

Statewide 911 GIS Repository Benefits and Current Objectives

As the nation continues to migrate to full Next Generation 911 (NG911) implementations, states continue to prepare for all aspects of NG911 operational needs including the necessary statewide GIS data for call routing and location validation. This preparation includes ensuring that all required data layers for NG911, as called out by the NENA GIS Data Model 2.0¹, are complete and up to the recommended standards. Most states are implementing statewide GIS repositories to aggregate the GIS data from local authoritative sources to have required layers completed statewide to provide to NG911 service providers.

In 2012, Michigan implemented a statewide 911 GIS repository to aggregate road centerlines and PSAP boundary updates on a statewide level. The State has received participation from 95% of the counties/PSAPs in the state for the uploading of local authoritative GIS data to the repository. It is critical for geo-routing NG911 calls that all counties and PSAPs are participating in the repository and providing regular updates to the system. With the NENA GIS Standards now requiring site/structure address points for NG911, it is requested that GIS address points also be uploaded by counties and PSAPs into the repository.

NENA outlines the following benefits for aggregating GIS data layers for NG911 into statewide datasets within its NENA Information Document for GIS Data Stewardship for NG911².

- Improves database integrity across a state or region by having a common schema
- Ensures a common coordinate system within the state prior to providing the layer to a NG911 Provider
- Enables the creation and application of consistent topology rules across the aggregated dataset
- Facilitates resolution of topology related issues, especially gaps or overlaps between neighboring features
- Provides a single layer that could be used to coordinate service boundaries along state or international borders
- Creates a common layer that can be used to support interaction with one or more NG911 service providers within the state

The Michigan statewide 911 GIS Repository has cost benefits for counties and PSAPs that include, but are not limited to:

- Repository will maintain NENA GIS schema standards; contributors do not need to change field names on their end
- Repository provides over 300 NG911 validation checks within and across GIS datasets, cost savings in not having to purchase or create these tools
- Reduces costs and time by having one repository for NG911 service providers to interface with GIS data, not every PSAP or county having to create their own interface
- Maintenance of one repository is less costly and more time efficient to keep up with evolving standards and GIS data guidelines

¹ NENA Standard for NG9-1-1 GIS Data Model NENA-STA-006.1.1-2020, Feb 18, 2020

² NENA Information Document for GIS Data Stewardship for NG9-1-1 NENA-INF-028.1.2020 Jan 19, 2020

- Provides validations for NENA requirements for seamless boundaries statewide

NENA outlines the importance of having the most accurate, granular data from the authoritative sources for the following data layers: road centerlines, PSAP boundaries, site/structure address points, and emergency response boundaries (Fire, Police, EMS)³.

Besides the technical and cost benefits outlined above, there are other intangible benefits that can be gained from participation in the statewide 911 GIS repository. These include:

- Having the most accurate, granular, authoritative location data as possible available for 911 geo-routing to protect health and welfare of citizens in Michigan
- Additional backup of GIS data accessible if not available from within the PSAP because of outage
- Repository provides capability to export authoritative GIS data from other jurisdictions into local 911 systems to have mapping covering areas outside of a PSAPs own jurisdiction
- Repository provides a map viewer to search address and PSAP information in areas outside of your jurisdiction to help determine where a call may need to be transferred

The statewide 911 GIS repository is currently undergoing an upgrade that will add more streamlined functionality for uploading data, include dashboards, and have more interactive tools to review the data being submitted and validated against the NENA standards. The current upgrade will also include the schema, validations, and tools for counties and PSAPS to upload emergency response boundaries representing fire, police, and EMS service areas required for NG911 call routing.

To assist with the objectives of the statewide 911 GIS repository, a NG911 Grant Technical Advisory Committee (TAC) was formed. The TAC members are:

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If you have any questions about participation or training for the statewide 911 GIS repository, please contact Lyndsay Stephens, Michigan State Police 911 Office, at stephensL5@michigan.gov or Mark Holmes, Department of Technology, Management and Budget Center for Shared Solutions, at holmesm3@michigan.gov

³ NENA Standards for the Provisioning and Maintenance of GIS data to ECRFs and LVFs NENA-STA-005.1.1-2017