



**FY19**

# **NG-911 GRANT PROGRAM APPLICATION**



VIRGINIA INFORMATION  
TECHNOLOGIES AGENCY  
Integrated Services Division



## FY19 NG-911 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](mailto: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 FY19 NG-911 Grant Application Cycle starts July 1, 2017 and concludes on October 2, 2017 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.**



## FY19 NG-911 GRANT APPLICATION

### PROJECT TITLE

New River Valley Emergency

### GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: New River Valley Emergency Communications Authority

CONTACT TITLE: Executive Director

CONTACT FIRST NAME: Matt

CONTACT LAST NAME: Hobson

ADDRESS 1: 1 East Main Street, Suite 400

ADDRESS 2: 2T

CITY: Christiansburg, VA

ZIP CODE: 24073

CONTACT EMAIL: hobsonmd@nrv911.org

CONTACT PHONE NUMBER: 540-391-4460

CONTACT MOBILE NUMBER: 540-597-4204

CONTACT FAX NUMBER: 2T

REGIONAL COORDINATOR: Melissa Parsons

### HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

**NRVECA (Host)**

**Virginia Polytechnic Institute & SU**

**Montgomery County**

**Town of Blacksburg**

**Town of Christiansburg**

### GRANT TYPE

Individual PSAP

Shared Services



**Non-vendor supported application MUST include age and/or version of hardware/software, **along with a copy of the notice from the vendor.****

VERSION:

# YEARS of HARDWARE/SOFTWARE:

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**PRIORITY/PROJECT FOCUS** NG 9-1-1 GIS

**FINANCIAL DATA**

Project Cost: \$ 93,115

10% Contingency: \$ 9,312

Amount Requested: \$ 102,427

Total Project Cost: \$ 102,427



## 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:

The New River Valley Emergency Communications Authority is seeking funding to fill several critical needs to enhance its NG9-1-1 data readiness.

### Geospatial Data - Validation

With the release of VITA's Locality GIS Data Analysis reports NRVECA was able to identify several areas of their merged dataset that need improvement in order to meet VITA's desired readiness level for Road Centerline Checks and Address Point Checks (550 and 6050 errors reported in most recent analysis). NRVECA proposes to integrate and automate VITA's error check process into their current multi-jurisdictional merge process to reduce review time and implement data corrections faster. Currently these errors are only captured when VITA's GIS Data Analysis reports are received and the reports may be analyzing data that is already obsolete. This will enable the NRVECA to identify and correct RCL and Address Point errors on demand, increasing PSAP readiness and reducing possible increased response times due to these errors.

### Geospatial Data - Critical Layer Additions

Throughout the evolution of merging multi-jurisdictional datasets there have been several critical needs that have emerged. One of these critical needs is improving the current merged dataset with topology connectivity and private roadway data inclusion:

1. Model & Topology Connectivity (Junction configurations to distinguish between overpasses and intersections)
2. Private Road / Greenway Thoroughfare data inclusion (Incorporating private roads and public greenways can provide valuable access knowledge to Emergency Services. An example would be the cross-jurisdictional "Huckleberry Trail" that is used by hundreds of patrons daily).



## PROJECT GOAL

The goal of this project is to increase the accuracy, analytical capability, and resilience of the current NRVECA PSAP dataset.

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, 5, 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:

1. Integrate VITA's error check analysis into NRVECA's merge process to reduce review time and implement data corrections faster across all four jurisdictions.
2. Improve the current merged dataset with topology connectivity and private roadway/greenway data inclusion.



**SHARED SERVICES (if applicable)**

Describe the relationship of the project to the participating PSAPs:

NRVECA is a multi-jurisdictional PSAP. The improvement of the merged dataset will affect the participating NRVECA jurisdictions of Montgomery County, Town of Christiansburg, Town of Blacksburg, and Virginia Polytechnic Institute and State University.

Describe the intended collaborative efforts and resource sharing opportunities:

The jurisdictions of NRVECA have been successfully collaborating over the past five years to implement the current combined PSAP. Positive working relationships between each jurisdiction’s Emergency Services, GIS personnel, and local government have already been established and will be leveraged for the execution of this effort.



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

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

<b>PROJECT PHASE</b>	<b>PLANNED COMPLETION DATE</b>
<b>INITIATION</b> – Project concept is documented, local board or governing authority approval or endorsement is received, NG-911 Grant application is filed, local budgets are obtained, appropriated grant funds are approved, and budgetary estimates are obtained.	<b>09 / 25 / 17</b>
<b>DESIGN/PLANNING</b> - Requirements are documented, components to be purchased are identified, and general design is documented.	<b>03 / 01 / 18</b>
<b>ACQUISITION</b> - RFP (or other bid related processes) are drafted, proposals are evaluated, contract is signed, purchase orders are issued, and quotes are obtained.	<b>07 / 01 / 18</b>
<b>IMPLEMENTATION</b> - Purchased components are delivered and installed and training is performed	<b>01 / 01 / 20</b>
<b>TESTING/COMPLETION</b> - Performance of system/solution is validated and system/solution goes “live”	<b>06 / 30 / 20</b>





## 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.

The Center for Geospatial Information Technology (CGIT) at Virginia Tech proposes to enhance the current GIS data currently used by the NRVECA PSAP to meet several critical needs that have been identified, for a total cost of \$93,115. This cost estimate represents the forecast cost to support the NRVECA in the following areas:

1. Integration of VITA's error check analysis into NRVECA's merge process to reduce review time and implement data corrections more efficiently across all four jurisdictions.
2. Improve the current merged dataset used by the NRVECA by evaluating model and topology connectivity as well as including highly utilized private roads and greenways.

CGIT currently runs/maintains NRVECA's existing merged dataset and has extensive background knowledge on all of the jurisdictional data contained therein. CGIT's prior knowledge and relationships built to date on this project most likely make their proposed costs much lower than another GIS firm that may be unfamiliar to our data set and merge process. For this reason, in the event that CGIT is not selected, we have added an additional 10% in contingency costs on top of their proposed budget for a total of \$102, 427.



## EVALUATION

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

The following milestones will be used to measure project success:

1. Selection and use of geospatial consultants for planning and execution of project tasks.
2. Review and acceptance of design documents from the selected geospatial consultant by NRVECA
3. Review and acceptance of pilot, draft, and final deliverables from the selected geospatial consultant by NRVECA
4. NRVECA validation testing of the improved data and resiliency systems developed by the selected geospatial consultant



**PHYSICAL CONSOLIDATION - (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



**PHYSICAL CONSOLIDATION - (complete only if applicable) – continued**

How should it be funded:

N/A

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

N/A



## **New River Valley Emergency Communications Authority Statement of Work for July 1, 2018 – Jun 30, 2020**

The Center for Geospatial Information Technology (CGIT) at Virginia Tech proposes to enhance the current GIS data currently used by the NRVECA PSAP to meet several critical needs that have been identified, for a total cost of \$121,321. This cost estimate represents the forecast cost to support the NRVECA in the following areas (by task, referenced in Table 1):

1. Integration of VITA's error check analysis into NRVECA's merge process to reduce review time and implement data corrections more efficiently across all four jurisdictions.
2. Improve the current merged dataset used by the NRVECA to a routable dataset.
3. Increase system data resiliency by developing a web-viewer tool that can be accessed by dispatchers in case of CAD failure. Additionally, create and maintain an offline dataset that can be used by dispatchers in case of power or internet connectivity failure.

The release of VITA's Locality GIS Data Analysis report identified several areas of the current merged dataset that needs improvement in order to meet VITA's desired readiness level for Road Centerline Checks and Address Point Checks (550 and 6050 errors reported respectively in most recent analysis). CGIT will integrate and automate VITA's error check process into the current NRVECA merge process. This will enable NRVECA to identify and correct RCL and Address Point errors faster, increasing PSAP readiness and reducing possible increased response time.

CGIT will improve the current NRVECA merged dataset to a routable level. This will be accomplished by improving several attributes to the current data such as model & topology connectivity, quantifying impedances to travel (speed zones/limits, stop signs, signals, etc.), private road/greenways, as well as validation of the revised routable dataset.

CGIT will utilize the improved NRVECA merged dataset to create a web-viewer tool that can be accessed by dispatchers in case of CAD failure. Dispatchers will be able to access this tool via an internet connection. In the case of both CAD and internet connection failure, CGIT will also create and maintain an offline dataset that the dispatchers can utilize.

The personnel budget allows for development costs, software support, and facilitation of the tasks described in this SOW. Senior research faculty, Brian Farrell (Lead Developer, CGIT) will

lead system development support as well as technical and reporting support. Supervision, meeting coordination, budget oversight, and reporting support will be performed by Brandon Herndon (Ops Officer, CGIT) and Peter Sforza (Director, CGIT). Brian Farrell will also be responsible for initial development, maintaining security certificates, system back-up protocols, and available for critical need problems.

Based on the previous NRVECA PSAP contract, the indirect rate is estimated to be 0%, however this will need to be re-negotiated with Virginia Tech's Office of Sponsored Programs prior to contract establishment. Total estimated costs are summarized in Table 1. Detailed budget, to include personnel percentages, can be viewed in Attachment 1.

**Table 1**  
**Budget July 1, 2018 – June 30, 2020**

<b>Category</b>	<b>Amount</b>
Task 1 – GIS Data Validation	\$56,270
Task 2 – GIS Critical Layer Additions	\$24,225
Task 3 – GIS Data Resiliency	\$11,413
VVFS Personnel	\$91,908
VVFS Fringe	\$29,413
<b>Total Personnel</b>	<b>\$121,321</b>
<b>Subtotal Direct Costs</b>	<b>\$121,321</b>
Indirect Costs @ 0%	\$0
<b>Subtotal Indirect Costs</b>	<b>\$0</b>
<b>Total</b>	<b>\$121,321</b>