



FY18

PSAP GRANT PROGRAM APPLICATION



VIRGINIA INFORMATION
TECHNOLOGIES AGENCY
Integrated Services Division



FY18 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 the electronic mailbox for grant applications - psapgrants@vita.virginia.gov. Any supporting documentation must also be submitted along with the application when making your grant application submission.

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 FY18 PSAP Grant Application Cycle starts July 1, 2016 and concludes on September 30, 2016 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.



FY18 PSAP GRANT APPLICATION

PROJECT TITLE

Preparation of Public Safety GIS and Location Data for NG911 Support

GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: City of Fredericksburg

CONTACT TITLE: Communications Manager

CONTACT FIRST NAME: Melissa

CONTACT LAST NAME: Wood

ADDRESS 1: 2200 Cowan Blvd.

ADDRESS 2: 2T

CITY: Fredericksburg

ZIP CODE: 22401

CONTACT EMAIL: mwood@pd.fredericksburgva.gov

CONTACT PHONE NUMBER: 540-654-5933

CONTACT MOBILE NUMBER: 540-295-7490

CONTACT FAX NUMBER: 540-372-1166

REGIONAL COORDINATOR: Amy Ozeki

HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

City of Fredericksburg	

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- Technically Outdated*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If technically outdated or non-vendor supported, application MUST include age and/or version of hardware/software.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: _____ # YEARS of HARDWARE/SOFTWARE: _____

PRIORITY/PROJECT FOCUS NG 9-1-1 GIS

FINANCIAL DATA

Amount Requested: \$ 110,594.00
Total Project Cost: \$ 110,594.00



PROJECT DESCRIPTION

Provide a detailed description of the project for which funding is being sought, including the impact on operational services and consequences of not receiving funding; the relationship to local strategic and capital improvement plans; and sustainability:

NG9-1-1 Data Readiness

This set of proposed tasks is focused on evaluating, standardizing, updating, correcting and synchronizing key public safety datasets, including that of the GIS, MSAG and ALI. To this end, the following work is proposed to be performed:

Data Standardization

Road centerline and site address GIS data models and content will be evaluated and modified for compliance with current *NENA Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping* (NENA-02-010, Version 9, December 16, 2010, or latest available). Where necessary, configuration changes will be made to current PSAP mapping applications to accommodate the new model, or if configuration changes cannot be readily made, extract / transform / load (ETL) operations will be established, automated and tested to retain compatibility with legacy systems. This will ensure that critical GIS data is maintained in a NENA-compliant format for future use—in, for example a statewide or regional Spatial Database Management System (SDBMS)—even if other PSAP systems currently in operation are not. As part of this task, these datasets will be checked for completeness and accuracy as well as validated and formatted for compliance with the abovementioned NENA standard.

Geospatial Data Validation

Using automated GIS data analysis tools, centerline geospatial data will be analyzed for fundamental geometric and attributional quality. Issues identified by the extension will be investigated, exceptions noted, and valid errors corrected.

Address Data Validation

The VITA Integrated Services Program (ISP) provides a no cost analysis annually which compares various authoritative repositories for public safety addressing information. Tasks listed below will leverage the data provided by the VITA ISP:

- **Site Address / Centerline** – Addresses will be assessed using the results of “fishbone” analysis completed by the VITA ISP. Once results of the analysis are received from the VITA ISP, addresses flagged as being out of sync, having range irregularities, side of road inconsistencies, and erroneous geocoder location assignments will then be investigated, and where appropriate, corrections made to relevant features. Technically correct, but non-standard or irregular addresses will be referred for review and determination of action by public safety and addressing managers.
- **MSAG / GIS** – As part of the VITA ISP Analysis, street name and address range information stored in the Master Street Address Guide (MSAG) is compared with corresponding values in GIS road centerlines. Instances of disagreement between the two will be investigated and inaccuracies corrected in the appropriate dataset.



PROJECT DESCRIPTION Continued

- **ALI / GIS** – The VITA ISP Analysis geocodes addresses stored in the Automatic Location Information (ALI) database against GIS site addresses and road centerline address ranges with a very high (98-100%) minimum match score threshold. This analysis will be reviewed and disparities between the two will be investigated and inaccuracies corrected within the appropriate database(s).

ESN / ESZ Reconciliation

Emergency Service Number (ESN) information stored in the MSAG will be compared against mapped service areas and first due emergency service zone assignments. Discrepancies will be noted, investigated and corrected within the appropriate dataset(s).

Addressable Structure Field Verification

In order to ensure that the site address GIS feature class is up-to-date and accurate, all addressable structures will be visually field verified. During the verification process, instances where mapped data deviates from observed real-world conditions will be noted, investigated if necessary, and corrections applied to the data.

Ancillary Thoroughfares

As a supplemental navigational aid to public safety personnel with access to GIS mapping resources, centerlines representing key ancillary roadways will be reviewed, and where necessary, mapped. These key pathways will consist primarily of the most direct privately or publicly maintained thoroughfares that lead to the entrances and loading docks of major retail and commercial buildings, industrial facilities and institutions.

Intra-jurisdictional Boundaries

Geospatial data pertaining to jurisdictional boundaries, and emergency service zones will be evaluated for compliance with geometric and topological rules (e.g., complete coverage; slivers, overlaps, or duplicate features), as well as for consistency with MSAG and road centerline address ranges. Geometric and topological errors will be corrected and discrepancies between adjacent boundaries will be investigated and corrected to ensure accurate representations of boundaries.

Maintenance Processes & Procedures

To guarantee the continued value of the investment made in the abovementioned data improvements and dataset synchronization efforts, it is essential to implement sustainable practices for their ongoing maintenance. To this end, a set of workflows, policies and procedures will be established and documented to enable ongoing system maintenance. Wherever practical, these procedures will employ automation through scripting and models, as well as data review tools, to simplify maintenance tasks, minimize manual effort and assure the quality and consistency of relevant public safety datasets.



PROJECT DESCRIPTION Continued

Impact

This project will have an immediate and enduring positive impact on the public safety operations of the PSAP by:

- improving accuracy and consistency within and between public safety datasets, including GIS, MSAG and ALL;
- enhancing analytical capabilities;
- designing, automating and documenting data maintenance methodologies; and
- sustainably preparing key PSAP datasets for eventual transition to NG9-1-1.

Consequences

While there is no anticipated worsening of critical public safety services, if this project is not funded, it would represent a missed opportunity to make meaningful improvements to current PSAP operations and sustainably to prepare the PSAP for integration into a statewide NG9-1-1 system, an expenditure that will, in all likelihood need to be made eventually. Completing this work now will allow the PSAP to reap the rewards of an improved dataset sooner rather than later.

Local Plans

The new VESTA 911 CHE system has an extensive roadmap that includes future releases with support for i3 and other NG-911 technologies as well as current capabilities to terminate Text-To-911 directly into the console. Migrating to the new VESTA platform continues to allow the City of Fredericksburg to leverage existing investment while fitting into the long term NG-911 strategic plan already in place. The foundation of NG-911 is GIS driven and the accuracy of that data, while conforming to state standards, ensures the valid and prompt routing of wireless 911 calls to the appropriate agencies without hindering the arrival of first responders.

Sustainability

The plan for this project includes tasks associated with the establishment of data maintenance procedures and automated processes designed to minimize labor and support a persistently high degree of dataset currency and accuracy. Furthermore, funds have been requested to provide for five (5) years of system maintenance and support, which will allow the PSAP time to plan and budget for the assumption of system maintenance financial obligations thereafter.



PROJECT GOAL

Describe how this project addresses locally identified need(s) and supports the Virginia 9-1-1 Comprehensive Plan:

This project meets current locality needs by improving the accuracy and analytical capabilities of its public safety datasets, with immediate consequent enhancement of its capability to protect human lives and property. At the same time, these improvements better integrate GIS into PSAP operations and position it to more smoothly transition into a statewide Next Generation 9-1-1 system. These outcomes are consistent with goals 3 and 7 of the Commonwealth of Virginia's *Statewide 9-1-1 Comprehensive Plan* and findings of the Statewide NG9-1-1 Feasibility Study.

PROJECT OBJECTIVES

Describe the objectives that will support the goals identified above:

Project Goals

- Prepare public safety datasets for future NG9-1-1 integration
- Improve the overall accuracy and consistency of public safety data
- Enhance the analytical capabilities of the PSAP
- Provide for ongoing maintenance and quality of public safety datasets

Project Objectives

The following are goals and objectives of this project:

- Establish a NENA standards compliant public safety geospatial dataset
- Create consistency and parity between GIS, MSAG and ALI databases
- Institute sustainable processes for continued data maintenance and synchronization



SHARED SERVICES (if applicable)

Describe the relationship of the project to the participating PSAPs:

2T

Describe the intended collaborative efforts and resource sharing opportunities:

2T



**IMPLEMENTATION PLAN
SHARED SERVICES & INDIVIDUAL PSAP APPLICATIONS:**

For each applicable phase of the project, indicate the planned completion date.

PROJECT PHASE	PLANNED COMPLETION DATE
INITIATION – 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.	05 / 31 / 17
DESIGN/PLANNING - Requirements are documented, components to be purchased are identified, and general design is documented.	06 / 30 / 17
ACQUISITION - RFP (or other bid related processes) are drafted, proposals are evaluated, contract is signed, purchase orders are issued, and quotes are obtained.	08 / 31 / 17
IMPLEMENTATION - Purchased components are delivered and installed and training is performed	12 / 31 / 18
TESTING/COMPLETION - Performance of system/solution is validated and system/solution goes “live”	02 / 31 / 18



BUDGET AND BUDGET NARRATIVE

List the planned expenditures to be made with grant funds. 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.

NOTE: In lieu of a line item breakdown, an itemized cost schedule or detailed vendor prepared quote may be submitted as an attachment, but a narrative is still required. 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.

WorldView Solutions Cost Estimate

The following is a non-binding cost estimate for all services proposed to be performed by WorldView Solutions in support of the draft grant application above, and is inclusive of all anticipated travel, time and materials.

Task	Estimated Cost
1. Validate Centerlines and format for NENA Standards Compliance	\$17,600.00
2. Correct Address Data	\$15,600.00
3. Intra-Jurisdictional Boundary Alignment	\$1,930.00
4. Update / Create Emergency Service Number Boundaries (ESNs)	\$2,490.00
5. Addressable Structure Field Verification	\$33,400.00
6. Establish, Automate and Document update procedures	\$9,520.00
7. Maintenance and Support, for 5 years, for ETLs	\$20,000.00
8. Contingency	\$10,054.00

EVALUATION

How will the project as identified in the project description be evaluated and measured for achievement and success:

The success of the project will be defined through the following milestones:

- Use of a geospatial consultant for planning and execution of project tasks
- Review and acceptance of design documents
- Review and acceptance of pilot, draft and final deliverables
- Requesting an updated GIS/ALI/MSAG Analysis
- Validation testing of data in existing PSAP systems



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

How would a consolidation take place and provide improved service:

2T

How should it be organized and staffed:

2T

What services should it perform:

2T

How should policies be made and changed:

2T



CONSOLIDATION (Primary or Secondary) - (complete only if applicable) – con't

How should it be funded:

2T

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

2T