

## **Virginia PSAP Boundaries - Geospatial Data Standard Workgroup**

**Draft Charter – Last Updated – January 18, 2017 - Approved February 1, 2017**

### **Introduction**

The Virginia Information Technologies Agency Integrated Services Program (VITA-ISP) has established a workgroup to provide input into the development of a formal geospatial data standard for Public Safety Answering Point (PSAP) boundaries. In Virginia, PSAP boundaries are typically represented today in a tabular fashion within the Master Street Address Guide (MSAG) that PSAPs coordinate with their 9-1-1 providers. Each 9-1-1 service provider maintains a separate database, so there is not a consolidated statewide dataset for PSAP boundaries in the Commonwealth.

With the upcoming transition to Next Generation 9-1-1 (NG9-1-1), PSAP boundaries (in conjunction with address points and road centerlines) will replace the functionality of the MSAG and are required in order to correctly route a 9-1-1 call to the correct PSAP..

Since the MSAG is a tabular dataset, a comparable geospatial dataset must be developed. Because of this, the development of this Commonwealth geospatial data standard is essential to preparing the Commonwealth to implement Next Generation 9-1-1.

### **Definition**

From a practical standpoint, the PSAP Boundary is looking to represent, with a GIS layer, the area that an MSAG currently represents today. The PSAP Boundary defines an area for which a PSAP has emergency service request responsibility. In Next Generation 9-1-1, the Emergency Call Routing Function (ECRF) uses the PSAP Boundary to provide an initial destination (typically a PSAP) to which the call is routed.

Note: There are situations where PSAPs may want 9-1-1 calls to be routed differently based upon class of service (i.e. wireline vs wireless). The initial focus of this data standard is to support calls that are presented to the NG9-1-1 system that contain a civic address – one that can be geocoded to an address point or road centerline segment. In areas where wireline and wireless calls are to be handled differently, the PSAP boundary should include at a minimum the area containing address points and road centerline segments for which a PSAP has emergency service request responsibility.

## Goals

Developing a PSAP boundary data standard for the Commonwealth of Virginia that will:

- Align to the NENA STA-006 (DRAFT NG9-1-1 GIS Data Model). This was released for public comment in December 2016, and will likely go through several rounds of public review before being formally adopted.
- Enable PSAPS in the Commonwealth to meet the requirements of NENA STA-005 (Standards for the Provisioning and Maintenance of GIS Data to the ECRF/LVF)
  - “9-1-1 authorities are responsible for creating and maintaining whether directly or delegated through a third party, NENA standard PSAP service area boundaries for their area of operation, and ensuring this data is provisioned to the ECRF/LVF”
  - NG9-1-1 Terms
    - ECRF – Emergency Call Routing Function
    - LVF – Location Validation Function
- Achieve the goals of initiatives as described in the 2015-2020 VGIN Strategic Plan
  - Initiative 5 - Provide NG9-1-1 Geospatial Data Products and Services (that will standardize and facilitate the adoption of this technology workflow across the Commonwealth.
  - Initiative 7 – Provide statewide data layers (especially those that will be mission critical for NG9-1-1).

## Outcomes

- Create a formal geospatial data standard for PSAP boundaries that is suitable for NG9-1-1.
- Design the standard in a manner that can be applied by VITA ISP, PSAPs and GIS data providers in the Commonwealth to coordinate, develop, and maintain a statewide PSAP boundary dataset suitable for NG9-1-1.

## Workgroup Inputs

- NENA Data Standards and Best Practices including:
  - NENA 02-010 ([Standard Formats for 9-1-1 Data Exchange and GIS Mapping](#))
  - NENA-STA-005 (Provisioning and Maintenance of GIS Data to ECRF and LVFs)
  - NENA-STA-006 ([Draft - NG9-1-1 GIS Data Model](#))
- Commonwealth Data Standards
  - Administrative Boundaries ([OTH 702-00](#))
  - Road Centerlines ([OTH 703-00](#))
  - Address Points ([Draft](#))
- Feedback from workgroup members and local agencies
  - Lessons learned, best practices, presentations or other training material localities and PSAPs who have already created or are in the process of creating PSAP boundaries for NG9-1-1.

## **Processing**

Currently, a formal geospatial representation of PSAP boundaries in the Commonwealth does not exist. Instead, an approximation of the extent of PSAP service area is contained in tabular fashion in the MSAG. During the 2016-Q3 VITA-ISP MSAG/ALI/GIS Analysis, a statewide geospatial boundary dataset depicting values from the MSAG was created. While that dataset may be a starting point for a statewide PSAP Boundary dataset, it will require verification and refinement in order to meet the requirements of any standard created by this workgroup. Additionally, future development and maintenance of any statewide PSAP boundary Any future data development will require a good deal of coordination between VITA-ISP, PSAPs and GIS offices across the Commonwealth in order to ensure that the attribution, geometry and topology of the dataset is both consistent and complete.

## **Workgroup Tasking**

### VITA ISP

- Charter - Develop a draft charter for the PSAP Boundary Workgroup mirroring the work in previous data standards projects (Administrative Boundaries, Road Centerline, Address Points)
- Establish a stakeholders workgroup with representatives a from across the Commonwealth and to request their feedback and input
- Obtain the most recent versions of NENA standards and best practices that relate to the development and maintenance of PSAP Boundaries (both legacy and NG9-1-1)
- Create a working draft for PSAP Boundaries Data Standard document, starting with requirements from the NENA NG9-1-1 GIS Data Model.
- Based on NENA standards and best practices, provide training overview for workgroup members and ISP staff on the purpose of the PSAP boundary dataset and how it works within NG9-1-1.
- Document existing projects, datasets and/or related standards in the Commonwealth that will be helpful in approximating PSAP Boundaries (i.e. results from statewide MSAG/ALI/GIS analysis)

### Workgroup

- Document the required topological rules for PSAP boundaries and their interaction with address points and road centerlines to support NG9-1-1.
- Provide feedback in order to develop consensus recommendation on final PSAP Boundary data standard document.
- Provide recommendations regarding how best to populate, modify and maintain a statewide PSAP boundaries dataset.

## **Milestones**

- Develop a draft charter
- Establish PSAP Boundaries workgroup
- Generate and approve a workgroup charter
- Develop the PSAP Boundaries data standard document
- Review the standard and present a final version for formal adoption

### **Optional Discussion: Other Emergency Services Boundaries**

The NG9-1-1 GIS Data Model lists PSAP boundaries as a separate layer for backwards compatibility with existing systems, although it contains the same fields as other emergency service boundaries. The GIS data model also currently lists emergency service boundaries for fire, EMS and law enforcement as required layers, something that may or may not change in future versions of the NENA standard.

However since the required fields in the NENA Data Model are the same for these datasets, the workgroup should determine whether additional NG9-1-1 emergency services boundaries (fire, law, EMS, etc.) should be addressed by this workgroup after the completion of the PSAP Boundary standard or whether they should be addressed by a separate workgroup. From a data standards perspective, the schema and requirements for PSAP and other emergency service boundaries will be very similar.