| **Application for Federal Assistance SF-424** | Version 02 |

| * 1. Type of Submission: | * 2. Type of Application: | * If Revision, select appropriate letter(s): |
|---|---|---|
| ☐ Preapplication | ☒ New | |
| ☒ Application | ☐ Continuation | * Other (Specify) |
| ☐ Changed/Corrected Application | ☐ Revision | |

| * 3. Date Received: | 4. Applicant Identifier: |
|---|---|
| Completed by Grants.gov upon submission. | |

| 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: Tennessee Department of Safety and Homeland Security

| * b. Employer/Taxpayer Identification Number (EIN/TIN): | * c. Organizational DUNS: |
|---|---|
| 62-6001445 | 8782974150000 |

**d. Address:**

| | |
|---|---|
| * Street1: | 1150 Foster Avenue |
| Street2: | |
| * City: | Nashville |
| County: | Davidson |
| * State: | TN: Tennessee |
| Province: | |
| * Country: | USA: UNITED STATES |
| * Zip / Postal Code: | 37243 |

**e. Organizational Unit:**

| Department Name: | Division Name: |
|---|---|
| Department of Safety | Tennessee Highway Patrol |

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

| | | | |
|---|---|---|---|
| Prefix: | Mr. | * First Name: | Ehrin |
| Middle Name: | D. | | |
| * Last Name: | Ehlert | | |
| Suffix: | | | |

Title: Deputy Statewide Interoperability Coordinator

Organizational Affiliation:

| * Telephone Number: | 615-743-4960 | Fax Number: | 615-253-2096 |
|---|---|---|---|

* Email: Ehrin.Ehlert@tn.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.):**

Entire state of Tennessee

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

Tennessee FirstNet Project

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 `TN-005`        * b. Program/Project `TN-All`

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

| | Add Attachment | Delete Attachment | View Attachment |
|---|---|---|---|

**17. Proposed Project:**

* a. Start Date: `03/19/2013`        * b. End Date: `03/19/2016`

**18. Estimated Funding ($):**

| * a. Federal | 2,361,340.00 |
|---|---|
| * b. Applicant | 0.00 |
| * c. State | 590,335.00 |
| * d. Local | 0.00 |
| * e. Other | 0.00 |
| * f. Program Income | 0.00 |
| * g. TOTAL | 2,951,675.00 |

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

[ ] a. This application was made available to the State under the Executive Order 12372 Process for review on [　　]

[X] b. Program is subject to E.O. 12372 but has not been selected by the State for review.

[ ] c. Program is not covered by E.O. 12372.

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

[ ] Yes    [X] No    [ 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)**

[X] \*\* 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: | Mr. | | * First Name: | Tracy |
|---|---|---|---|---|
| Middle Name: | G. | | | |
| * Last Name: | Trott | | | |
| Suffix: | | | | |

* Title: `Colonel`

* Telephone Number: `615-741-5175`        Fax Number: `615-532-1051`

* Email: `Tracy.Trott@tn.gov`

| * Signature of Authorized Representative: | Completed by Grants.gov upon submission. | * Date Signed: | Completed by Grants.gov upon submission. |
|---|---|---|---|

Authorized for Local Reproduction

**Application for Federal Assistance SF-424**                                      Version 02

**\* 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.

# Tennessee

### State and Local Implementation Grant Program (SLIGP)
### Supplemental Application Narrative

## 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.**

The State has undertaken numerous activities to investigate, plan, and foster interoperable communications within the State of Tennessee. Strategic initiatives for wireless interoperable communications in Tennessee go back to the 1970s. These initiatives have evolved from a collection of individuals with common interests in sharing knowledge and resources into the creation of a formal board by executive order.

As the State undertook initiatives to foster interoperable communications within the public safety community across Tennessee, various committees, working groups, and individuals participated. Committees involved in this effort were the Tennessee Wireless Communications Council, the State Interoperability Executive Committee, State Communications Planning and Implementation Board, and the State Interoperability Task Force. From these organizations and with the support of key technical communication personnel within numerous state agencies, documents such as the Tennessee Radio Interoperability Guide and the State Communication Interoperable Plan were published.

The Tennessee Public Safety Wireless Interoperability Communications Advisory Board (WICAB) was established by Executive Order 49, signed by Governor Bredesen on August 29, 2007, to oversee the planning, design, development, implementation and maintenance of a statewide wireless interoperable communication system. It has broad representation from its thirteen state and local government members. Members on this board include the Commissioners of Departments of Agriculture, Correction, Environment & Conservation, Commerce, Finance & Administration, Health, Safety, Tennessee Wildlife Resource Agency, and Transportation. The Adjutant General of the Military Department of Tennessee, the Director of Tennessee Bureau of Investigation, and the Director of the Tennessee Emergency Management Agency (TEMA) are also members along with two local government participants. The organizational structure of WICAB and its relationship to TEMA are shown in Figure 1.
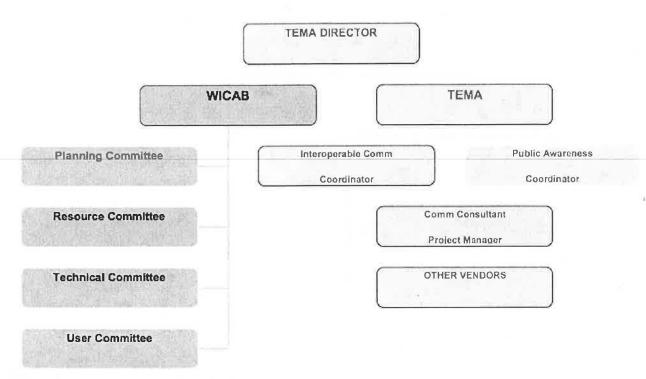
**Figure 1. WICAB and TEMA Organizational Structure**

A Strategic Plan Working Group (SPWG) was formed in January 2008 under the WICAB Planning Committee, which is the lead committee for carrying out the directives of the WICAB. This group was charged with the development of a strategic plan that would support the WICAB's vision of wireless interoperable communications in Tennessee.

The WICAB plans to establish a broadband committee to work solely on broadband issues. This committee will include state agencies, local government, all public safety disciplines, private sector and utilities. The WICAB has established a FirstNet working group consisting of a representative from the Tennessee Highway Patrol, Tennessee Emergency Management Agency, Office of Homeland Security and Office of Information Resources. The working group is charged to investigate and recommend actions to management in FirstNet matters. The Department of Safety and Homeland Security is ultimately responsible for implementing SLIGP activities.

Assuming grant award by mid-July, within 90 days the working group plans to staff the FirstNet Governance Committee. The Governance Committee differs from the FirstNet working group, in that, the working group is tasked with all activities up until the grant award. After award, the Governance Committee will then report and make recommendations to WICAB. The Committee membership will be comprised of members of the working group and the addition of local public safety decision makers.

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

The WICAB is charged by Executive Order of the Governor of Tennessee with all aspects, from planning to implementation and operation, of a statewide wireless interoperable public safety communication system.

**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 WICAB will be actively involved in the SLIGP Phase 1 efforts including: the development of the planning, education and outreach program, rural coverage plan, regional MOU template, a robust statewide training program; and tracking costs for travel, meetings, construction of documents and surveys, and other materials. Through the SPWG, the WICAB will ensure that a PSBN Strategic Plan is developed to management SLIGP activities.

In 2002, the State of Tennessee enacted the Governmental Accountability Act (GAA) that requires the phase-in of goal-based strategic planning and, where applicable, performance-based budgeting. A good example of how the GAA goal-based planning process has been implemented is illustrated by the Tennessee Department of Transportation's (TDOT) planning triangle shown here as Figure 2. This triangle shows how mission and values are used to define direction and goals that result in strategies to establish initiatives and achieve measured performance.



Figure 2. TDOT Strategic Planning Triangle

Even though all of the rules established by the GAA do not directly apply to the development of a public safety broadband network strategic plan, its general planning provisions form an excellent guide and outline and it is the intent of the WICAB and the SPWG to adopt GAA guidelines for developing the PSBN Strategic Plan. The PSBN Strategic Plan will address a broad range of strategies and goals in the following areas:

Project Concept Strategies
- Technical
- Governance
- Startup and Implementation
- Operations and Maintenance
- System Integration
- Interoperability
- Transition Planning
- Training
- Scheduling

Business Concept Strategy
- Business Case
- Risk Assessment and Management
- Marketing
- Standard of Service
- Stakeholder Management
- Cost Model*

*The Cost Model is an analysis strategy wherein all system costs (one-time and recurring) are evaluated to project a life cycle estimate. The goal is to provide initial cost data estimates, based on experience with similar systems, which can be revised and updated as the project progresses to improve accuracy and provide needed detail.*

Real-time collaboration of the SPWG's planning efforts will be effected by the participation of the group's members in face-to-face and web based meetings.

The implementation of strategic plan initiatives, policies and procedures may take place during regular WICAB meetings or upon the recommendation of a SPWG. Changes to existing WICAB policies are made in the form of a motion, discussed, and voted on by the membership.

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

As developments in the public safety broadband arena have evolved, Tennessee has determined that it will use existing WICAB procedures and processes for adding new membership to reflect the changing landscaping of public safety communications.

**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.**

To date, public safety organizations across the state have sufficiently supported the WICAB with state and local resources. Many public safety agencies across Tennessee have critical financial issues and are concerned with sustaining current LMR and first responder operational capabilities. These same entities have lost many of their human resources. At this point Tennessee plans to use existing state and local resources as much as possible, and where applicable, submit their time as in-kind services for the grant match.

**2. Statewide Communications Interoperability Plan (SCIP)**

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

The Tennessee SCIP currently encompasses goals and target objectives for governance and funding, standard operating procedures, technology, training and exercises, usage and disaster communications for Land Mobile Radio (LMR) systems in use throughout the state. There are currently no goals in the Tennessee SCIP specifically targeting public safety wireless broadband, however, the WICAB and TEMA are moving aggressively to modify the SCIP to incorporate goals similar to the following:

**Goal 1: Governance**
- Build Public-Private Partnerships to expand PSBN capabilities.

Objectives
- Maintain a coordinated governance structure, with representation from all regions, all disciplines, State, Tribal, Federal, non-governmental agencies, and public-private partners to plan and implement a PSBN for all stakeholders.
- Develop a funding plan that will generate the funding resources necessary to acquire and sustain statewide PSBN.

- Form partnerships that will strengthen PSBN capabilities.

## Goal 2: Standard Operation Procedures
- Enhance use of PSBN communications systems and integrate with NIMS-compliant, regional standard operating procedures (SOPs).

## Goal 4: Training and Exercises
- Ensure PSBN local and regional training and exercise opportunities are available to all emergency responders.

To date, state and local resources have been used to develop and incorporate PSBN planning efforts into the SCIP and recommend strategic goals and initiatives. Tennessee's goal is to complete this undertaking during the 2013 SCIP Revision.

**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.**

Strategic initiatives for wireless interoperable communications in Tennessee reach back into the late 1970s when, what is now the TEMA, established a low band radio system on 45.36 MHz. This system provided a means for local government to contact the State Emergency Operations Centers and TEMA field units. That system is currently being replaced with an 800 MHz mutual aid / interoperable system named the Tennessee Mutual Aid Channels (TMAC).

State radio communications system management personnel began to meet on a regular basis in the early 1970s to discuss radio communications issues such as interoperability and tower site sharing. In January 1995, this group became a formal organization, chartered under State law, and adopted the name Tennessee Wireless Communications Council (TWCC). Its charter members were the radio system managers of the Tennessee Bureau of Investigation, the Departments of Environment and Conservation, Health, Safety/Tennessee Highway Patrol, Transportation, the Tennessee Emergency Management Agency, and the Tennessee Wildlife Resources Agency. These state agencies operated and maintained their own wireless communication networks. The primary focus of the TWCC is to formalize their agencies' relationships in radio communications and on the sharing of common assets (e.g. - tower sites, radio infrastructure, emergency power sources, etc.) to benefit the individual agencies' missions and that of the State as a whole.

Interoperability planning efforts gained momentum when the Statewide Interoperability Executive Committee (SIEC) was formed in 2002 as part of the 700 MHz Regional Planning effort. They began discussing the immediate and long-term directions for interoperability within the State with representatives of the public safety community.

Several meetings were held that addressed tactical problems of interoperability in Tennessee, as well as information sessions to educate key state agency leaders. TEMA hosted the Public Safety Wireless Network (PSWN) conference on public safety communication interoperability in 2002. This conference brought together local and state elected officials and public safety communicators to discuss radio interoperability issues and solutions.

During the period from 2002 to 2004, the SIEC continued to lay the foundation of how to best address the short-term gaps of interoperability and set a direction for the future.

In late 2004, the SIEC drafted a Memorandum of Understanding (MOU) for use by all entities operating on the FCC designated interoperability and mutual aid channels in the VHF, UHF, 700 and 800 MHz public safety bands.

In 2005, the Director of the Tennessee Emergency Management Agency, under direction from the Governor, established an ad hoc committee, the State Interoperability Task Force (SITF), which brought together technical and operations representatives from the TWCC, SIEC, and university and college public safety departments. The SITF encouraged local government, state, Federal, critical infrastructure entities (such as utilities, commercial carriers, and Federal Express), and non-governmental organizations to participate in an interoperable communications planning process. The draft MOU of 2004 produced by the SIEC was modified by the SITF. It incorporated the National Public Safety Communications Council's (NPSTC) common channel names, designated frequencies for inter-city, high frequency, marine, aircraft, and Federal government interoperable channels, and established polices for use of cross-band devices, such as the ACU1000. Additionally, the SITF, in their Tennessee Radio Interoperability Guide dated September 2005, stated, "The long range goal will be to implement a 700/800 MHz P25 digital radio system across Tennessee".

In early 2007 the Governor directed the formation of the Commissioners Public Safety Group that was composed of key state agency heads. This group of state executives contacted counterparts in other states to gain insight and lessons learned by others on implementing statewide wireless networks. Additionally, the group conducted face-to-face meetings with their contemporaries to specifically learn about best practices and risks involved in such an undertaking. Results from the Commissioners Public Safety Group's efforts and self-directed education solidified the members and state executive leadership's resolve to rapidly accelerate the realization of a statewide wireless network.

Governor Bredesen, in his 2007 State of the Union address, pledged to seek funding for the establishment of a statewide interoperable communications system. To that end, an initial amount of $4 million was appropriated by the Legislature as part of the 2007-2008 State Budget. Additionally, the Governor issued Executive Order Number 49 on August 27, 2007 that established the WICAB discussed above. In support of the WICAB rules and by-laws and based upon best practices learned from other entities, the State solicited proposals from qualified communications consultants to perform the necessary services that would lead to the realization of a statewide wireless interoperable communications network.

During development of the SCIP in 2007, state and regional informational briefings were conducted which were designed to communicate the "big picture" on communication interoperability initiatives. Each County was asked to conduct an internal review of its communication system and hold a meeting of all public safety disciplines to capture all current improvement initiatives and recommended project(s) for consideration in interoperability planning. In addition, each County was asked to designate a single representative to attend workshops where interoperability activities were discussed and prioritized. As the draft SCIP was prepared, state and regional workshops were held to ensure local jurisdictions could discuss and assist with the prioritization of the interoperability activities.

The WICAB formed the SPWG in January 2008 under the WICAB Planning Committee. The SPWG was charged with the development of a strategic plan that would support the WICAB's vision of wireless interoperable communications in Tennessee and capture the input of stakeholders represented in the WICAB and its committees. Real-time collaboration of the work efforts by the SPWG was effected by the participation of the group's members in twenty face-to-face and web based meetings between January and July of 2008. The SPWG published the Tennessee Wireless Interoperable Network Strategic Plan in 2010.

Input gathered and compiled at the State and Regional Workshops will be used while amending the SCIP. Local government input will be vital to the SCIP revision.

**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.**

The State does not anticipate using SLIGP funds to amend the SCIP to include broadband strategic goals.

## 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?**

The SWIC is not full time but has appointed a Deputy SWIC-Broadband that will work 100% on the broadband initiative. The SWIC and Chief Information Officer/Chief Technology Officer are on the FirstNet working group and are working very closely on the project. The Deputy SWIC reports to the SWIC, who in turn, answers to the WICAB Chairman. State agencies, such as the Departments of Agriculture, Correction, Environment & Conservation, Commerce, Finance & Administration, Health, Safety, Tennessee Wildlife Resource Agency, Tennessee Bureau of Investigation, and Transportation, as well as TEMA, will be involved through the WICAB committees. Likewise, private sector industry, utilities, TVA, FEDEX, etc. will be on the Broadband Committee of WICAB. The FirstNet working group has also recommended additional broadband coordinator staffing for education, outreach, information, governance, and consultant oversight. The State is also requesting funding for an Administrative Services Assistant (ASA) and a Grant Manager. The ASA will spend 100% of the time on SLIGP grant activities for 3 years, in support of the Deputy SWIC. Responsibilities will include a variety of assignments such as: budget development and maintenance; contract negotiation, development and monitoring; personnel administration; research; planning; information compilation and dissemination; procurement and property administration; forms design; and report and correspondence preparation. The Grant Manager will spend 100% of the time on SLIGP activities for 3 years. This position will provide grant management support, including completing progress reports, managing the project's budget, and ensuring grant activities are completed on time.

## 4. Coordination with Local Government Jurisdictions

We are using a system that has been proven to work in other projects. The Tennessee Development District Association (TDDA) is an association of the nine state-wide development districts, which were established by the General Assembly under the Tennessee Development District Act of 1965. The Act established a statewide system of nine (9) regional planning and economic development organizations to promote intergovernmental cooperation on growth and development issues, including regional and statewide concerns. The organizations also promote more effective utilization of available resources in dealing with these needs. The Board Membership for each Development District is made up of the chief elected officials from member counties and cities, a designated economic development professional from each county, and one Senator and one State Representative from within each region. The Tennessee Development District Association was established to serve as a statewide forum for the diverse problems the Districts must solve in their mission to serve 95 counties and some 350 municipalities.

Existing training courses, such as *Communications Leader* (ComL) which has trained over 500 public safety professionals will be used to foster relationships for the broadband initiative. The State will also reach out to

entities that are devoted to the interests of local agencies, such as the Tennessee Chiefs of Police, Tennessee Sheriffs Association, Homeland Security district personnel, Rescue Squad associations, as well as Fire Fighter associations.

**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?**

Tennessee has ninety-five (95) counties (see Figure 3) with a total landmass of 41,235 square miles (2010 Land Area Statistics, US Bureau of the Census). Nashville is the state capital. The largest county is Shelby (Memphis), with a total of 755 square miles and the largest population of any one county in Tennessee. Murfreesboro is the geographic center of the state. There are 347 incorporated municipalities, with five major metropolitan areas of Tennessee: Memphis, Nashville, Knoxville, Chattanooga, and the Tri-Cities area of Johnson City, Kingsport & Bristol. Memphis and Nashville are Department of Homeland Security designated Urban Area Strategic Initiatives (UASIs).
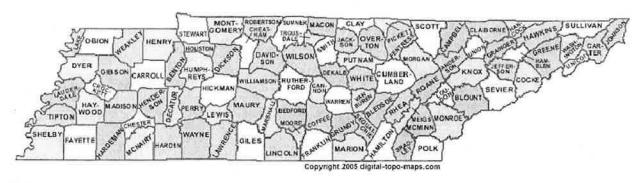


Figure 3. Tennessee County Map

Tennessee has 355 local and state law enforcement agencies, 95 sheriff's departments, 45 full-time fire departments and 689 volunteer fire department, 110 Emergency Medical Services (EMS), 50 private ambulance services and 25 air ambulance service, 120 Rescue Squads, one FEMA Urban Search & Rescue team, Tennessee Task Force 1 based in Memphis and 95 county emergency management agencies, along with 8 city or military emergency management agencies.

**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.**

The State will leverage the WICAB to provide the planning, governance and technical expertise necessary in SLIGP and subsequent FirstNet activities. WICAB's Board has 13 members: 11 from State agencies, and two from local government agencies selected by the Governor. State agencies include: TEMA, Bureau of Investigation, Military Department, Wildlife Resources Agency, Agriculture, Corrections, Environment & Conservation, Finance & Administration, Health, Safety, and Transportation. The WICAB has four standing committees: Planning, Technical, User, and Resources.

WICAB has established networks of communication between State and local public safety agencies and other partners in communications largely through its WICAB User Committee, which broadly represents the multitude of public safety disciplines (federal, state and local), including representatives from each non-governmental organization operating in the State. The Users Committee has significant local membership and provides representative membership to the other three standing committees. The

Committee is also designed to include representation from each of the regional radio board and regional advisory committees where a similar multi-disciplinary approach is reflected in their organizational structure. Additionally, the WICAB created three working groups; Baseline Assessment, Request for Proposals, and Strategic Planning, which will continue to support public safety broadband communications systems modernization. The TEMA Director, who also serves as the SWIC, chairs the WICAB and will help to ensure appropriate levels of state and local coordination and representation on the WICAB.

Development Districts will also be utilized to gain input and share information. The Districts are comprised of elected County Mayors, City Mayors and some public safety officials as designated by the municipality or the county. These positions appoint 911 boards, fire chiefs, police chiefs, emergency management directors, coroners, medical examiners and other public safety entities which put them on the front lines to assure that local public safety officials are informed, invited, and consulted on these broadband issues. This partnership has been discussed with the current statewide president of the TN Development District Association and he is excited to begin our collaboration.

Each of the 9 Development District regions meets monthly which provides a forum for collaboration. Also, these Districts have planning and grant staffs that would work with the SCIC to take advantage of regular meetings of the TN County Services Association, the TN County Mayors Association, the TN County Officials Association, the TN Highway Officials Association, the State Emergency Communications Board, the TN Municipal League, the TN Fire Chief's Association, the TN Police Chiefs Association, and the TN Sheriffs Association to market broadband goals and concepts.

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

The State has coordinated successfully with local government jurisdictions on public safety communications projects for decades. (See Section 2.b. above for detailed information of specific initiatives. Most recently, local government jurisdictions have been included in Statewide planning for wireless networks through the formation of the Commissioners Public Safety Group in early 2007, which was composed of key state agency heads who represented the different aspects of public safety operations in the state, through the establishment of the WICAB on August 27, 2007, and through the development and publication of the SCIP in 2007 and the Wireless Interoperable Network Strategic Plan in 2008. Both these plans were developed through collaboration with local jurisdictions through regional briefings, workshops and face-to-face and web-based meetings. These methods proved successful in developing these public safety communications systems plans and will be utilized again in the development of FirstNet planning activities.

**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?**

During the SCIP development activities, the State's primary challenges when engaging with local jurisdictions were the significantly different organizational structures used to coordinate various statewide activities. Tennessee has been called the "Three States of Tennessee" because of its three grand divisions (West, Middle and East) and the unique geography of each. Geographically, Tennessee is divided into six major natural regions: the Appalachian Mountain region' the Cumberland Plateau, the Highland Rim, the Central Basin, and the Gulf Coastal Plain of West Tennessee. State agencies are organized by many different methods. Many are region based while others are district based and within some agencies are campus or site specific bases, such as a correctional facility, state park, university or mental institution.

The State Emergency Management is organized into three Regions while Wildlife Resources and Transportation, with sub districts have four regions. None of the Regions contains the same counties. The Department of Safety is divided into eight district and Forestry into six districts. There are eleven different Homeland Security divisions.

During SCIP development, TEMA was designated lead for communications interoperability planning. Tennessee will leverage the same regional divisions as used during SCIP development in all SLIGP and FirstNet planning activities.

The Statewide and Regional workshops will also provide an opportunity to discuss and work-through any challenges that may be faced.

## 5. Regional Coordination

The state's regional collaboration is done mostly through a very active FEMA region IV RECCWG. The RECCWG has monthly conference calls, newsletters, and has established a broadband committee. The states coordinated on the March RECCWG on how each state is approaching the grant application and who is the POC. Tennessee historically has aggressively supported the RECCWG. One initiative is the multistate resource allocation workshop for all region IV states and included Arkansas and Louisiana.

The States of Mississippi, Tennessee, Alabama, Louisiana, and Texas have had initial discussions regarding the formation of a regional partnership focused on the coordination of broadband planning efforts and the development of public private partnerships necessary to ensure successful implementation of a public safety broadband network. Continued discussions and planning will occur and an effort made to include additional states will be put forth.

## 6. Tribal Nations

No tribes in Tennessee

## 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.**

Rural and non-rural jurisdictions have been determined based on population per square mile, as determined by the U.S. Census Bureau 2012 census (See Figure 4). The five metropolitan areas (Memphis, Nashville, Chattanooga, Knoxville and the Tri-Cities) make up 64% of the State's 6.4 million population, averaging over 5000 persons per square mile. These five areas are characterized urban or non-rural for purposes of the SLIGP. The remainder of the State is lightly populated, averaging under 50 persons per square mile and is characterized as rural. Rural areas of the state will be represented through county governments.
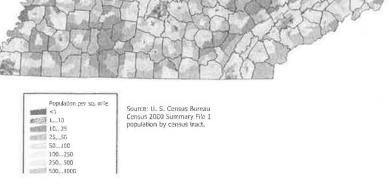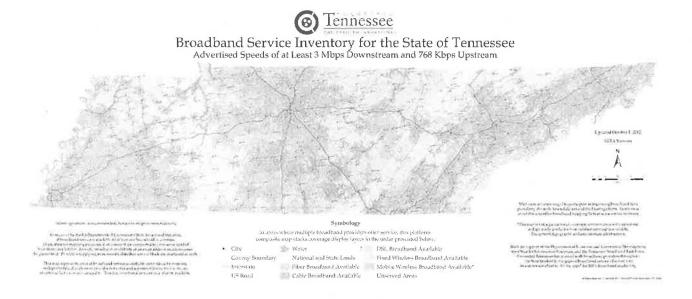


Population per sq. mile
<1
1...10
10...25
25...50
50...100
100...250
250...500
500...1000

Source: U. S. Census Bureau
Census 2000 Summary File 1
population by census tract.

**Figure 4. Tennessee Population Map (based on 2000 Census data)**

The following map and table include the latest estimates for broadband availability across Tennessee, based on the SBI mapping program managed by a current consultant. The data included in the table are broken down into statewide and "rural" categories, where "rural" is defined by NTIA in the regulations that govern the SBI grant program.

The state works closely with each of the state's broadband providers to create maps of broadband coverage and conduct surveys to assess the current landscape of broadband availability and adoption across the state. The data behind these maps are updated every six months and offer the most current and comprehensive public information regarding the availability of broadband service across the state. The map shown reflects broadband availability at 3 Mbps Downstream / 768 Kbps Upstream speeds across the state.



Tennessee
Broadband Service Inventory for the State of Tennessee
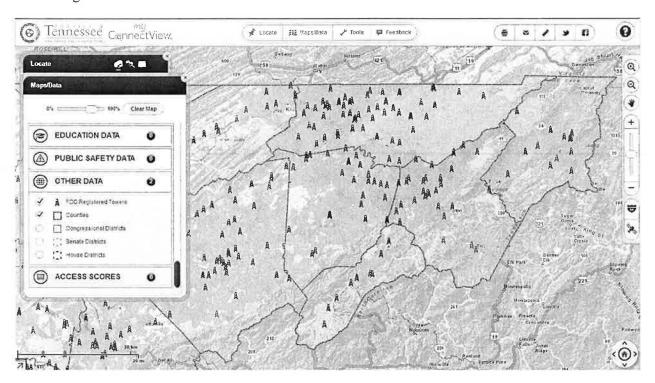Advertised Speeds of at Least 3 Mbps Downstream and 768 Kbps Upstream

LTE, the Mobile broadband standard selected for use in the national PSBN, is still in the relative early stages of its commercial rollout in the US. Verified download and upload speeds offered by the competing commercial carriers on their LTE networks are wide-ranging. While Connected Tennessee collects data on commercial mobile service availablity by speed tier, it does not currently differentiate with regard to the specific type of mobile platform technology that is in use in a given area (e.g., LTE, 3G, 4G, 4G LTE). Hence, at this time we do not have specific, comprehensive information regarding the extent of the LTE network in the state, other than as reported by commercial providers. That is not to say, however, that SLIGP resources dedicated to that purpose could not enable additional data collection for more specific LTE coverage information. Further, such data collection could potentially be incorporated into Connected Tennessee's already tried-and-true broadband provider data collection processes.

This map indicates there are specific regions of the state where wireless broadband speeds reach at least reach 3 Mbps down/768 kbps up (by areas shaded in light blue). Such speeds, however, are not generally considered comparable to speeds achieved by carriers that are rolling out LTE technology on their networks, which is generally regarded as much faster.

- Assessment of potential revenue streams: In parallel to cost modeling efforts, planners will assess the business case across these local areas, taking into account revenues stemming from primary users (first responders) as well as potential secondary users. Hence, this team will work in close collaboration with teams implementing the outreach strategy to secondary users.
- Building Local Business Plans: Based on the network cost and revenue projections for each local area, planners will determine strategies to bridge the identified financial gaps. This will include aggressively pursuing secondary users in those areas, and developing public private partnerships with local governments and users (such as community anchor institutions) to help finance the build-out and ongoing sustainability of the network.

## 8. Existing Infrastructure

The Federal Communications Commission (FCC) also maintains a database of all registered vertical assets, which includes both publicly and privately-owned towers, called the Antenna Structure Registration (ASR) database. This database includes the latitude and longitude of each tower, as well as its height, registration number, and registered owner. This data has been mapped by Connected Tennessee and can be viewed by accessing the interactive broadband map at http://www.connectedtn.org/mapping/_interactive_map_interface/?q=map and clicking on "Other Data," then "FCC Registered Towers."



Additionally, a repository exists for network-wide information on local government-owned telecommunications systems in the municipalities of Bristol, Chattanooga, Clarksville, Columbia, Fayetteville, Jackson, Morristown, Pulaski and Tullahoma, Tennessee. These local governments possess municipally-owned broadband networks offering last-mile connectivity to residential and commercial customers (it should be noted that non-disclosure agreements are currently in place with Bristol Tennessee Essential Services, Jackson Energy Authority, Morristown Utilities Commission and Pulaski Electric System and may limit the sharing of some network information absent additional authorizations). Similarly, while Connected Tennessee does not currently collect government-owned wireless and/or communications network information for entities not involved in the provision of last-mile residential broadband service, it is anticipated that coordination and

Further information about the Tennessee broabdand inventory, including county-level broadband maps can be found online at http://www.connectedtn.org/mapping/state.

## ESTIMATE OF BROADBAND SERVICE AVAILABILITY IN THE STATE OF Tennessee By Speed Tier - October 2012

| State Broadband Initiative Download/Upload Speed Tiers | Percent Households Served by FIXED Broadband | Percent Geographic Area Served by FIXED Broadband | Percent Households Served by MOBILE Broadband | Percent Geographic Area Served by MOBILE Broadband |
|---|---|---|---|---|
| **STATEWIDE** | | | | |
| At Least 768 Kbps/200 Kbps | 96.01 | 67.48 | 99.22 | 94.20 |
| At Least 1.5 Mbps/200 Kbps | 95.51 | 63.48 | 96.05 | 78.62 |
| At Least 3 Mbps/768 Kbps | 92.33 | 51.56 | 90.95 | 65.87 |
| At Least 6 Mbps/1.5 Mbps | 85.67 | 33.06 | 83.34 | 50.12 |
| At Least 10 Mbps/1.5 Mbps | 84.39 | 31.36 | 83.26 | 50.03 |
| At Least 25 Mbps/1.5 Mbps | 64.84 | 23.57 | 0.00 | 0.00 |
| At Least 50 Mbps/1.5 Mbps | 64.52 | 23.50 | 0.00 | 0.00 |
| At Least 100 Mbps/1.5 Mbps | 63.63 | 22.99 | 0.00 | 0.00 |
| At Least 1 Gbps/1.5 Mbps | 5.34 | 1.29 | 0.00 | 0.00 |
| **ACROSS RURAL AREAS** | | | | |
| At Least 768 Kbps/200 Kbps | 92.59 | 63.43 | 98.63 | 92.95 |
| At Least 1.5 Mbps/200 Kbps | 91.73 | 62.09 | 92.50 | 76.15 |
| At Least 3 Mbps/768 Kbps | 85.83 | 49.52 | 82.82 | 62.67 |
| At Least 6 Mbps/1.5 Mbps | 74.55 | 30.28 | 68.44 | 45.69 |
| At Least 10 Mbps/1.5 Mbps | 72.23 | 28.43 | 68.30 | 45.58 |
| At Least 25 Mbps/1.5 Mbps | 59.09 | 21.09 | 0.00 | 0.00 |
| At Least 50 Mbps/1.5 Mbps | 58.78 | 21.03 | 0.00 | 0.00 |
| At Least 100 Mbps/1.5 Mbps | 57.20 | 20.50 | 0.00 | 0.00 |
| At Least 1 Gbps/1.5 Mbps | 2.09 | 0.78 | 0.00 | 0.00 |

Source: Connected Tennessee.

To ensure coverage in rural areas across the state, the process will involve a series of stages that will be conducted in parallel to the local outreach efforts and the process for the identification of secondary users as described above. The Deputy SWIC will work closely with a consultant to undertake this process. The key stages of this process will include:

- Identification of target rural areas: Based on existing information of commercial and publicly-owned network assets, as well as the projected needs of the PSBN, the Deputy SWIC will identify and classify rural areas across the state where these efforts will need to focus.
- Cost modeling: Development of a baseline cost assessment of the necessary network build-out across those rural areas. These models will be developed incorporating network standards and strategy defined by the board. Based on these models, we will be able to classify areas based on capital and operational cost and assess the degree of potential budgetary shortfall.

partnership with the Tennessee Municipal League, Tennessee County Services Association, Tennessee Electric Cooperative Association, Tennessee Municipal Electric Power Association and the Tennessee Valley Authority could further enable Connected Tennessee supplement its existing data inventory to support these critical components of the PSBN planning process.

## 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.**

No Standards currently exist within the State. The Deputy SWIC will task the Communications Consultant and Broadband Coordinators to survey existing networks, form a consensus, and compile recommended required standards.

**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.**

The Deputy SWIC will task the Communications Consultant and Broadband Coordinators with the responsibility of identifying any existing contractual requirements. It is currently the belief that these requirements do not exist, therefore, the Consultant will be tasked with creating contractual requirements.

## 10. Network Users

The state will identify users through a series of workshops and meetings using the developmental districts and the state associations of fire, police, electric cooperatives, etc.

## 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.**

We have developed a strategic marketing plan for outreach and education using associations and the development districts with oversight from the Deputy SWIC and Broadband Coordinators. We recognize the fact that if we use a heavy federal or state approach or top down approach instead of a bottom up approach we will not get the cooperation needed to plan for FirstNet. Interoperability conferences and regional workshops have been held for LMR systems and have been well attended. The State plans to incorporate broadband into these workshops, by shifting the focus of these workshops from LMR to wholly broadband. These 2-day conferences will be offered to state and local public safety decision makers, i.e. Mayors, Police and Fire Chiefs, and EMA and EMS directors. The State plans to host three statewide conferences and nine regional conferences.

With hundreds of Tennessee public safety organizations and other related entities in both the public and private sector, the task of reaching out to and educating this constituency is massive. Further complicating the task, however, is the fact that reaching and educating is only half of the equation. Once identified, the goal for Tennessee will be to harness the input and creativity of our public safety partners and private sector organizations so that the entire State of Tennessee benefits from the knowledge base

which we are so fortunate to have in our state. From a high-level, our continued efforts will focus on five component areas which will be elaborated on in greater detail in the following sections:



### Step 1:  Build Awareness

Until the involved public safety and related communities have heard of the NPSBN, they can neither understand its initial impact nor imagine its future capabilities; therefore our initial efforts must be directed to building general awareness across all types of NPSBN constituents.  Our efforts in Step 1 will be directed to trade shows, industry associations, mass emails and one-on-one, targeted meetings with key influencers, multi-media teleconference calls, regional workshops, and a web-site presence.

### Step 2:  Educate

The education provided to the constituents must contain factual information relative to the need for a mobile broadband public safety network, the NPSBN process, the potential capabilities/applications which NPSBN can offer, the related technologies involved and the issues and challenges associated with this effort.  The State of Tennessee will utilize a wide range of tools to educate including face-to-face briefings, online resources, video training, existing regional and industry organizations, trade shows and other avenues.

### Step 3:  Enlist participation

The WICAB governance objectives of inclusive, convergence, and balanced and grassroots participation require that we solicit the input and participation of our public safety and related communities. Accordingly, Tennessee plans to encourage participation in a voluntary survey, the results of which will be kept in a Tennessee Public Safety Broadband Program participant database.  Individuals are asked to identify their organizational affiliations, NPSBN interest area, region, etc.   Tennessee will use this information to provide aid to our participants across a wide range of functions, geographic regions and technical or administrative interest areas.

### Step 4:  Incorporate Feedback

As the Tennessee portion of the NPSBN matures and the NPSBN becomes more defined, a second phase of participation will be launched using the database of interested participants to establish discussion forums.  These forums will be used to compile ideas from around the state which can be incorporated into statewide planning. · Tennessee will also collect feedback from trade shows, industry associations, emails targeted meetings, multi-media teleconference calls, regional workshops, and our web-site presence.

### Step 5:  Update

As our participants learn and provide feedback, they must also be continuously updated. Prompt and accurate information on latest developments will keep the participants interested and reduce misinformation. Identified avenues for updates will include web updates, on-line newsletters and continued emphasis on workshops, key notes and other group related venues.

## 12. Memorandum of Agreements

We do not anticipate any legal issues; however we recognize the complexities that could occur in reaching agreements. The state plans on identifying the issues as early as possible due to the long lead time that usually occurs in dealing with any legal issues.

## 13. Tools

The state plans on leveraging CASM and requesting technical assistance for fixed asset information tracking from the Office of Emergency Communication. The State is a participant of the National Interoperability Information Exchange (NIIX) and utilizes the Communication Assets Survey and Mapping tools.

## 14. Phase Two Funding

Our intent is to contract the majority of the data collection, because of the uncertainty of what is needed and the time frame. Oversight will be by the Deputy SWIC and Broadband Coordinators.

## 15. Other

Application was done by Department of Safety with input from the following:

FirstNet Working Group
Buford Goff Associates
Connected Tennessee

## 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 | 11.549 | $ | $ | $ 2,361,340.00 | $ 590,335.00 | $ 2,951,675.00 |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. Totals | | $ | $ | $ 2,361,340.00 | $ 590,335.00 | $ 2,951,675.00 |

## SECTION B - BUDGET CATEGORIES

| 6. Object Class Categories | GRANT PROGRAM, FUNCTION OR ACTIVITY | | | | Total |
|---|---|---|---|---|---|
| | (1) State and Local Implementation Grant Program | (2) | (3) | (4) | (5) |
| a. Personnel | $ 754,178.00 | $ | $ | $ | $ 754,178.00 |
| b. Fringe Benefits | 176,318.00 | | | | 176,318.00 |
| c. Travel | 85,780.00 | | | | 85,780.00 |
| d. Equipment | | | | | |
| e. Supplies | 146,200.00 | | | | 146,200.00 |
| f. Contractual | 928,864.00 | 590,335.00 | | | 1,519,199.00 |
| g. Construction | | | | | |
| h. Other | 270,000.00 | | | | 270,000.00 |
| i. Total Direct Charges (sum of 6a-6h) | 2,361,340.00 | 590,335.00 | | | $ 2,951,675.00 |
| j. Indirect Charges | | | | | $ |
| k. TOTALS (sum of 6i and 6j) | $ 2,361,340.00 | $ 590,335.00 | $ | $ | $ 2,951,675.00 |
| | | | | | |
| 7. Program Income | $ | $ | $ | $ | $ |

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## SECTION C - NON-FEDERAL RESOURCES

| | (a) Grant Program | (b) Applicant | (c) State | (d) Other Sources | (e)TOTALS |
|---|---|---|---|---|---|
| 8. | Match Contribution | $ 590,335.00 | $ | $ | $ 590,335.00 |
| 9. | | $ | $ | $ | $ |
| 10. | | $ | $ | $ | $ |
| 11. | | $ | $ | $ | $ |
| 12. TOTAL (sum of lines 8-11) | | $ 590,335.00 | $ | $ | $ 590,335.00 |

## SECTION D - FORECASTED CASH NEEDS

| | Total for 1st Year | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---|---|---|---|---|---|
| 13. Federal | $ | $ | $ | $ | $ |
| 14. Non-Federal | $ | $ | $ | $ | $ |
| 15. TOTAL (sum of lines 13 and 14) | $ | $ | $ | $ | $ |

## 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. | | $ | $ | $ | $ |
| 17. | | $ | $ | $ | $ |
| 18. | | $ | $ | $ | $ |
| 19. | | $ | $ | $ | $ |
| 20. TOTAL (sum of lines 16 - 19) | | $ | $ | $ | $ |

## SECTION F - OTHER BUDGET INFORMATION

**21. Direct Charges:** $2,951,675

**22. Indirect Charges:**

**23. Remarks:** Revised July 1, 2013

# SLIGP Detailed Budget Spreadsheet
# Tennessee

| Category | Detailed Description of Budget (for full grant period) | | | | Breakdown of Costs | |
|---|---|---|---|---|---|---|
| **a. Personnel** | **Quantity** | **Unit Cost** | **Total Cost** | | **Federal** | **Non-Federal** |
| Deputy SWIC - The Deputy SWIC will spend 100% of the time on SLIGP grant activities for 3 years. | 3 years | $71,032 | $213,095 | | $213,095 | |
| Administrative Services Assistant - The ASA2 will spend 100% of the time on SLIGP activities for 3 years | 3 years | $36,585 | $109,755 | | $109,755 | |
| Grant Manager- The Grant Manager will spend 100% of the time on SLIGP grant activities for 3 years. | 3 years | $44,370 | $133,110 | | $133,110 | |
| Broadband Coordinator - Broadband Coordinators will spend 100% of the time on SLIGP grant activities for 3 years. | 3 years | $39,370 | $118,110 | | $118,110 | |
| Broadband Coordinator - Broadband Coordinators will spend 100% of the time on SLIGP grant activities for 3 years. | 3 years | $39,370 | $118,110 | | $118,110 | |
| Grant Administration - Grant administration will cover overtime and the personnel costs of existing employees within the department that will assist with the SLIGP grant activities | 3 years | $20,666 | $61,998 | | $61,998 | |
| **Total Personnel** | | | **$754,178** | | **$754,178** | **$0** |
| **b. Fringe Benefits** | **Quantity** | **Unit Cost** | **Total Cost** | | **Federal** | **Non-Federal** |
| Deputy SWIC - Fringe is calculated at 26% of salary | $213,095 | 26% | $55,405 | | $55,405 | |
| ASA2 - Fringe is calculated at 23% of salary | $109,755 | 23% | $25,243 | | $25,243 | |
| Grant Manager - Fringe is calculated at 27% of salary | $118,110 | 27% | $31,890 | | $31,890 | |
| Broadband Coordinator - Fringe is calculated at 27% of salary | $118,110 | 27% | $31,890 | | $31,890 | |
| Broadband Coordinator - Fringe is calculated at 27% of salary | $118,110 | 27% | $31,890 | | $31,890 | |
| **Total Fringe Benefits** | | | **$176,318** | | **$176,318** | **$0** |
| **c. Travel** | **Quantity** | **Unit Cost** | **Total Cost** | | **Federal** | **Non-Federal** |
| Travel for State and District Workshops includes mileage based on state travel rates, lodging, and per diem for 5 individuals for 12 meetings | 60 trips | $335.00 | $20,100 | | $20,100 | |
| Travel for Regional and National FirstNet Meetings includes airfare, baggage fees, lodging, per diem, and taxi/rental car for 2 individuals traveling to an estimated 8 meetings. | 16 trips | $1,510.00 | $24,160 | | $24,160 | |

| | Quantity | Unit Cost | Total Cost | Federal | Non-Federal |
|---|---|---|---|---|---|
| Conferences - IWCE & APCO includes airfare, baggage fees, lodging, per diem, and taxi/rental car for 2 people traveling to an estimated 6 conferences | 12 trips | $2,455 | $29,460 | $29,460 | |
| Pre-Award Travel FirstNet Regional Meeting; 10 individuals traveling. Cost includes mileage, lodging, and per diem; all calculated at the current state rate. | 10 trips | $1,206.00 | $12,060 | $12,060 | |
| **Total Travel** | | | **$85,780** | **$85,780** | **$0** |
| **d. Equipment** | **Quantity** | **Unit Cost** | **Total Cost** | **Federal** | **Non-Federal** |
| N/A | 0 | $0 | $0 | $0 | |
| **Total Equipment** | | | **$0** | **$0** | **$0** |
| **e. Supplies** | **Quantity** | **Unit Cost** | **Total Cost** | **Federal** | **Non-Federal** |
| Computers, and Required Software | 5 | $2,200 | $11,000 | $11,000 | |
| Printer - Black and White | 1 | $3,500 | $3,500 | $3,500 | |
| Printer - Color | 1 | $4,500 | $4,500 | $4,500 | |
| Scanner | 1 | $1,800 | $1,800 | $1,800 | |
| Office Supplies budgeted at $150/month for 3 years | 36 months | $150 | $5,400 | $5,400 | |
| Workshop printing, supplies, and materials 12 workshops | 12 workshops | $10,000 | $120,000 | $120,000 | |
| **Total Supplies** | | | **$146,200** | **$146,200** | **$0** |
| **f. Contractual** | **Quantity** | **Unit Cost** | **Total Cost** | **Federal** | **Non-Federal** |
| Communications Consulting Firm Data Collection 2,000 hrs per year for 3 years; Average hourly rate for 2 consultants $253/hr | 6,000 hours | $253 | $1,519,199 | $928,864 | $590,335 |
| **Total Contractual** | | | **$1,519,199** | **$928,864** | **$590,335** |
| **g. Construction** | **Quantity** | **Unit Cost** | **Total Cost** | **Federal** | **Non-Federal** |
| N/A | | | $0 | $0 | $0 |
| **Total Construction** | | | **$0** | **$0** | **$0** |
| **h. Other** | **Quantity** | **Unit Cost** | **Total Cost** | **Federal** | **Non-Federal** |
| Conference Space Rental for State and District Workshops | 12 | $20,000 | $240,000 | $240,000 | |
| Smart Phones budgeted at $90/month for 3 years for 5 phones. | 36 months x 5 phones | $90 | $16,200 | $16,200 | |
| Wireless Connection for Computers 5 Computers/month x 36 months = 180; the monthly cost for each device is $50 | 180 | $50 | $9,000 | $9,000 | |
| Conference Registration Fees 12 Conferences | 12 registrations | $400.00 | $4,800 | $4,800 | |
| **Total Other** | | | **$270,000** | **$270,000** | **$0** |
| **Total Direct Charges** | | | **$2,951,675** | **$2,361,340** | **$590,335** |
| **i. Indirect Costs** | **Quantity** | **Unit Cost** | **Total Cost** | **Federal** | **Non-Federal** |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total Indirect | | | $0 | | $0 | $0 |
| TOTALS | | | $2,951,675 | | $2,361,340 | $590,335 |
| | | | | | $2,951,675 | |

# Tennessee FirstNet Project

## *Budget Summary*

## PERSONNEL

| | |
|---|---|
| Federal: | $754,178 |
| Non-Federal: | $ 0 |
| Total: | $754,178 |

**Deputy SWIC** (Federal): The Deputy SWIC will provide oversight for the SLIGP grant, ensuring that all activities are completed on-time and within budget. The Deputy SWIC will be the primary point of contact for consultation with FirstNet and will work to expand the State's governance structure. The Deputy SWIC will spend 100% of the time on SLIGP grant activities for 3 years. The budgeted costs are calculated using current Tennessee Department of Human Resources salary data. The Deputy SWIC's annual salary is $71,032 x 3 years = $213,095.

**Administrative Services Assistant (ASA)** (Federal): The ASA will spend 100% of the time on SLIGP grant activities for 3 years, in support of the Deputy SWIC. Responsibilities will include a variety of assignments such as: budget development and maintenance; contract negotiation, development and monitoring; personnel administration; research; planning; information compilation and dissemination; procurement and property administration; grant proposal review and monitoring; forms design; and report and correspondence preparation. The budgeted costs are calculated using current Tennessee Department of Human Resources salary data. The ASA's annual salary is $36,585 x 3 years = $109,755.

**Grant Manager** (Federal): The Grant Manager will spend 100% of the time on SLIGP activities for 3 years. This position will provide grant management support, including completing progress reports, managing the project's budget, and ensuring grant activities are completed on time. The budgeted costs are calculated using current Tennessee Department of Human Resources salary data. The Grant Manager's annual salary is $44,370 x 3 years = $133,110

**Broadband Coordinators (2)** (Federal): The two (2) Broadband Coordinators will spend 100% of the time on SLIGP grant activities for 3 years. The Broadband Coordinators will serve as the points of contacts for local government entities and will assist the Communications Consultant by serving as liaisons with local government entities. The budgeted costs are based upon current Tennessee Department of Human Resources salary data. The Broadband Coordinator's annual salary is $39,370 x 2 positions x 3 years = $236,220

**Grant Administration** (Federal): Grant Administration will cover overtime costs and the personnel costs of existing departmental employees that will assist with SLIGP grant activities. The budgeted costs were calculated at a rate of $43 per hour with an estimated 40 hours per month of expenses related to FirstNet for 36 months, for a total of approximately $61,998.

approximately $65 per day, and taxi/rental car of approximately $100 per day for 2 individuals attending approximately 2 conferences per year for 3 years.

**FirstNet Regional Meeting – PRE AWARD TRAVEL** (Federal): Staff members and invitees will attend the FirstNet and NGA FirstNet State, Territorial, Tribal and Local Consultation Meeting. Budgeted costs include mileage of approximately $.50 per mile, lodging of approximately $120 per night, and per diem of approximately $65 per day for 10 individuals attending.

## EQUIPMENT

| | |
|---|---|
| Federal: | $ 0 |
| Non-Federal: | $ 0 |
| Total: | $ 0 |

We do not plan to have any equipment costs for this grant program.

## SUPPLIES

| | |
|---|---|
| Federal: | $146,200 |
| Non-Federal: | $ 0 |
| Total: | $146,200 |

**Computers and Required Software** (Federal): The State will purchase new computers for the Deputy SWIC, Administrative Services Assistant, Grant Manager, and Broadband Coordinators for use in the office environment and while on travel for conducting grant-related activities. Software will also be purchased. Cost is based on current state contract prices.

**Printer** (Federal): A black-and-white printer will be purchased for the Administrative Services Assistant to support their grant-related activities. Cost is based on current state contract prices.

**Printer** (Federal): A color printer will be purchased for the Deputy SWIC, Administrative Services Assistant, Grant Manager, and Broadband Coordinators to support their grant-related activities. Cost is based on current state contract prices.

**Scanner** (Federal): A scanner will be purchased for the Administrative Services Assistant to support their grant-related activities. Cost is based on current state contract prices.

**Office Supplies** (Federal): This includes paper, folders, pens, and other general office supplies which will be used by Staff for grant-related activities. Cost is based on current state contract prices.

**State and District Workshop printing, supplies, and materials** (Federal): This includes additional supplies that will be needed to accomplish professional, well planned 12 State and District Workshops, such as registration materials, brochures, credentialing supplies, printing, and office supplies. The

approximate number of attendees for the State workshops is 200 per workshop. The approximate attendance for the Regional workshops is 50 per workshop.

## CONTRACTUAL

| | |
|---|---|
| Federal: | $928,864 |
| Non-Federal: | $590,335 |
| Total: | $1,519,199 |

**Communications Consulting Firm**

    **Data Collection** (Federal and Non-Federal):  The State will establish a new contract with a consulting firm to gather information about existing infrastructure, potential users, and assessing security of existing systems, collect requirements for uses of broadband, MOU development, cost modeling, assessing potential revenue streams, and building local business plans. Budgeted costs were calculated using the approximate hourly cost for two (2) consultants of $253 per hour for 2,000 hours per year for 3 years.

- **(Federal):** The State requests $928,864 for this item.
- **(Non-Federal):**  The State recently received approval for a cash match of $590,335 from the State's general fund and not from another Federal source to cover the remainder of this item.  The State will establish appropriate accounting procedures to pay for this item using both Federal and non-Federal funds.

## CONSTRUCTION

| | |
|---|---|
| Federal: | $ 0 |
| Non-Federal: | $ 0 |
| Total: | $ 0 |

We do not plan to have any construction costs for this grant program.

## OTHER

| | |
|---|---|
| Federal: | $270,000 |
| Non-Federal: | $ 0 |
| Total: | $270,000 |

**Conference Space Rental for State and District Workshops** (Federal):  This includes conference room rental and amenities for the 12 State and District Workshops. These workshops will be two days in duration and will convey FirstNet information and allow two-way communication with stakeholders. For the State Workshops, two (2) conference rooms will be rented; one main room and a smaller conference area for breakout sessions.  For the Regional workshops, one (1) conference room will be rented. Refreshments will also be purchased, in accordance with 2 CFR 225 Appendix B, Sections 14 and 27. Approximate number of attendees for the State workshops is 200 per workshop.

Approximate attendance for the Regional workshops will be 50 per workshop. Budgeted costs were calculated based on previous conferences hosted.

**Smart Phones** (Federal): Smart phones will be supplied to staff to provide for continuity of communications when in the field for both voice and data. Budgeted costs were calculated using the current state contract rate of $90 per month access for 3 years for 5 individuals.

**Wireless Connection for Computers** (Federal): The computers purchased for staff will need wireless connections to facilitate work while at meetings and on travel. 5 computers for 36 months at a monthly cost for each device of $50.

**Conference Registration Fees** (Federal): Two staff members attending approximately 6 conferences will incur conference registration fees of approximately $400 for each conference.

## INDIRECT CHARGES

| | |
|---|---|
| Federal: | $ 0 |
| Non-Federal: | $ 0 |
| Total: | $ 0 |

We do not plan to have any indirect charges for this grant program.

## TOTALS

| | |
|---|---|
| Federal: | $2,361,340 |
| Non-Federal: | $590,335 |
| Total: | $2,951,675 |

## 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.

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**Prescribed by OMB Circular A-102**

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.

| * SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL | * TITLE |
|---|---|
| Tracy Trott | Deputy Statewide Interoperability Coordinator |
| * APPLICANT ORGANIZATION | * DATE SUBMITTED |
| Tennessee Department of Safety and Homeland Security | 03/19/2013 |

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FORM **CD-511**

(REV 1-05)

CERTIFICATION REGARDING LOBBYING

U.S. DEPARTMENT OF COMMERCE

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.

**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.

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

* NAME OF APPLICANT

Tennessee Department of Safety and Homeland Security

* AWARD NUMBER

* PROJECT NAME

Tennessee FirstNet Project

Prefix: Mr.

* First Name: Ehrin

Middle Name: D.

* Last Name: Ehlert

Suffix:

* Title: Deputy Statewide Interoperability Coordinator

* SIGNATURE: Tracy Trott

* DATE: 03/19/2013

## STATE OF TENNESSEE
## DEPARTMENT OF SAFETY AND HOMELAND SECURITY

312 ROSA L. PARKS AVENUE, 25TH FLOOR
NASHVILLE, TN 37243

**BILL HASLAM**
GOVERNOR

**BILL GIBBONS**
COMMISSIONER

March 15, 2013

National Telecommunications and Information Administration
Herbert C. Hoover Building
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

To Whom It May Concern,

The Tennessee Department of Safety and Homeland Security was designated as the lead agency for the State and Local Implementation Grant Program (SLIGP) in Tennessee. Colonel Tracy Trott has served as the Governors' Public Safety Broadband Advisor for our agency while we worked to secure a permanent project manager to serve as coordinator of implementation of the SLIGP grant funds. I have designated Trooper Ehrin Ehlert as the permanent state point of contact with FirstNet and the National Telecommunications and Information Administration (NTIA); he will manage the SLIGP application, awarded funds, and staffing related to the grant. From this point forward, all correspondence and communication on all matters pertaining to the nationwide public-safety broadband network should go through him. His contact information is as follows:

Trooper Ehrin Ehlert
Tennessee Department of Safety and Homeland Security
1150 Foster Avenue
Nashville, TN 37243
ehrin.ehlert@tn.gov
615-743-4960

Please see that this contact information is updated in your records and disseminate it to any other authorities necessary.

Sincerely,

Commissioner Bill Gibbons
Tennessee Department of Safety and Homeland Security

# Tennessee FirstNet Project

The State has undertaken numerous activities to investigate, plan, and foster interoperable communications within the State of Tennessee. Strategic initiatives for wireless interoperable communications in Tennessee go back to the 1970s. These initiatives have evolved from a collection of individuals with common interests in sharing knowledge and resources into the creation of a formal board by executive order.

As the State undertook initiatives to foster interoperable communications within the public safety community across Tennessee, various committees, working groups, and individuals participated. Committees involved in this effort were the Tennessee Wireless Communications Council, the State Interoperability Executive Committee, State Communications Planning and Implementation Board, and the State Interoperability Task Force. From these organizations and with the support of key technical communication personnel within numerous state agencies, documents such as the Tennessee Radio Interoperability Guide and the State Communication Interoperable Plan were published.

The Tennessee Public Safety Wireless Interoperability Communications Advisory Board (WICAB) was established by Executive Order 49, signed by Governor Bredesen on August 29, 2007, to oversee the planning, design, development, implementation and maintenance of a statewide wireless interoperable communication system. It has broad representation from its thirteen state and local government members. Members on this board include the Commissioners of Departments of Agriculture, Correction, Environment & Conservation, Finance & Administration, Health, Safety, and Transportation. The Adjutant General of the Military Department of Tennessee, the Director of Tennessee Bureau of Investigation, and the Director of the Tennessee Emergency Management Agency (TEMA) are also members along with two local government participants.

A Strategic Plan Working Group (SPWG) was formed in January 2008 under the WICAB Planning Committee, which is the lead committee for carrying out the directives of the WICAB. This group was charged with the development of a strategic plan that would support the WICAB's vision of wireless interoperable communications in Tennessee.

The Tennessee FirstNet Project will be coordinated by the Deputy Statewide Interoperability Coordinator, whom will be fully devoted to the public safety broadband network. The Deputy SWIC will be assisted by Broadband Coordinators as well as the WICAB membership.

The WICAB will be actively involved in the SLIGP Phase 1 efforts including: the development of the planning, education and outreach program, rural coverage plan, regional MOU template, a robust statewide training program; and tracking costs for travel, meetings, construction of

documents and surveys, and other materials.  Through the SPWG, the WICAB will ensure that a PSBN Strategic Plan is developed to management SLIGP activities.

In 2002, the State of Tennessee enacted the Governmental Accountability Act (GAA) that requires the phase-in of goal-based strategic planning and, where applicable, performance-based budgeting. A good example of how the GAA goal-based planning process has been implemented is illustrated by the Tennessee Department of Transportation's (TDOT) planning triangle shown here as Figure 2. This triangle shows how mission and values are used to define direction and goals that result in strategies to establish initiatives and achieve measured performance.

Even though all of the rules established by the GAA do not directly apply to the development of a public safety broadband network strategic plan, its general planning provisions form an excellent guide and outline and it is the intent of the WICAB and the SPWG to adopt GAA guidelines for developing the PSBN Strategic Plan. The PSBN Strategic Plan will address a broad range of strategies and goals in the following areas:

Project Concept Strategies
- Technical
- Governance
- Startup and Implementation
- Operations and Maintenance
- System Integration
- Interoperability
- Transition Planning
- Training
- Scheduling

Business Concept Strategy
- Business Case
- Risk Assessment and Management
- Marketing
- Standard of Service
- Stakeholder Management
- Cost Model