collected during SLIGP Phases 1 and 2 to bring all sections of the existing SCIP into alignment with public safety broadband plans, policies, and directions.

The professional consulting services to be engaged in support of Pennsylvania's SLIGP activities will include compilation of the state's PSBN planning and implementation strategy and initiatives. In accordance with federal guidance, Pennsylvania will prepare a comprehensive plan as part of the SCIP describing its public safety requirements to be addressed by FirstNet.

Supplemental Application Narrative

Section 3—State-level Involvement

- a. *What is the status of the Statewide Interoperability Coordinator (SWIC) for your State? Does this person work full-time in the SWIC capacity? How will this person be involved with SLIGP?*

Pennsylvania has had a full-time SWIC since 2008. The SWIC was deeply involved in the state's Public Safety Interoperable Communications (PSIC) grant projects. Pennsylvania's SWIC participates actively in the Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications (MACINAC) and in the FEMA Region III Regional Emergency Communications Coordination Working Group (RECCWG).

The SWIC is a key member of the SLIGP grant management team and will be heavily involved with SLIGP activities and initiatives, helping to coordinate data collection and stakeholder outreach.

- b. *How will the State's Chief Information Officer/Chief Technology Officer be involved with SLIGP and with activities related to the implementation of the nationwide public safety broadband network?*

Pennsylvania's Chief Information Officer (CIO), who also serves as the state's Chief Technology Officer (CTO) and Deputy Secretary for the Office for Information Technology (OIT) in the Governor's Office of Administration (OA), will carry out the following responsibilities:

- Serving on or providing input to committees concerning SLIGP and PSBN planning
- Ensuring coordination with the NTIA-funded State Broadband Initiative (SBI)
- Providing strategic direction and alignment with PSBN priorities and the commonwealth's strategic IT direction
- Identifying assets and best practices that can be applied to PSBN objectives: for example, GIS, broadband mapping, broadband planning and policy, and state telecommunications contract
- Involvement in any required IT procurements

The CIO may delegate some tasks and responsibilities to other managers in OA, including the Director of Broadband Initiatives and the Legislative Liaison.

Although PSP is the lead agency for Pennsylvania's PSBN planning and deployment effort, OIT, the enterprise agency for information technology policy, standards, architecture, information, and solutions in Commonwealth government, has been involved in preliminary planning for PSBN from the start. The Director of Broadband Initiatives is an OIT manager, serving as a key liaison for the state's broadband efforts, including those based in PSP.

In addition, there is substantial technical expertise in the STARNet Division, which has developed and now operates a statewide trunked digital IP-based Land Mobile Radio network. PA-STARNet uses Harris Corporation's OpenSky[®], a hybrid of radio frequency (RF) and IP networking technology. The PA-STARNet microwave backbone network, as well as the BTOP-funded middle mile network in the northern counties, uses Multi-Protocol Label Switching (MPLS); the STARNet Division has substantial expertise in configuration and operation of the MPLS technology as well. In conjunction with the

state's CIO and with the OIT organization, PSP is fully prepared to consult with FirstNet concerning technical issues associated with PSBN planning.

c. *What other State-level organizations or agencies will be involved with SLIGP?*

The Governor has designated PSP as the lead agency for SLIGP and for PSBN issues and implementation generally.

In preparation for SLIGP and PSBN participation, the state created a PSBN Advisory Committee comprising senior-level officials from selected state agencies and chaired by the Director of BCIS, designated as the PSBN lead manager and contact for Pennsylvania. This ad hoc committee meets occasionally and provides a forum for discussion and guidance for the state's PSBN organization and early program activities, such as the SLIGP application. The committee's charter is short-term: it will not have an ongoing role in PSBN or statewide communications interoperability governance.

For ongoing governance, Pennsylvania has established the PSCC as the state's SIGB. The PSCC will take an active role in the SLIGP and FirstNet development process. The PSCC has membership from all major state agencies, regional task forces, and state public safety associations and organizations. Section 1 provides a more detailed account of PSCC structure and membership.

Also, the Pennsylvania Department of Community and Economic Development's Center for Local Government Services (CLGS), routinely works with more than 2,500 local governments, 1,800 fire and rescue companies, and more than 1,000 law enforcement agencies. CLGS resources will be available to help carry out SLIGP activities.

d. *What are the specific staffing resources the State requires to effectively implement the consultation process with the First Responder Network Authority (FirstNet) and perform the requirements of SLIGP? If the application requests funding for additional staffing, provide the amount the State expects to request and describe the positions these funds will support.*

Well-qualified PSP staff will fill the principal roles in carrying out SLIGP activities, including the following, with support from other department personnel as needed:

- Director, BCIS: the state's designated contact for PSBN
- Broadband Subject Matter Expert (SME)
- SWIC
- Grants administrator
- Project manager
- Agreements manager
- GIS manager and analyst
- Radio systems engineer

The salary and benefits for the PSP employees in these roles are applied to the state's matching funds for SLIGP in proportion to the time spent on SLIGP activities. The detailed budget justification includes further information about staffing resources under the Personnel and Fringe Benefits sections.

Pennsylvania also intends to engage professional consulting services to help with outreach and data collection.

e. *How is the State engaging private industry and secondary users (e.g., utilities)?*

Pennsylvania's outreach program will engage private industry and secondary users as part of the SLIGP process. Currently PA-STARNet includes a regional transportation authority and electrical utilities among network users.

Also, Pennsylvania's broadband mapping team routinely works with broadband service providers. This team can help identify and communicate with providers of broadband services like LTE, middle mile, and network backhaul.

Through participation in the MACINAC initiative (see Section 5), the state has engaged potential private users of the network, particularly electric utilities, in discussions regarding their interest in and potential support for the network in the mid-Atlantic region. With MACINAC's regional focus, it is well-positioned to work with the many regional utilities in the mid-Atlantic area. So far, MACINAC has focused on the major electric utility associations, presenting a webinar to the CIOs committee of the Edison Electric Institute and holding an in-person working session through the Utilities Telecommunications Council. It has also met with the National Rural Electric Cooperative Association and the American Public Power Association.

MACINAC is now following up with interested utilities companies to discuss in more detail the technical, operational, and business relationships they foresee in connection with the future nationwide network. As a member of MACINAC, the state expects these discussions to yield a good starting point for active negotiation between the utilities and the network operator.

Supplemental Application Narrative

Section 4—Coordination with Local Government Jurisdictions

- a. *Describe the local government jurisdictional structure (e.g., municipalities, cities, counties, townships, parishes) located within the boundaries of the State, Commonwealth, Territory, or District applying for a grant. How many of these local jurisdictions exist within the State's boundaries?*

Pennsylvania has 67 counties. Most are governed by a county commission, but a few operate under a home rule charter that establishes a county executive and a county council for governance. Each county is then further divided into municipalities. These are categorized as follows:

- City of the First Class
- City of the Second Class
- City of the Second Class A
- City of the Third Class
- Borough
- Township

Pennsylvania has one City of the First Class (Philadelphia), one City of the Second Class (Pittsburgh), one City of the Second Class A (Scranton), 53 Cities of the Third Class, and numerous boroughs and townships. There are approximately 2,563 municipalities in the commonwealth.

The forms of government of Cities of the Third Class, boroughs, and townships vary. Most townships have commission-type governance. Boroughs generally elect a weak mayor and a five-, seven-, or nine-member borough council which is the main governing body. Third-class cities can have either a commission-type government, or a mayor-council or council-manager form of governance. The number of municipalities and different types of governance create the biggest challenge in educating and soliciting input from these bodies.

Pennsylvania, organized as a commonwealth, does not place a great deal of centralized authority over public safety or emergency response at the state level, but rather distributes responsibility to counties and municipalities.

Title 35, Pennsylvania Consolidated Statutes (Emergency Management Services Code, 1978), Chapter 75, Paragraph 7501 states that "Each political subdivision of this Commonwealth is directed and authorized to establish a local emergency management organization... Each local organization shall have responsibility for emergency management, response and recovery within the territorial limits of the political subdivision within which it is organized..." This responsibility specifically includes the responsibility to "[e]stablish, equip and staff an emergency operations center, consolidated with warning and communication systems to support government operations in emergencies and provide other essential facilities and equipment for agencies and activities assigned emergency functions" (35 C.S. 7503).

Act 78 of 1990 (Pa. C.S. 35, Chapter 38A, Public Safety Telephone Act) established the toll-free 911 emergency telephone number system, placing responsibility for implementation at the county level.

The commonwealth structure of government underscores the need for careful attention to communication and cooperation with Pennsylvania's county and local governments in planning for and development of the PSBN.

- b. *Describe how your State will involve these local jurisdictions to ensure there is adequate representation of their interests in the FirstNet consultation and in the planning and governance for SLIGP.*

Pennsylvania plans to use a number of methods for outreach to local government jurisdictions.

First, the state will engage a consultant with expertise in public safety and broadband communications. The consultant will help develop educational and outreach programs to be conducted regionally. Specifically, there will be two programs, one targeting local government officials, and the other targeting public safety officials (see details under k. Education and Outreach below).

The state will then host regional seminars for local government officials, providing rooms and meals. The state would conduct at least nine such programs across the commonwealth. Each program will consist of an educational portion, then an opportunity for discussion and response. There will be breakout sessions for local government officials and public safety personnel to have separate presentations tailored to their roles. There may be demand for additional seminars. The state will aim for participation by one attendee from each government subdivision. The agenda for the seminar will begin with an educational presentation on the background and application of the PSBN, followed by discussion designed to solicit the requirements of attendee jurisdictions as well as attendees' concerns and questions.

A further method of outreach will be sending one or more planning committee members to the annual meetings of the Pennsylvania County Commissioners Association, the Pennsylvania Association of Boroughs, and the Pennsylvania Association of Townships. Committee members will offer a condensed version of the seminar presentations at these meetings.

In addition to these methods, the state's PSBN representatives will contact directly the government administrators of the cities of Philadelphia and Pittsburgh, and also Allegheny County, for their requirements. Pennsylvania plans this additional direct contact because it recognizes that participation of the major metropolitan areas is a necessity if the PSBN is to be successful.

The final method will be a public website to educate officials about the PSBN and give them a way to respond with their comments, questions, and requirements.

- c. *Describe past methods the State has used to successfully coordinate state-wide projects or activities with local government jurisdictions.*

Pennsylvania state government has had a great deal of experience dealing with local government jurisdictions on a regional scale, in a number of state agencies and across a variety of programs, practices, and disciplines.

Development and operation of PA-STARNet, a project that is in many ways a microcosm of the federal PSBN effort on a statewide scale, have engaged every county and many of the municipalities in Pennsylvania repeatedly over the 17 years of its existence. In 2007, 2008, and 2009, the state conducted a statewide interoperability conference in State College that in 2009 drew 230 attendees representing all levels of government. The purpose of this conference was outreach, education, and cooperation to improve public safety and emergency communications interoperability throughout Pennsylvania. The experience of designing and conducting the conference is an

excellent preparation for the state's proposed multi-jurisdictional statewide outreach program for PSBN.

- d. *What have been some of the State's primary challenges when engaging with local jurisdictions? What are some of the strategies that the State will employ to overcome these challenges during implementation of SLIGP?*

The main challenges dealing with local jurisdictions are generally political. It is normal for government officials to want to be kept informed about anything they think could affect their area. Problems occur when officials feel they are not engaged when they should be. Pennsylvania's statewide PSBN outreach and planning effort is designed to overcome these challenges through a comprehensive plan that includes all potential stakeholders.

Supplemental Application Narrative

Section 5—Regional Coordination

- a. *Does your State have intrastate regional committees that are involved with public safety communications? If so, please describe their organizational structure and membership and how they provide input to the SIGB.*

Pennsylvania's counties are divided into nine regional all-hazards emergency response groups, commonly referred to as Regional Task Forces (RTFs). The RTFs are represented on the SIGB. Each RTF has a communications subcommittee that will provide an important channel of communication in carrying out SLIGP activities.

Pennsylvania's form of government places a high degree of authority and responsibility at the county and local levels. There are 67 counties and thousands of municipalities across the state, with thousands of agencies and officials involved in some way with law enforcement, emergency management, and emergency response. Further complicating the problem of dealing with this imposing array of entities is the fact that laws, processes, standards, and culture vary from one part of the state to another. In addition, the state's authority over counties and municipalities is constitutionally limited. As a result, it is impractical for state government to try to address each of these agencies and officials directly, to say the least.

The state's approach in coordinating emergency management and response, including public safety and emergency communications, is to work with counties and municipalities regionally through the nine RTFs. This is particularly true for statewide policy and planning initiatives like PSBN deployment in Pennsylvania. It is an approach that is well-established and proven through communications interoperability planning and implementation for PA-STARNet. Working with Pennsylvania Emergency Management Agency (PEMA), which oversees the RTFs, PSP and the STARNet Division have a firm working relationship with the officials in each region, and they in turn with the officials throughout the counties and municipalities in their regions. Pennsylvania's plan for carrying out SLIGP priority activities like education and outreach is to organize and communicate through the RTFs.

- b. *Describe any interstate regional bodies in which your State participates that are involved with public safety communications in the State.*

Pennsylvania is a member of MACINAC, a multi-state, regional approach to deployment and operation of the mid-Atlantic portion of the PSBN. A year before the legislation that created FirstNet, the District of Columbia and Delaware, Maryland, West Virginia, Pennsylvania, and Virginia formed MACINAC to take concerted action to improve interoperability and save money.

MACINAC's charter reflects its member states' intention to work together as a region. It has held stakeholder meetings throughout the region to provide policy and technical education and gather user requirements, and it has responded to requests for comment from both NTIA and FirstNet. It has also begun to identify government-owned assets in the states, to design a cooperative procurement process under which all states can purchase from a single contract, and to discuss with critical infrastructure industries their use of the PSBN in the MACINAC region. In addition, MACINAC has prepared (but not yet issued) a Request for Information to solicit information for FirstNet and the MACINAC states important for network planning, design, and non-LTE features in the region.

- c. *How does the State plan to engage and leverage these existing regional coordination efforts in the nationwide public safety broadband network planning?*

Pennsylvania appreciates the benefits of the regional approach and plans to continue to participate in MACINAC and work with the other states in the region. Although MACINAC member states do not yet know exactly where their collective efforts will lead because all decisions require consensus, Pennsylvania is confident that MACINAC's efforts will be helpful to FirstNet. Its single voice for the region's member states will make FirstNet's consultation process easier, and it will also help FirstNet with some of the most challenging parts of network deployment such as site acquisition and improvement and backhaul design and deployment. MACINAC also will help educate and engage public safety stakeholders throughout the region, promoting understanding and support for the PSBN.

In general, the objective of Pennsylvania's participation in MACINAC is to carry out SLIGP priority activities, to consult with FirstNet, and otherwise to comply with federal requirements and support FirstNet efforts more efficiently and more effectively by acting regionally as a part of the MACINAC initiative, where appropriate, than by acting individually as a state. For example, establishing at the regional level the requirements and basic language for a standard infrastructure sharing agreement, resulting in a template to be adapted by each of MACINAC's member states, is a way to pool resources, consolidate expenses, and produce a better document than having each state work on a document independently. Similar comments apply to other SLIGP activities and in general to FirstNet consultation. To an extent—and that extent is difficult to define precisely before engaging and working through the process—SLIGP activities and FirstNet consultation will best be carried out using the model of regional engagement through MACINAC at the outset, with engagement of individual states for details and local adaptation.

Attached to supplement this section of the narrative is a statement of MACINAC's role prepared by MACINAC in consultation with its member states and the District of Columbia.

MACINAC Statement: Role in Member State SLIGP Activities

The MACINAC Initiative is an agreement among member states to work together in the planning, deploying, and sustaining of the nationwide public safety broadband network in the mid-Atlantic region. It serves as a mechanism to accomplish tasks that are more effectively and efficiently handled in a shared, multi-state manner, whether those tasks are technical, governance-related, educational, or policy-related. Thus, any SLIGP funding that might be used for such tasks will be for the accomplishment of tasks the State would otherwise undertake itself, only in a shared, more efficient fashion.

For example, the MACINAC Initiative was used early on by the member states to develop an educational presentation for all of the states to use in outreach to executives and stakeholders. As a result, each state was saved from having to incur the full cost in time and money for the creation of this document. As SLIGP tasks arise, the member states will determine whether the task would be better and more efficiently handled in a shared fashion through the MACINAC mechanism. Such tasks will be among those already contemplated in the State's SLIGP proposal; the only difference will be that rather than accomplishing the task on its own, the State will accomplish it in concert with the other states in the region, sharing both the cost and the accomplishment. Because sharing resources among states typically is accomplished through sub grants, the State has revised its budget to specify an amount for sub grants under the "Other" cost category. However, because the

MACINAC states will determine in the future both the specific tasks to share as well as the costs of such tasks, the amount reflected in the budget for sub grants is solely a budgetary allocation that may require amendment as the MACINAC states proceed to engage with FirstNet and undertake various SLIGP tasks.

The MACINAC member states are currently considering the extent to which they will coordinate and consolidate their FirstNet consultation efforts. The extent of such coordination may well vary by issue and evolve over time. The states may agree upon common information and requirements to share with FirstNet; they may also decide to consult more broadly with FirstNet as a region. As the Act specifies: FirstNet must consult with "regional, State, tribal, and local jurisdictions regarding the distribution and expenditure of any amounts required to carry out policies ... including with regard to the ... coverage area of the network whether at the regional, State, tribal, or local level" (Sec. 6206(c)(2)(A)(iii)). It is the hope and desire of the MACINAC member states to simplify and facilitate the state consultation process for FirstNet; they are currently working among themselves and will soon be working with FirstNet to determine the best way to accomplish that goal.

As the Act states, the SLIGP is "a grant program to make grants to States to assist State, regional, tribal and local jurisdictions to identify, plan and implement the most efficient and effective way for such jurisdictions to utilize and integrate the [nationwide network] to satisfy the wireless and communications needs of that jurisdiction" (Sec. 6302(a)). The regional coordination and sharing mechanism that is the MACINAC Initiative not only helps the State determine the "most efficient and effective way" to use the nationwide network to meet its communications needs, but it also in many cases provides the "most efficient and effective" approach to doing the work necessary to make that determination.

- d. Please identify, if applicable, any other state, territory, or regional entity with which the State collaborated or coordinated in the development and preparation of this application and describe the nature of that collaboration or coordination.*

Pennsylvania collaborated and coordinated with the other five MACINAC member states in developing some parts of this application, including this section of the supplemental narrative. Contributions included shared language and budget items to support continued regional cooperation.

Supplemental Application Narrative

Section 6—Tribal Nations

This section is not applicable: there are no federally recognized tribal nations in Pennsylvania.

Supplemental Application Narrative

Section 7—Rural Coverage

- a. *Please classify your local jurisdictions into rural and non-rural areas and identify the criteria used in making these rural and non-rural determinations.*

Analysis of 2010 National Census data carried out by the Center for Rural Pennsylvania, a legislative agency of the Pennsylvania General Assembly, identifies Pennsylvania's overall character as rural. The state's 48 rural counties together cover nearly three-fourths of the state's land mass. The remaining 19 counties are urban in character. More than one-quarter of Pennsylvania's residents (27%) live in rural counties.

According to the Center's definition, a county is rural when the number of people per square mile in that county is below the statewide average (The Center for Rural Pennsylvania, *Rural Pennsylvania and the 2010 Census*, "Methods," p.1). In 2010, the state's total population was 12,702,379, spread over a total of 44,732 square miles, yielding an average of 284 people per square mile.

- b. *Please describe the coverage area and availability of broadband service and LTE technology in the rural areas of the State as defined in response to 7.a.*

Like many states with large rural areas, Pennsylvania has sporadic broadband availability, generally following the population centers. The BTOP-funded state broadband mapping website shows clearly how cable, DSL, and especially fiber (Verizon FiOS) coverage correlates closely with the urban counties. In contrast, rural counties, especially a large cluster in the center, have much of their land mass classified as "underserved."

The Pennsylvania legislature attempted to address broadband availability in 2004 by rewriting the telecommunications statutes, resulting in legislation commonly known as Chapter 30, to mandate that providers ensure 100% broadband coverage in their service areas by 2015.

Also, Pennsylvania received BTOP funding in 2009 to construct a rural broadband network. This network is nearly complete. The BTOP grant expires in August 2013. By that time the state will have a robust and reliable 150 Mbps microwave network in 24 of its most rural counties. The broadband office is partnering with rural ISPs to expand coverage to citizens, businesses, local governments, and community anchor institutions. Still, the rural broadband landscape is challenging, and actually providing service requires specific, targeted analysis and deployment. Rural Pennsylvania does not have a one-size-fits-all broadband solution.

All of the U.S. commercial cellular carriers provide 4G-LTE coverage in Pennsylvania and all have similar coverage maps—maps that conspicuously avoid rural counties. A state population density map superimposed on any of the providers' coverage maps correlates very closely. While providers naturally offer expensive new technology where there are enough people to make the business profitable, the result is that Pennsylvania's rural 4G-LTE reality today is extremely limited.

- c. *Please describe how the State plans to prioritize the grant activities to ensure coverage in, and participation by, rural areas. Please include specific plans, milestones, and metrics to demonstrate how you will achieve these requirements.*

Pennsylvania's 2008–2009 BTOP outreach efforts included several of the staff who will participate in SLIGP outreach. The BTOP experience will help greatly with SLIGP outreach in rural areas. Also, since 2009, the broadband network project has included a substantial amount of outreach and marketing: contacts, meeting locations, meeting agendas, lessons learned, and so on. This experience also will help provide a solid foundation for SLIGP outreach.

To ensure thorough communication and consideration of requirements in rural areas of Pennsylvania, the state will take the following steps in each of the state's 48 rural counties:

1. Identify at least three key officials representing county and municipal government and core public safety and emergency response disciplines to help coordinate and verify information gathering, PSBN requirements definition, and planning.
2. Meet with these representatives to identify county agencies and other officials to participate in PSBN planning activities, establish contact information, and clarify preferred communication methods, and from this information, develop a written communication plan.
3. Apply the resulting communication plan as a guide to all subsequent PSBN communications, requirements definition, and planning.

Supplemental Application Narrative

Section 8—Existing Infrastructure

- a. *What, if any, databases exist that collect data on government-owned wireless and/or communications infrastructure for the state, local, and/or tribal governments?*

The STARNet Division of Pennsylvania State Police, the office responsible for development and operation of PA-STARNet, maintains a comprehensive database for all state-owned communications infrastructure, including that owned by other Pennsylvania state agencies. The division includes a GIS section with access to a variety of geographic data sources, including data provided by state agencies as well as publicly available databases. Available data includes information not just about state-owned assets, but also about commercially-owned assets. Working with county and local agencies to capture and update data describing all communications infrastructure in the state is an ongoing effort.

In addition to in-house databases, the state's site and tower management contractor, Crown Castle USA, Inc., maintains current data about PA-STARNet sites and site assets in its databases. This information is updated routinely and reconciled with the state's in-house data.

The state has also invested in population of the federal Communication Assets Survey and Mapping (CASM) database, dedicating a STARNet Division senior staff member full-time for several months to gather state communications asset data and add it to the database using the Web-based tool provided by the Office of Emergency Communications. The state's contributions, along with the contributions of counties and municipalities, cover a large portion of the public safety communications infrastructure in Pennsylvania.

- b. *If these databases exist, what is the process for updating them and how often do these updates occur?*

Database updates occur as infrastructure is added or changed on the network, according to the standard business process in the STARNet Division for management of network additions and changes. Daily use and the fact that correct information about PA-STARNet and related assets is crucial to agency and responder operations help flag any errors or inconsistencies quickly and ensure that data remains current and reliable. The process at the local level is similar.

Supplemental Application Narrative

Section 9—Existing Government-Owned Networks

- a. *Describe how you plan to identify any hardening, security, reliability, or resiliency requirements that are currently required for existing government-owned networks within the State, including those networks at the local and tribal governments.*

Pennsylvania plans to use experience in the construction of a number of hardened networks to help develop requirements for the PSBN.

The commonwealth constructed and operates PA-STARNet to provide two-way voice and data communications for public safety. The network includes a digital trunked system operating in the 800 MHz public safety band, and also supports conventional VHF and UHF radios. The network backbone is designed to meet the highest standards for structural loading. It has sophisticated power systems that incorporate commercial power, battery plants, automatic generators, and fuel supplies to ensure uninterrupted operation for up to five to ten days. Network connectivity includes highly reliable microwave connections, hot-standby radios, and self-healing loop protection.

Pennsylvania will also draw on the experience and expertise of county governments responsible for public safety and emergency response networks in their jurisdictions. With the recent narrow banding deadlines, a number of counties in Pennsylvania have constructed hardened PSAPs and public-safety-grade emergency communications systems.

In addition, the Pennsylvania Game Commission and Pennsylvania Turnpike Commission share infrastructure with PA-STARNet but operate large networks independently. A consortium of educational and research institutions, many state-related or state-owned, operates a large fiber network under the BTOP program.

Both the state and its counties that operate public safety networks well appreciate that making communications networks truly public-safety-grade adds very significantly to cost.

Resilience requires identification of single points of failure and opportunities for redundancy, and planning and exercises for restoring service. Pennsylvania agrees with early remarks by FirstNet that overlapping coverage from multiple sites increases network resilience, and that redundant power systems and network connectivity increase site resilience. In case of a disaster, sharing a common platform regionally or nationally helps by making spare parts and tactical restoration equipment more widely available.

Pennsylvania has not been able to achieve more than 99.9% reliability of telecommunications circuits such as T1 leased lines with PA-STARNet. Reliability is in part limited by dependence on rural infrastructure, and is in part due to the challenge of data network maintenance.

Experience of storms and natural disasters shows that the commercial power grid is subject to wide-area outages, and it can take days to restore service. Since remote data circuits rely on the same commercial power grid, any telecommunications circuits are also likely to fail six to 24 hours after a wide-area power outage.

SLIGP activities will include forming a public safety communications network hardening planning group to include site contractors and commercial utilities for review of standards and identification of best practices.

The longer-term plan for PSBN must consider factors such as off-network device operability and mesh networks that are easy to set up so first responders retain the ability to communicate in the worst conditions, even if that ability is diminished.

PSBN planning should allow time to identify and evaluate the resilience and redundancy of various network design choices.

During the second phase of the grant, the state will use GIS software to evaluate single points of failure in the network based on parameters including network connections and power and structural information. This method will allow evaluation of network availability under various simulated failures.

- b. *Describe how you plan to identify any existing contractual requirements regarding hardening, security, reliability, or resiliency for commercial carriers providing wireless data services within the State, including those at the local and tribal governments.*

There are two factors to consider. First, PA-STARNet and many of the county-owned communications networks pay rent to put equipment on commercial towers, and these towers, by contract, do not meet structural standards for public safety (Rev G, Type III). Commercial towers follow a slightly lower standard.

The second factor is that many agencies currently subscribe to commercial data networks for mobile data communications. These contracts include no guarantee of uninterrupted service during emergencies or disasters.

SLIGP planning activities will help gather network engineers in the commonwealth to discuss how to increase overall redundancy and resilience with communications systems that rely on one or more than one commercial structure or network.

The state has made some progress in reducing PA-STARNet failures from commercially-provided telecommunications circuit and electrical power outages by introducing improvements in network switching, using mixed connection modes including microwave, 4.9 GHz point-to-point, dark fiber, and commercial MPLS for self-healing loops that increase overall reliability.

The SLIGP planning process will draw on the state's experience and expertise to identify ways to increase structural and network hardening and reliability.

Supplemental Application Narrative

Section 10—Network Users

- a. *Describe how you plan to identify the potential users of the nationwide public safety broadband network within the State, including at the local and tribal governments.*

Pennsylvania plans to identify potential users of the PSBN using a number of strategies.

The state plans to develop a comprehensive marketing program outlining the main features of the PSBN, including end-user applications, technical data, and conditions of use. The marketing program will be presented in a series of regional conferences conducted throughout Pennsylvania. Invitees to the regional conferences will include executive and operational representatives of the statewide and county public safety organizations and associations listed below, in addition to their local counterparts.

Pennsylvania will also host webinar round-table discussions to provide an opportunity to present information and answer questions about the PSBN. Invitees will include state and local stakeholders. Mailings to prospective stakeholder organizations will solicit their participation and cooperation in identifying potential users of the PSBN.

Taking advantage of existing conferences and meetings of public safety personnel, Pennsylvania will identify PSBN users through the following organizations and agencies:

- Association of Public-Safety Communications Officials (APCO), the
- Pennsylvania State Emergency Communications Committee
- Pennsylvania Chiefs of Police Association
- Pennsylvania Public Safety Communications Council
- County communications directors
- Pennsylvania Public Utilities Commission
- Pennsylvania Emergency Health Services Council
- Regional Emergency Medical Services (EMS) Councils
- Pennsylvania State Fire Commissioner
- Pennsylvania Professional Firefighters Association
- Firefighters Association of Pennsylvania
- Pennsylvania Department of Conservation and Natural Resources (DCNR)
- Pennsylvania Department of Military and Veterans Affairs
- Pennsylvania National Guard (Army and Air)
- Pennsylvania State Troopers Association

The state does not yet have a detailed plan for identifying potential PSBN users. The initial phase of the professional consulting engagement for support of SLIGP activities will include establishing such a plan, with strategies for ensuring contact with all potential users. The resulting plan will likely make use of at least the following conduits of communication between state government and county and municipal agencies and officials:

- Communications governance structure, including the PSCC
- Regional PSBN education and outreach events (see Section 4.b. above)
- Dedicated PSBN public website (see Section 4.b. above)
- Pennsylvania's RTFs (see Section 5 above)
- Survey by website, email, or postal service

Many of Pennsylvania's counties have their own countywide radio systems. Agencies operating these systems will be a rich source of information about potential PSBN users at the county and local levels. These agencies can be approached through the RTF Communications Committees and through the communications governance structure.

Pennsylvania will also participate in discussions and joint planning with neighboring states through MACINAC to identify best practices and methods for PSBN user identification and to monitor their effectiveness as they are used in order to adjust tactics accordingly.

Supplemental Application Narrative

Section 11—Education and Outreach

- a. *Describe how you plan to educate and train multi-discipline, public safety and other government users of the nationwide public safety broadband network at your State, local, and tribal levels.*

Outreach and education will to an extent occur as part of coordination with local governments efforts as described in this section under item d. below. The contracted consultant will develop educational programs for the nine regional seminars planned to address public safety agencies and local government officials. These programs will be designed to solicit feedback from participants as well as to educate them.

Targeted public safety disciplines include police, fire, health, emergency response, and emergency communications. There are approximately 1,200 police departments in Pennsylvania. Of the state's approximately 1,370 fire departments, 43 have paid firefighters, 106 have a combination of paid and volunteer, and 1,221 are strictly volunteer. There are approximately 1,000 ground and air emergency medical service agencies, as well as 261 licensed hospitals. Because contacting each of these agencies is a virtual impossibility, the state has adopted an approach using regional seminars.

In addition to targeting agencies responsible for the public safety disciplines listed, the state plans to take advantage of the nine RTFs, the regional task forces created by the PEMA. The county emergency management (EMA) directors in these regions provide direction for the RTFs. Each RTF has regular meetings, and they will be included in the outreach program. Invitations to regional seminars will be extended to all county EMA directors, as well as to all 911 center directors.

In addition to inviting public safety personnel to the seminars, the state will contact the following organizations directly:

- Pennsylvania Chiefs of Police Association
- Pennsylvania Fraternal Order of Police
- Pennsylvania Fire Commissioner
- The 15 Regional EMS Councils
- Statewide EMS Advisory Committee
- Pennsylvania Trauma Systems Foundation

The Pennsylvania Department of Health is charged with coordinating and regulating all health-related activities in the commonwealth, including EMS agencies and hospitals. The statewide planning committee includes a member from the Department of Health, who will serve as an additional resource to coordinate outreach to health-related organizations.

Each of Pennsylvania's 67 counties has its own District Attorney, designated by statute as the chief law enforcement officer of the county. Some District Attorneys also have a county detective's office. District Attorneys will be invited to the seminars, and the outreach plan will include a presentation at the annual meeting of the Pennsylvania District Attorneys Association.

County sheriffs will also be invited to the seminars, and the outreach plan likewise will include participating in and presenting at the annual Pennsylvania Sheriffs Association meeting.

The Commonwealth plans to deploy a public website with educational materials about the PSBN. The website will provide for interaction with users, allowing them to communicate their requirements as well as other pertinent information. The Commonwealth will also conduct webinars for potential system users.

Section 4.b. above includes further details about the Commonwealth's outreach and education plan for local government jurisdictions.

Supplemental Application Narrative

Section 12—Memorandum of Agreements

- a. *Describe any specific obstacles, laws, and/or legal issues that will likely impede your ability to participate fully in the nationwide public safety broadband network or in SLIGP.*

Pennsylvania has participated in and cooperated with many federally coordinated law enforcement and homeland security efforts, and is fully prepared to participate in a nationwide network.

During the grant program, the state will review a number of obstacles that must be overcome to realize the full benefit of a statewide or regional network. Many of these are lessons learned from other projects.

On the positive side, the STARNet Division has a contract with a commercial tower company to lease excess space on state-owned towers. The state currently shares infrastructure with over 30 counties and other state agencies. There are many memorandums of agreement between state and county governments for these tower colocations.

There are many other challenges for the enormous undertaking represented by the PSBN. For example, the business structure adopted by FirstNet could require enabling legislation to permit a government agency to sell services. Legislation could also be required to "opt in" and sign a contract with the FirstNet board. Many of the state and local tower structures in the commonwealth were built using tax-free state and municipal bonds. If private carriers are involved in operating the network and they also profit from it, restrictions on the use of tax-free bonds for private interests in the Federal Tax Reform Code of 1986 could impose barriers to participation.

In Pennsylvania, the state has little authority to compel large cities and counties to participate in the network without specific legislative authority. Pennsylvania may need additional budgetary appropriations to participate in PSBN. Also, the Public Utility Commission must be consulted about the regulatory implications of any new telecommunications network.

Although there is no specific legal barrier so far, because FirstNet has openly considered private-public partnerships to fund PSBN construction, and because this network is for all levels of government, there will be many legal and legislative issues to address.

During the first phase of the SLIGP process, the state will catalog existing enabling legislation giving state agencies authority to work with county and local governments. Further, the state will catalog existing contracts and government agreements that are in place to share technology, resources, and infrastructure.

Additional activities during the first phase will be drafting legislation to provide general authority to administer and operate a broadband network with federal and regional connections, and developing local operating agreements.

Supplemental Application Narrative

Section 13—Tools

- a. *What are some of the software tools that the State has used and could apply to the planning and data collection activities associated with this program?*

Pennsylvania has found mapping tools for data collection and presentation to be of tremendous value. The ability to analyze and present data visually is a valuable aid to planning. Pennsylvania currently uses the ESRI GIS suite, including Desktop, Server and Web applications for planning and data collection.

ArcGIS for Desktop and its extensions support a number of tasks including the following:

- Creating and maintaining data repositories
- Creating and collecting GIS data
- Converting information into usable GIS data
- Analysis of point, line, polygon, and three-dimensional data (including RF coverage) in relation to various organizational boundaries, land mass, topography, population, and other GIS parameters
- Examining data and voice network coverage, infrastructure, and data flow to assess the ability to interoperate or to share resources

Authoring map services to ArcGIS Server helps non-GIS professionals visualize information through Web mapping applications and dashboards. The ArcGIS Flex Viewer application is the framework for a Web mapping application that supplies processed geographic information, collected data, and analysis results to users. The viewer is configured to display maps and mapping layers in an interface that is easy to use, promoting better-informed decisions.

In addition, Pennsylvania's federally-supported State Broadband Mapping and Planning Initiative have developed and deployed tools to collect, verify, and display broadband coverage attributes, including the following:

Public Map (<http://www.bakerbb.com/pabroadbandmapping/>)

Updated semi-annually (each April and October) to provide details on broadband coverage by technology and speed down to the street segment or census block.

Secure Map

Allows for additional filtering and analysis of source data used to produce the public broadband map; could be used for PSBN data storage, analysis, and reporting.

Provider Submission Portal

Allows entry of data and boundaries; developed to improve the collection of data from smaller providers with fewer resources; could be used for collection of data for PSBN.

Online Survey

Developed to collect broadband adoption details from community anchor institutions: could be modified to collect public safety agency requirements for PSBN.

Supplemental Application Narrative

Section 14—Phase Two Funding

- a. *Describe the activities that you expect to undertake with the Phase 2 funding when it is made available to the State, Territory, or District.*

Pennsylvania will comply with additional grant instructions based on FirstNet guidelines for assets, design, and engineering; continue Phase 1 activities as appropriate; and carry out all other activities required to complete Phase 2 deliverables successfully.

Supplemental Application Narrative

Section 15—Other

- a. *Please list any consultants, vendors, or other entity that assisted in the preparation of this application.*

The state entered into no contract with a consultant, vendor, or other entity to develop this application or participate in its development. Suggestions and draft wording did result from Pennsylvania's participation in MACINAC, as described in Section 5 above (see especially item d.). The state also benefitted from information in recent general presentations by technology suppliers and consultants to state personnel concerning PSBN, LTE, and related topics. There was no compensation by the state for any of these presentations, nor were they targeted specifically to the state's application for the federal grant allocation under SLIGP.

Project Feasibility

Commonwealth of Pennsylvania

Applicant's Capacity, Knowledge, and Experience

The applicant for the State and Local Implementation Grant Program (SLIGP) is the Pennsylvania State Police (PSP), serving as the designated lead agency for the Commonwealth of Pennsylvania. PSP since its inception in 1905 has been dedicated to serving the public. It is PSP's stated desire to improve the ability to reach citizens with technology to increase the speed, accuracy, and availability of police and public safety data, so vital in today's information-driven world. PSP has 4,677 sworn officers and 1,600 civilian employees. PSP has jurisdiction in all political subdivisions of the commonwealth and routinely provides assistance to municipal, state, and federal law enforcement agencies. PSP provides primary police services to the majority of municipalities. The department is also tasked with a myriad of special functions created in response to legal mandates or public demand. PSP has 80 field station locations and various other offices across the state. PSP provides law enforcement and education services statewide, including investigative and laboratory services, municipal police officer training, lethal weapons training and licensing, drug evaluation and classification, and commercial vehicle inspection training, to name a few. PSP operates the Pennsylvania Criminal Intelligence Center and Commonwealth Law Enforcement Assistance Network (CLEAN), providing online access to driver's licenses, motor vehicle registrations, and state criminal record history.

As an agency under the Governor's jurisdiction, PSP benefits from resources at the disposal of the Governor as well as from centralized review and control. Pennsylvania collects approximately \$28 billion of general funds annually for the operation of state government. Total state agency employment is approximately 79,000. The Governor's Executive Offices operate a centralized, integrated payroll, financial, and procurement system. All grant funds and grant expenditures are processed and tracked through this system, with centralized control provided by the state comptroller. The commonwealth complies with the Single Audit Act for federal funds.

Applicant's Qualifications

PSP is uniquely qualified to provide community outreach, law enforcement subject matter expertise, and experience as a system operator for public safety communications. The department has many points of involvement with the public, local law enforcement agencies, the entire first responder community, and all levels of government. PSP's enlisted members are highly respected throughout the commonwealth.

In July 2012, PSP assumed responsibility for operation of the Pennsylvania Statewide Radio Network (PA-STARNet), an 800 MHz land mobile radio system supported by an extensive microwave network. The system serves in conjunction with a VHF repeater communications system available to all PSP stations. These systems together provide an extensive footprint of antenna structures, facilities, and communications capacity across the state.

Under the direction of the Governor's Chief of Staff, PSP has formed an ad hoc advisory and planning committee for the Public Safety Broadband Network (PSBN). The committee comprises leaders designated by each cabinet secretary, from the Office of Administration, the Chief Information Officer's staff, the Department of Transportation, the Pennsylvania Emergency Management Agency (PEMA), the Department of Health, and the Department of Military and Veterans Affairs. The committee's composition represents a diverse cross-section of disciplines including law enforcement, legislative liaison, administration, and technology.

Once the grant is awarded, the state intends to procure the services of a consultant with expertise in both public safety and broadband technology to assist in education and outreach, as well as in determining user needs and requirements.

Applicant's Staffing Plan

PSP will staff the grant implementation with resources from the Bureau of Communications and Information Services (BCIS).

Leadership is provided by Major Scott Neal, the Director of BCIS, a sworn officer with 26 years of experience.

Grant control and oversight is provided by Captain Patrick Brinkley, Director of the Research and Development Division. The division provides oversight and monitoring for all grants received by the department.

Day-to-day operational support is provided by the Statewide Radio Network (STARNet) Division of BCIS.

The Director of the STARNet Division manages PA-STARNet, a radio system with over 23,000 subscriber radios and 1,000 antenna sites, including a statewide microwave network. Steven C. Kuller has over 20 years experience in government and private industry working on systems and technology for the public sector, including the past seven years with public safety communications. The division has a complement of 27 persons, available to support the grant.

The Statewide Interoperability Coordinator (SWIC) is located in the STARNet Division. J. Mark Wrightstone has 20 years of experience with the commonwealth working for PEMA and PSP, and has worked on interoperability issues with local governments and surrounding states for the past six years.

The Policy and Communications Manager, John Seefeldt, has managed governance activities for public safety communications for over ten years and coordinated three statewide interoperability conferences.

The grants administrator, Holly Caudill, has worked for nearly three years on the Broadband Technology Opportunities Program (BTOP) grant, and will move from BTOP to SLIGP. The administrator is supported by a division administrative officer who administered the \$35 million Public Safety Interoperable Communications (PSIC) grant for the division.

A project manager will be assigned for day-to-day coordination of grant activities, with responsibility for coordination and compilation of reports, studies, resources, and deliverables required by the grant. Dwayne Frank Yoder will transition from BTOP-funded activities to SLIGP activities by the end of calendar 2013.

Technical expertise from the division in the areas of digital land mobile radio systems, networking, tower and facilities design and construction, power and battery systems, and GIS is available and will be applied as required.

Summary

The applicant, PSP, has the capacity, qualifications, leadership, and staffing to receive the NTIA SLIGP award on behalf of the Commonwealth of Pennsylvania.

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 06/30/2014

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 and Local Implementation Grant Program (SLIGP)	11.549	\$ 3,955,098.00	\$ 988,775.00	\$ 3,955,098.00	\$ 988,775.00	\$ 4,943,873.00
2.						
3.						
4.						
5. Totals		\$ 3,955,098.00	\$ 988,775.00	\$ 3,955,098.00	\$ 988,775.00	\$ 4,943,873.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1) State and Local Implementation Grant Program (SLIGP)	(2)	(3)	(4)	
a. Personnel	\$ 635,971.00	\$	\$	\$	\$ 635,971.00
b. Fringe Benefits	352,804.00				352,804.00
c. Travel	248,000.00				248,000.00
d. Equipment	20,000.00				20,000.00
e. Supplies	15,000.00				15,000.00
f. Contractual	2,506,957.00				2,506,957.00
g. Construction	0.00				
h. Other	1,165,141.00				1,165,141.00
i. Total Direct Charges (sum of 6a-6h)	4,943,873.00				\$ 4,943,873.00
j. Indirect Charges	0.00				\$
k. TOTALS (sum of 6i and 6j)	\$ 4,943,873.00	\$	\$	\$	\$ 4,943,873.00
7. Program Income	\$ 0.00	\$	\$	\$	\$

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8. State and Local Implementation Grant Program (SLIGP)	\$ 988,775.00	\$	\$	\$ 988,775.00	
9.					
10.					
11.					
12. TOTAL (sum of lines 8-11)	\$ 988,775.00	\$	\$	\$ 988,775.00	
SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 1,000,000.00	\$ 100,000.00	\$ 200,000.00	\$ 350,000.00	\$ 350,000.00
14. Non-Federal	\$ 312,500.00	\$ 78,125.00	\$ 78,125.00	\$ 78,125.00	\$ 78,125.00
15. TOTAL (sum of lines 13 and 14)	\$ 1,312,500.00	\$ 178,125.00	\$ 278,125.00	\$ 428,125.00	\$ 428,125.00
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 and Local Implementation Grant Program (SLIGP)	\$ 1,477,549.00	\$ 1,477,549.00	\$	\$	
17.					
18.					
19.					
20. TOTAL (sum of lines 16 - 19)	\$ 1,477,549.00	\$ 1,477,549.00	\$	\$	
SECTION F - OTHER BUDGET INFORMATION					
21. Direct Charges:		22. Indirect Charges:			
23. Remarks:					

Opportunity Title:	State and Local Implementation Grant Program (SLIGP)
Offering Agency:	National Telecommunications and Information Admini
CFDA Number:	11.549
CFDA Description:	State and Local Implementation Grant Program
Opportunity Number:	2013-NTIA-SLIGP-01
Competition ID:	2013-NTIA-SLIGP-01
Opportunity Open Date:	02/06/2013
Opportunity Close Date:	03/19/2013
Agency Contact:	Michael Dame Program Director E-mail: mdame@ntia.doc.gov Phone: 202 482-1181

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

If the Federal funding opportunity listed is not the opportunity for which you want to apply, close this application package by clicking on the "Cancel" button at the top of this screen. You will then need to locate the correct Federal funding opportunity, download its application and then apply.

This opportunity is only open to organizations, applicants who are submitting grant applications on behalf of a company, state, local or tribal government, academia, or other type of organization.

* Application Filing Name:

Mandatory Documents

Move Form to Complete

Move Form to Delete

Mandatory Documents for Submission

Application for Federal Assistance (SF-424)

Assurances for Non-Construction Programs (SF-42 CD511 Form)

Budget Information for Non-Construction Program

Optional Documents

Disclosure of Lobbying Activities (SF-LLL)

Move Form to Submission List

Move Form to Delete

Optional Documents for Submission

Instructions

- 1** Enter a name for the application in the Application Filing Name field.

 - This application can be completed in its entirety offline; however, you will need to login to the Grants.gov website during the submission process.
 - You can save your application at any time by clicking the "Save" button at the top of your screen.
 - The "Save & Submit" button will not be functional until all required data fields in the application are completed and you clicked on the "Check Package for Errors" button and confirmed all data required data fields are completed.
- 2** Open and complete all of the documents listed in the "Mandatory Documents" box. Complete the SF-424 form first.

 - It is recommended that the SF-424 form be the first form completed for the application package. Data entered on the SF-424 will populate data fields in other mandatory and optional forms and the user cannot enter data in these fields.
 - The forms listed in the "Mandatory Documents" box and "Optional Documents" may be predefined forms, such as SF-424, forms where a document needs to be attached, such as the Project Narrative or a combination of both. "Mandatory Documents" are required for this application. "Optional Documents" can be used to provide additional support for this application or may be required for specific types of grant activity. Reference the application package instructions for more information regarding "Optional Documents".
 - To open and complete a form, simply click on the form's name to select the item and then click on the => button. This will move the document to the appropriate "Documents for Submission" box and the form will be automatically added to your application package. To view the form, scroll down the screen or select the form name and click on the "Open Form" button to begin completing the required data fields. To remove a form/document from the "Documents for Submission" box, click the document name to select it, and then click the <= button. This will return the form/document to the "Mandatory Documents" or "Optional Documents" box.
 - All documents listed in the "Mandatory Documents" box must be moved to the "Mandatory Documents for Submission" box. When you open a required form, the fields which must be completed are highlighted in yellow with a red border. Optional fields and completed fields are displayed in white. If you enter invalid or incomplete information in a field, you will receive an error message.
- 3** Click the "Save & Submit" button to submit your application to Grants.gov.

 - Once you have properly completed all required documents and attached any required or optional documentation, save the completed application by clicking on the "Save" button.
 - Click on the "Check Package for Errors" button to ensure that you have completed all required data fields. Correct any errors or if none are found, save the application package.
 - The "Save & Submit" button will become active; click on the "Save & Submit" button to begin the application submission process.
 - You will be taken to the applicant login page to enter your Grants.gov username and password. Follow all onscreen instructions for submission.

Pennsylvania Public Safety Broadband

STATE AND LOCAL IMPLEMENTATION GRANT PROGRAM (SLIGP)—DETAILED BUDGET JUSTIFICATION

OBJECT CLASS CATEGORY (SF 424A)	STATE MATCH?	UNIT COST	NO. OF UNITS	EXTENDED COST	FEDERAL SHARE	NON-FED SHARE	PHASE
Personnel							
Statewide Interoperability Coordinator (SWIC)	Y	\$72,528	2.25	\$163,188	\$0	\$163,188	1, 2
Support administrative and grants	Y	\$54,531	3.00	\$163,593	\$0	\$163,593	1, 2
Project manager	Y	\$68,510	2.25	\$154,148	\$0	\$154,148	1, 2
Agreements manager	Y	\$52,250	0.90	\$47,025	\$0	\$47,025	1, 2
Broadband SME	Y	\$64,995	1.00	\$64,995	\$0	\$64,995	2
NPSB Advisory Committee meetings	Y	\$48	468.00	\$22,464	\$0	\$22,464	1, 2
Operations Committee meetings	Y	\$35	360.00	\$12,600	\$0	\$12,600	1, 2
Public Safety Communications Council meetings (SIGB)	Y	\$52	120.00	\$6,240	\$0	\$6,240	1, 2
Time preparing application	Y	\$1,718	1.00	\$1,718	\$0	\$1,718	pre-award
Personnel Subtotal:				\$635,971	\$0	\$635,971	
Fringe Benefits							
SWIC fringe	Y	\$43,154	2.25	\$97,097	\$0	\$97,097	1, 2
Support administrative and grants fringe	Y	\$32,446	3.00	\$97,338	\$0	\$97,338	1, 2
Project manager fringe	Y	\$40,763	2.25	\$91,718	\$0	\$91,718	1, 2
Agreements manager fringe	Y	\$31,089	0.90	\$27,980	\$0	\$27,980	1, 2
Broadband SME fringe	Y	\$38,672	1.00	\$38,672	\$0	\$38,672	2
Fringe Benefits Subtotal:				\$352,804	\$0	\$352,804	
Travel							
NTIA national meetings (2)		\$900	20.00	\$18,000	\$18,000	\$0	1, 2
FirstNet technical assistance workshops (2)		\$900	20.00	\$18,000	\$18,000	\$0	1, 2
NTIA regional meetings (2)		\$800	20.00	\$16,000	\$16,000	\$0	1, 2
MACINAC regional meetings (6)		\$800	36.00	\$28,800	\$28,800	\$0	1, 2
Local, state, regional travel		\$80	2,090.00	\$167,200	\$167,200	\$0	1, 2
Travel Subtotal:				\$248,000	\$248,000	\$0	
Equipment							
Teleconferencing equipment		\$20,000	1.00	\$20,000	\$20,000	\$0	1
Equipment Subtotal:				\$20,000	\$20,000	\$0	
Supplies							
Office supplies		\$5,000	3.00	\$15,000	\$15,000	\$0	1, 2
Supplies Subtotal:				\$15,000	\$15,000	\$0	
Contractual							
Legal services		\$400	200.00	\$80,000	\$80,000	\$0	1, 2
County infrastructure outreach		\$105,667	3.00	\$317,001	\$317,001	\$0	1, 2
Regional Task Force outreach sessions		\$88,375	9.00	\$795,375	\$795,375	\$0	1
SCIP analyst		\$100	1,560.00	\$156,000	\$156,000	\$0	1
Requirements gathering services		\$100	1,200.00	\$120,000	\$120,000	\$0	1
Marketing and outreach website		\$48,581	1.00	\$48,581	\$48,581	\$0	1
Regional consultation		\$45,000	2.00	\$90,000	\$90,000	\$0	2
Structural feasibility analysis		\$1,800	500.00	\$900,000	\$900,000	\$0	2
Contractual Subtotal:				\$2,506,957	\$2,506,957	\$0	

Construction						
			\$0	\$0	\$0	
			\$0	\$0	\$0	
Construction Subtotal:			\$0	\$0	\$0	
Other						
Printing and publication of marketing collateral	\$5,000	3.00	\$15,000	\$15,000	\$0	1, 2
NTIA national meeting registration fees (2)	\$300	20.00	\$6,000	\$6,000	\$0	1, 2
FirstNet technical assistance workshop registration fees (2)	\$300	20.00	\$6,000	\$6,000	\$0	1, 2
Phase 2 activities	\$1,138,141	1.00	\$1,138,141	\$1,138,141	\$0	2
Other Subtotal:			\$1,165,141	\$1,165,141	\$0	
Total Direct Charges			\$4,943,873	\$3,955,098	\$988,775	
Indirect Charges			\$0	\$0	\$0	
TOTALS			\$4,943,873	\$3,955,098	\$988,775	
Allocation per FFO, Request for Clarification:				\$3,955,098	\$988,775	
				over/under	\$0	(\$0)

Detailed Budget Justification

Commonwealth of Pennsylvania

Personnel

*The budget allocated to personnel is **\$635,971**. These funds will be covered by state match with no federal funding to be used in this category. This is an in-kind match.*

Pennsylvania will use 75% of the Statewide Interoperability Coordinator's (SWIC's) time over the entire three years. This person currently works in the Statewide Radio Network (STARNet) Division at Pay Range 10. The SWIC will work on much of the project including update of the Statewide Interoperability Plan (SCIP) and coordination with users of the network.

The budget includes a full-time administrative and grants professional to provide for procurement and budgeting as well as all grant reporting and administration. The position is dedicated to the project for the full three years at Pay Range 9. This person will fully transition to SLIGP grant administration at the end of Broadband Technology Opportunities Program (BTOP) grant closeout, and will split time between the two grants until then. Use of time while this person is administering two grants will be tracked and documented for accurate allocation of costs to each project.

A Project Manager is included in the personnel budget to provide project oversight and management for three years. This person will be responsible for coordination with the SWIC and a consultant to plan user group meetings, oversee the creation and deployment of a Web portal, and gather information. The Project Manager will be billed at 75% of his or her time at Pay Range 10.

An Agreements Manager, a staff member currently employed in the STARNet Division, will work with legal experts to create and distribute all Memorandums of Agreement (MOAs) between state and local entities. The Agreements Manager will devote 30% of his or her time over three years on the project at Pay Range 9.

A Broadband Subject Matter Expert (SME) is also included in the budget during the second and third years. This person will devote 50% of his or her time to the project to help determine the capabilities of existing infrastructure and the requirements for an LTE-capable network. This position is Pay Range 9.

Pennsylvania's Nationwide Public Safety Broadband Network (NPSBN) Advisory Committee, expected to meet monthly for three years, will contribute to Pennsylvania's match as well. These meetings will devote at least one hour each month to the Public Safety Broadband Network (PSBN) project. At least 13 members, mostly senior management at stakeholder agencies, will attend meetings. The estimated rate for each member is \$48 an hour.

The existing Operations Committee, meeting quarterly during the three-year project, will devote at least one hour of each quarterly meeting to discussion of the PSBN. This meeting is regularly attended by 30 state employees at an average rate of compensation of \$35 an hour.

The Public Safety Communications Council (PSCC), with at least ten state-employed members serving as the Pennsylvania's Statewide Interoperability Governing Board (SIGB), will continue to meet quarterly. These meetings will devote at least one hour to discussion of the PSBN during the three years of this project. State-employed members attending these meetings earn an average of \$52 an hour.

Also included in the Personnel budget are costs to write the SLIGP application. The committee writing the application consists of nine persons contributing a varying number of hours of time editing and compiling the information, for a total value of \$1,718. The average compensation of these individuals is \$48 an hour. All hours are documented.

Fringe Benefits

*The budget allocated to Fringe Benefits is **\$352,804**. These funds will be covered by state match with no federal funding intended to be used in this category. This is an in-kind match.*

Pennsylvania intends to cover the fringe benefits for the Broadband SME, Administrative and Grants Professional, SWIC, Project Manager, and Agreements Manager for time devoted to the project over the three-year grant period. Fringe benefits are shown at 59.5% of their salaries, the rate for the current fiscal year; however, this rate is expected to increase to an estimated 66.85% in the fiscal year that begins July 2013. Because the exact rate is uncertain until the budget is passed, the budget submission uses the current rate.

Travel

*The budget allocated to Travel is **\$248,000**. This category will be covered by federal funding.*

Estimated costs for ten attendees at two national meetings held by the NTIA during the award period include travel, accommodations, and subsistence based on previous NTIA events.

Pennsylvania's travel budget includes attendance at two FirstNet technical assistance workshops. The state anticipates that ten persons will attend each workshop, and has included estimates for travel, accommodations, and subsistence for these events as well. These estimates are also based on the actual costs of national events previously attended.

Regional meetings, also hosted by the NTIA, are included in the budget as well. The state believes there will be two meetings in the region and plans to send ten persons to each meeting. Regional location of these meetings should limit travel costs, and it is possible that overnight accommodations may not be necessary.

Pennsylvania has included an additional six regional meetings in the budget to cover costs to attend two Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications (MACINAC) meetings each year over the course of the project. Participation in MACINAC is vital to carrying out PSBN planning and deployment efficiently and effectively in the region. The state expects to send six representatives to each of these meetings.

Pennsylvania's budget also includes estimated costs for travel and accommodations for first responders to attend information gathering sessions. Since the state anticipates holding multiple regional meetings as well, the estimate assumes approximately 1,045 lead first responders attending two meetings each. Estimated travel costs are \$80 a trip, based on average overnight rates plus mileage submitted on similar projects.

Equipment

*The budget allocated to Equipment is **\$20,000**. This category will be covered by federal funding.*

A line for teleconferencing equipment is included in the budget. This equipment will provide an alternative to face-to-face meetings, important especially during the months when inclement weather is likely in Pennsylvania. Meetings held by teleconference will also help save money for travel. Choice of equipment will be guided by compatibility with existing

state-owned equipment. The estimated cost is \$20,000. Details of quantity and cost for each item will be determined upon evaluation of equipment used by other state agencies.

Procurement of teleconferencing equipment will likely be during Phase One of the grant period to realize the greatest benefit.

Supplies

*The budget allocated to Supplies is **\$15,000**. This category will be covered by federal funding.*

The Supplies category includes postage necessary to mail marketing materials to PSBN stakeholders in Pennsylvania. The state will also mail MOAs when interoffice delivery by courier is not possible. This category also includes other office supplies necessary to complete information gathering and asset information collection. The state has budgeted \$5,000 each year for the full three years of the project.

Contractual

*The budget allocated to Contractual is **\$2,506,957**. This category will be covered by federal funding.*

This category includes legal services and consultant services necessary for PSBN planning. All estimated costs are based on similar work completed for Public Safety Interoperable Communications (PSIC) and BTOP projects managed by this office.

The budget includes 200 hours of legal consultation, with the expectation of using 100 hours in the first year and 50 hours in each of the next two years. The state intends to use in-house legal personnel for most MOAs and does not intend to charge these services to the grant. The items listed are for any outside consultation on FirstNet-related issues with a law firm on contract, at the current rate of \$400 an hour.

The state has allocated \$317,001 for county infrastructure outreach. The approach for the events planned will be the same as that used for the three interoperability conferences held successfully during the PSIC grant. The plan is for three statewide centrally-located conferences at a cost of \$105,667 each, spread across both phases of the grant. This estimate is based on the cost of meetings of a similar size held for the PSIC and BTOP projects, and covers the facility and event planning. The previous event associated with the commonwealth's State Broadband Data and Development (SBDD) project outreach had both fixed and variable costs. Items such as supplies and copying were budgeted at \$20 an attendee for 300 attendees. Fixed cost items included advertising, design, and speaker and consultant lodging. Other costs included a management fee of \$52 an attendee and a fixed fee of \$5,000. Since the SBDD outreach event, known as the "Broadband Summit," included 300 public safety, technology, and government attendees from across the state, Pennsylvania has adopted it as the basis for planning this SLIGP event. The not-to-exceed quotation for the summit, held in 2010, was \$100,000 for the 300 attendees.

The state also plans to hold up to nine outreach sessions with stakeholders, to take place in each region. The state has nine Regional Task Forces, and plans to provide an outreach session to each of these regional groups. Previous meetings of this type and size, held during the PSIC grant, are the basis for a cost of \$88,375 for each meeting to include the facility and event planning. There are 67 counties in Pennsylvania. Each Regional Task Force includes seven to 13 counties. Considering these statistics, it is likely that there will be 15 or more attendees from each county at these meetings. The estimated cost of the regional events is also based on the Broadband Summit previously conducted by the state, with an estimated total of 200 attendees.

The budget includes meals at the outreach sessions on the regional and county levels to be included within the event pricing. All expenditures for meals will be in accordance with guidelines and requirements in OMB Circular A-87, Section 27, *Meetings and Conferences*, and Attachment B, Section 14, *Entertainment*. No alcohol or entertainment will be included at these working sessions.

A total of \$324,581 is included for a consultant or consultants to assist with requirements gathering, SCIP revision, and website development during Phase One. Requirements for this work will be published according to applicable Pennsylvania procurement code. The state expects to issue one or more firm fixed price consulting services contracts to complete the following work:

- Establish or enhance a governance structure to consult with FirstNet.
- Develop procedures to ensure local and tribal representation when the state is consulting with FirstNet.
- Conduct education and outreach for all stakeholders as appropriate.
- Identify potential public safety users for the PSBN.
- Develop a standard MOA appropriate for each state to facilitate sharing of infrastructure with FirstNet.
- Develop staffing plans to involve local stakeholders in data collection in consultation with FirstNet.
- Revise and update the current SCIP.
- Build a website for education and outreach.

The total allocated for the consulting work includes the following costs as detailed in the budget spreadsheet:

- SCIP analyst
- Requirements gathering services
- Marketing and outreach website

Because the work may be carried out by different consulting firms, the total cost is shown in three parts. The current version of Pennsylvania's SCIP was written during the PSIC project at a cost of \$240,000. This plan is now six years old. The quotation for the work to develop the original document was 2,400 hours at \$100 an hour. Based on this amount, the estimate to bring the SCIP up-to-date and incorporate the PSBN plan is 1,560 hours at the same rate, for a total of \$156,000. This estimate takes into account the complexity of integrating PSBN deployment into the existing plan, which was based on the statewide LMR system alone. The budget for this consulting work also includes an estimated additional 1,200 hours for outreach and requirements gathering at a rate of \$100 an hour, for a total of \$120,000. Finally, the consulting work includes development and deployment of a website for information gathering and outreach. Based on research into pricing for local companies with expertise in this type of website, the cost is estimated at \$48,581. This work is expected to begin early in Phase One of the grant.

Pennsylvania has budgeted \$45,000 a year in the second and third years of the project to hire two consultants for project management for Pennsylvania's continued participation in MACINAC to cooperate with member states and the District of Columbia in a regional approach to facilitate FirstNet participation and planning. The skills required for this work are equivalent to those in the state's Project Manager 3 (PM3) job classification. An equivalent PM3, if employed full-time, would be at Pay Range 11 plus fringe benefits valued at over \$135,000 a year, for an annual total of \$270,000. Since MACINAC has six member states (including the District of Columbia), Pennsylvania's budget includes one-sixth of the total estimated cost for project management, or \$45,000.

The commonwealth's budget includes \$900,000 for structural feasibility analysis. Pennsylvania owns many of the tower structures used for equipment to run the statewide

LMR system; however, analysis of the ability of existing structures to support the new LTE equipment will be necessary. Based on tower loading data for the existing network, the state estimates that 500 structural analyses will be required at a cost of \$1,800 for each site. The cost estimate is based on current state contract firm fixed pricing. Structural analysis for these sites will take place in Phase Two of the grant.

Construction

This budget category is not used for this project; therefore, \$0 is allocated.

Other

*The budget allocated to Other is **\$1,165,141**. This category will be covered by federal funding.*

The Other category includes printing of marketing flyers and presentation materials for meetings and information gathering. The amount budgeted is \$5,000 a year for the full three years of the project. This amount is based on the current cost to print flyers, approximately \$70 for each 100 items.

There is an item in the budget for registration fees to attend national meetings as well as technical assistance workshops. The estimate for this amount is based on fees charged during the BTOP project, and assumes ten attendees at each of two workshops and two national meetings.

There is an additional \$1,138,141 for Phase 2 activities in this category. This amount is based on estimates for items and activities like site assessment, coverage analysis, site hardening analysis, geospatial software licenses, and software training. The precise nature and extent of these items and activities depends on further definition of Phase 2 by FirstNet as Phase 1 activities proceed.

The state will track participation of local personnel in meetings during the three-year grant period; however, local personnel time use is not included in the state's match.

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

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.
19. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

<p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</p> <p><i>[Handwritten Signature]</i></p>	<p>* TITLE</p> <p>Director, Bureau of Communications & Informat</p>
<p>* APPLICANT ORGANIZATION</p> <p>Pennsylvania State Police</p>	<p>* DATE SUBMITTED</p> <p>06/17/2013</p>

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.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any 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 commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, 'Disclosure Form to Report Lobbying,' in accordance with its instructions.

Submission of this statement 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 statement 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.

* NAME OF APPLICANT

Pennsylvania State Police

* AWARD NUMBER

* PROJECT NAME

Pennsylvania Public Safety Broadband

Prefix:

* First Name:

Scott

Middle Name:

* Last Name:

Neal

Suffix:

* Title:

Director, Bureau of Communications & Informat

* SIGNATURE:

Patrick Brinkley

* DATE:

03/15/2013



COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

THE GOVERNOR

March 13, 2013

State and Local Implementation Grant Program
Office of Public Safety Communications
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Ave., NW
HCHB, Room 7324
Washington, DC 20230

Dear Sirs:

In accordance with The Middle Class Tax Relief and Job Creation Act of 2012, the Commonwealth of Pennsylvania designates the Pennsylvania State Police as the coordinating agency for the State and Local Implementation Grant Program for the planning efforts of the national public safety broadband network. The contact person within the agency will be:

Major Scott A. Neal
Director, Bureau of Communications and Information Services
8001 Bretz Drive
Harrisburg, PA 17112
(717)346-5346 (O)
e-mail: sneal@pa.gov

Sincerely,

A handwritten signature in black ink that reads "Tom Corbett".

TOM CORBETT
Governor