



FY17

PSAP GRANT PROGRAM APPLICATION



VIRGINIA INFORMATION
TECHNOLOGIES AGENCY
Integrated Services Division



FY17 PSAP GRANT PROGRAM APPLICATION

HOW TO APPLY/DEADLINE

The grant application is available and accessible from VITA ISP's website (<http://www.vita.virginia.gov/isp/default.aspx?id=8578>). Upon completion of the application, it is to be submitted to your Regional Coordinator. Any supporting documentation must also be submitted along with the application, including mandatory budgets for projects (if applicable).

After the close of the grant application cycle, a Grant ID and email receipt notification will be sent to the e-mail address listed on the application received.

All funding requests must be submitted using the grant application. Technical assistance is available from VITA's Public Safety Communications (PSC) staff throughout the grant process. The FY17 PSAP Grant Application Cycle starts July 1, 2015 and concludes on September 30, 2015 at 5:00 pm.

ALL APPLICABLE SECTIONS MUST BE COMPLETED IN ITS ENTIRETY OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE AND NOT ACCEPTED FOR CONSIDERATION.



FY17 PSAP GRANT APPLICATION

PROJECT TITLE

Botetourt County E911 GIS Data Management

GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: Botetourt County 911 Center

CONTACT TITLE: Communications Supervisor

CONTACT FIRST NAME: Nicole

CONTACT LAST NAME: Manspile

ADDRESS 1: PO Box 18

ADDRESS 2: [Click here to enter text](#)

CITY: Fincastle

ZIP CODE: 24090

CONTACT EMAIL: nmanspile@Botetourtva.gov

CONTACT PHONE NUMBER: 540-473-8630

CONTACT MOBILE NUMBER: 540-520-4791

CONTACT FAX NUMBER: 540-473-8650

REGIONAL COORDINATOR: Buster Brown

HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

Botetourt County

GRANT TYPE

Individual PSAP

Shared Services



TIER

- Out of Service
- Technically Outdated*
- Not Applicable
- Non-Vendor Supported*
- Strengthen

If technically outdated or non-vendor supported, application MUST include age and/or version of hardware/software.

VERSION: n/a # YEARS of HARDWARE/SOFTWARE: the last validation was done in 2010 but it was a limited analysis and did not go to the extent as this proposed project. Additionally, it did not include NG911 compliancy standards.

PRIORITY/PROJECT FOCUS NG 9-1-1 GIS EQUIPMENT & SERVICES

If "Other" selected, please specify: [Click here to enter text](#)

FINANCIAL DATA

Amount Requested: \$ 24,570.00

Total Project Cost: \$ 24,570.00

See quote attached. The amount requested above includes a 5% contingency.



STATEMENT OF NEED

This statement should reference the relationship to the current funding priorities established by the Grant Committee and include evidence of any financial need, along with additional information on the impact on operational services; consequences of not receiving funding; inclusion of project in a long-term or a strategic plan; and local sustainability:

This project will validate the 911 centers RCL, ESN, MSAG, and boundary data. Botetourt County's map, to my knowledge has not been validated since there creation. This project would ensure our maps are in compliance with recommended guidelines. The purchase services for this project directly supports the continuity and enhancement of wireless E911. As a high GIS category, this data management project is a number 3 funding priority for the individual PSAP in the 2017 grant cycle.

The project is perfectly aligned with long-term strategies for the NG911 by updating GIS data to NG911 standards and the impact on operational services is significant. According to the Virginia Statewide Comprehensive Plan and the perspective of all citizens, "the establishment & adoption of 911 services ensure that in an emergency any caller throughout the County could dial three easily memorized digits & quickly have first responders come to his or her aid". However, quality GIS data is critical to this vision. This project would restore GIS data accuracy and bring us reliable geographic data that citizens expect when they dial 911.

Our GIS Coordinator maintains the maps along with many other duties. A project of this magnitude is not feasible without funding from external assistance and/or grant funding.



Describe how the grant will be maintained and supported in the future, if applicable.

Procedures for our GIS coordinator have been defined to include ongoing and periodic GIS data validation.

COMPREHENSIVE PROJECT DESCRIPTION

Identify the longevity or sustainability of the project.

Procedures for our GIS coordinator have been defined to include ongoing and periodic GIS data validation.



Describe how this project supports the Virginia Statewide Comprehensive 9-1-1 Plan.

This project supports both goals of the Virginia Statewide Comprehensive 9-1-1 Plan and seeks to fulfill an important initiative. There are only two goals in the Virginia Statewide Comprehensive 9-1-1 Plan. The first goal is provide a standard level of 9-1-1 emergency dispatch services to the public. *When achieved, this goal will provide consistent 9-1-1 emergency dispatch services to anyone residing in or passing through the Commonwealth, at any time of day, and during any event. Consistent service means that all 9-1-1 centers can receive, process, and dispatch "calls" in a dependable and repeatable manner.* Data integrity is the key to filling this objective. This project would restore or validate that predictability and reliability to our 9-1-1 emergency dispatch services.

The second goal of the Virginia Statewide Comprehensive 9-1-1 Plan is to position 9-1-1 centers to continuously meet the public's expectations. *When achieved, this goal will allow Virginia to keep up with the rapid pace of technology innovation and therefore the constant changes in customers' expectations.* However, again as reflected in the statement of our need for this project, public expectations are clearly not met unless data meets required standards. Missing or incorrect geographic data could cause delays in our 9-1-1 emergency service responses to Botetourt County citizens.

The 2011 Virginia Statewide Comprehensive 9-1-1 Plan envisions that 911 Centers will maintain certain Service and Capabilities per the excerpt below:

9-1-1 centers throughout the Commonwealth must provide a consistent, seamless, and comprehensive level of 9-1-1 dispatch services statewide using an IP-enabled system that is dependable and reliable. 9-1-1 centers accept "calls" from all devices and in all forms, in any language, and from special needs populations, such as the hearing impaired, to ensure that no request for assistance goes unanswered.

This project will allow Botetourt County to bolster their ability to provide consistent and seamless service by ensuring reliability of our GIS data.



SHARED SERVICES (if applicable)

The relationship of the project to the participating PSAPs:

N/A

Intended collaborative efforts:

N/A

Resource sharing:

N/A



How does the project impact the operational or strategic plans of the participating agencies:

N/A

Provide a thorough, concise, and complete description of the project, including an outline of the goals and objectives, implementation strategy, and a work plan.

N/A



**PROJECT TIMELINE FOR
SHARED SERVICES & INDIVIDUAL PSAP APPLICATIONS:**

For each applicable phase of the project, indicate the estimated completion date. Sample activities for each phase are included.

PROJECT PHASE	ESTIMATED COMPLETION DATE
<input type="checkbox"/> INITIATION (Project approved by appropriate stakeholders) Sample activities: project concept is documented, local board or governing authority approval or endorsement is received, PSAP grant application is filed, local budgets are obtained, appropriated grant funds are approved, and budgetary estimates are obtained	08 / 01 / 2015
<input type="checkbox"/> DESIGN/PLANNING (Project, system, or solution requirements are developed) Sample activities: requirements are documented, components to be purchased are identified, and general design is documented	03 / 01 / 2016
<input type="checkbox"/> ACQUISITION (Selected system or solution is procured) Sample activities: RFP (or other bid related processes) are drafted, proposals are evaluated, contract is signed, purchase orders are issued, and quotes are obtained	07 / 01 / 2016
<input type="checkbox"/> IMPLEMENTATION (Selected system or solution is configured and installed) Sample activities: purchased components are delivered and installed and training is performed	10 / 01 / 2016
<input type="checkbox"/> TESTING/COMPLETION (Selected system or solution is tested and put in production) Sample activities: performance of system/solution is validated and system/solution goes "live"	11 / 01 / 2016



BUDGET AND BUDGET NARRATIVE

List the planned expenditures to be made with grant funds. (NOTE: In lieu of a line item breakdown, an itemized cost schedule or detailed vendor prepared quote may be submitted as an attachment. However, budgetary quotes received from a particular vendor(s) during the application process do not commit the PSAP to use that vendor(s) once the grant is awarded.) Briefly explain the reason for each requested budget item and provide the basis for its cost. In addition, if contingency cost has been added, please identify the amount.

This request is for funds to procure professional services to validate and cleanse Botetourt County PSAP GIS data in order to meet GIS Data Standards. The reasonable quote was provided by Botetourt County's GeoComm support vendor.

- Professional Services \$24k

EVALUATION

Our performance measures will begin with proper purchases of services. Procurement will be in accordance with all federal, state and local procurement standards. After implementation of the services, the vendor will prepare a report of key data accuracy measures pre/post data cleansing. These performance measures will be included on the final report.



CONSOLIDATION (Primary or Secondary) - (complete only if applicable)

How would a consolidation take place and provide improved service:

N/A

How should it be organized and staffed:

N/A

What services should it perform:

N/A



How should policies be made and changed:

N/A

How should it be funded:

N/A

What communication changes or improvements should be made in order to better support operations:

N/A



Nicole Manspile
Communications Supervisor
Botetourt County Sheriff's Office
PO Box 18
Fincastle, VA 24090

Date: 9/1/2015

RE: Quote for NG-911 Data Workflow, Analysis, and Validation

Below is a quotation for the purpose of conducting a NG-911 data workflow, analysis, and validation. Below is a summary of the services involved and pricing. Attached to this quote is an exhibit that explains in more detail the scope of the work involved and deliverables. This quote involves the team of King-Moore, Inc. and GeoComm. King-Moore will serve as the local coordinator and liaison for the project.

Project Services Summary

Geo-Comm, Inc. (GeoComm) will complete several GIS Services to assist Botetourt County VA in meeting anticipated GIS requirements for Next Generation 9-1-1 (NG9-1-1). Services include:

- 9-1-1 Data Analysis to provide an overview of accuracy and synchronization issues within Botetourt County's GIS Data, MSAG, and Automatic Location Identification (ALI) database.
- Recommendations Reporting to document enhancements that will help prepare the region's GIS data for use in a mission-critical NG9-1-1 system.
- GIS Data Remediation to execute recommended enhancements and resolve a portion of the issues identified in the 9-1-1 data analysis report.
- Advanced GeoLynx DMS Training to prepare Botetourt County staff to identify, investigate, and resolve GIS data errors using existing GeoLynx DMS software.
- GIS Workflow Consulting to develop QA/QC workflows that will ensure Botetourt County GIS data remains accurate, up-to-date, and NG9-1-1 compliant after project completion

Project Pricing

Description	Price	
Project Initiation and Local Project Coordination	\$2,500	
9-1-1 Data Analysis	\$1,500	
Recommendations Report	\$2,600	
Execution of Recommended Enhancements and Data Cleanup	\$5,800	
Staff Training	\$2,500	
Maintenance Workflow Consulting	\$8,500	
	\$23,400	Total

Respectfully submitted,

Brandon Moore, GIS President
King-Moore, Inc.
276.356.8224 or moore@king-moore.com

Appendix A

Project Detail

The Botetourt County Map Validation project will be executed in the following six phases to ensure timely project completion:

- Phase One: Project Initiation
- Phase Two: 9-1-1 Data Analysis
- Phase Three: Recommendations Report
- Phase Four: Execution of Recommended Enhancements
- Phase Five: Transition and Training
- Phase Six: GIS Maintenance Workflow Consulting

Additional details about each phase are included on the following pages, along with a summary of GeoComm deliverables.

Phase One: Project Initiation

Project Preplanning Teleconference

GeoComm's Project Manager will conduct a project preplanning meeting conference call with Botetourt County's project manager to discuss the scope of the project, request resources, and identify project stakeholders. This information is essential to GeoComm in planning for additional information gathering, on-site meetings, and for the timely and successful project completion. During the preplanning teleconference, a more in-depth project initiation meeting will be scheduled for a mutually agreeable time.

Internal Team Meeting

Following the Project Preplanning Teleconference, the GeoComm project team will hold an internal meeting to make certain the entire project team has a solid understanding of Botetourt County's project goals. The GeoComm project manager will provide the GeoComm team with information regarding any nuances in the scope of work, anticipated schedule, and their individual responsibilities for the project. This is an effective step to ensure the project's successful and timely completion.

Project Initiation Meeting

After the teleconference and internal meeting, an on-site project initiation meeting will be conducted. During this meeting, the GeoComm project team will present our specific approach to the project and the anticipated project schedule. GeoComm will work with Botetourt County's project manager to finalize the agenda for this meeting. At this and subsequent on-site meetings, GeoComm will be represented by our Local Project Manager, Brandon Moore; the rest of the project team will participate via teleconference.

Interviews and Data Collection

After the conclusion of the planning meeting, GeoComm's GIS Project Manager will conduct individual meetings and interviews with project stakeholders and other relevant personnel involved with GIS data maintenance to understand existing processes.

During these meetings and interviews, GeoComm will undertake the following activities to gather information regarding current maintenance processes:

- Collect information regarding the current software in place
- Meet with relevant stakeholders to gather their steps used throughout the current processes
- Interview managers and staff relative to the perception of current processes
- Compile lists of future needs and requests by the stakeholders
- Discuss technical parameters of the existing systems

Phase Two: 9-1-1 Data Analysis

GeoComm will perform an analysis that will provide an overview of issues related to the accuracy and synchronization of your GIS map data, MSAG, and ALI database. Various reviews will be completed to identify issues that could adversely affect emergency response; for example, wireline 9-1-1 calls plotting

in the wrong location, emergency service personnel being directed to the wrong location, and/or emergency calls being routed to the wrong PSAP. Potential problems will be identified by first reviewing each component individually and then by evaluating the synchronization of all three. Analysis results will then be summarized in a final report and provided to assist you in updating these components so they can function to their full potential in your existing and future 9-1-1 systems.

The following sections describe the specific processes that will be completed as part of GeoComm's analysis.

ALI Database Review

GeoComm will review the ALI database to identify incorrect, incomplete, or inconsistent addresses or community names. The ALI database schema will also be reviewed for compliance with NENA standards.

MSAG Review

GeoComm will review the MSAG to identify:

- Incorrect, incomplete, and inconsistent street names, address ranges, Emergency Service Numbers (ESNs), and community names
- Overlapping address records that could be problematic
- Compliance with NENA standard document format

GIS Data Schema Review

GeoComm will review the GIS data schema of provided GIS layers to determine conformance with existing industry best practices and compliance with evolving NENA standards for NG9-1-1 GIS data. A side by side comparison of the existing and recommended GIS data structure will be provided, similar to this:

As part of this review, GeoComm will also identify any missing GIS data layers that would enhance public safety in the Botetourt County Service Area.

Road Centerline Layer Review

GeoComm will review the road centerline layer to identify:

- Inaccuracies, incompleteness, and inconsistencies in street name and address range attributes
- Road centerlines that are unbroken at true intersections, ESN, and community boundaries
- Road centerlines line direction consistency
- Road centerlines that are incorrectly broken at overpasses/underpasses and ramps for routing purposes (if resources are provided)

ESN and MSAG Community Boundary Layers Review

GeoComm will review the ESN and MSAG community boundary layers to identify:

- Inaccuracies, incompleteness, and inconsistencies in ESN and MSAG community name attributes
- Overlapping boundaries
- Duplicate boundaries
- Polygons not snapped to road centerlines

Site/Structure Layer Review

GeoComm will review the site/structure layer to identify:

- Duplicate addresses
- Inaccuracies, incompleteness, and inconsistencies of address information
- Addresses which are not MSAG-valid

Synchronization Review

First, the synchronization of the ALI database, MSAG, and GIS map data layers will be reviewed. This will provide a list of all ALI database records that are not MSAG-valid, as well as a list of ALI database records that do not match the GIS map data.

Second, GeoComm will evaluate the synchronization of the MSAG and the GIS map data. This review may produce a list of inconsistencies or possible errors in the MSAG and GIS map data.

Phase Three: Recommendations Report

After the analysis is complete, results and lists of errors will be compiled into a digital report. Along with this report, GeoComm's GIS Project Manager will include specific recommendations for updates that will increase the quality and synchronization of the data, ensuring its suitability for NG9-1-1 call routing.

Analysis results and update recommendations will be presented during a web meeting with Botetourt County. During this meeting, the following topics will be discussed:

- High level overview of analysis results
- Recommendations for working through fallout including explanation of result code priority
- Observations specific to Botetourt County's GIS data and results
- Anticipated remediation workflow
- Tools that will enable Botetourt County to routinely run through similar analysis procedures

Phase Four: Execution of Recommended Enhancements

Using GeoComm's Recommendations Report as a guide, King-Moore will work to remediate issues identified during the 9-1-1 Data Analysis. The goal of these updates will be to correct the GIS map data issues identified, to bring the data in line with NG9-1-1 GIS data standards, and to achieve a 98 percent synchronization rate between the GIS map data, ALI Database, and MSAG.

The scope of the GIS Data Remediation work may include:

- NG9-1-1 Field Structure Updates
- Street Centerline Layer Updates
- Address Point Layer Updates
- Emergency Service Zone Layer Updates
- Community Boundary Updates

King-Moore will provide up to 70 hours of GIS Data Remediation Services during this Phase. GIS data issues not resolved within this timeframe will be Botetourt County's responsibility.

Note: MSAG and ALI database updates may be required to achieve a 98 percent match rate. Suspected ALI database or MSAG errors will be provided to Botetourt County for review. Botetourt County is responsible for any updates needed in the ALI database or MSAG.

Phase Five: Transition and Training

Upon completion of Phase Four, King-Moore will travel on-site to train Botetourt County staff on advanced data management techniques using the region's existing GeoLynx DMS software. This training will cover more advanced GeoLynx DMS GIS tool concepts; specifically how the tools can be used for identifying, investigating, and resolving GIS data errors. Training will be accomplished through a lecture and hands-on based training session. Upon completion of this training, Botetourt County staff will be able to correct any remaining GIS data errors from the analysis, and can better leverage GeoLynx DMS for ongoing maintenance of the NG9-1-1 GIS data.

Phase Six: GIS Maintenance Workflow Consulting

GeoComm will work with Botetourt County to develop and document maintenance workflows that will help the region maintain 9-1-1 GIS data that is accurate, up-to-date, and NG9-1-1 compliant.

GIS Maintenance Workflow Development

GeoComm's GIS Project Manager will analyze the data gathered during Phase One, with the goal of gaining a thorough understanding of Botetourt County's existing maintenance processes. The GIS Project Manager will then design revised workflows geared towards maintain ongoing compliance with NG9-1-1 standards.

Preliminary copies of revised workflow diagrams will be provided to Botetourt County for review.

Maintenance workflow diagrams will include:

- Map Maintenance process coordination
- Recommended Quality Assurance/Quality Control (QA/QC) processes
- Spatial and attribute standards