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Useful Links:

DPS-ECN

Minnesota Department of Public Safety – Emergency Communication Networks GIS Information

MnGeo

Minnesota Geospatial Information Office

SECB

Statewide Emergency Communications Board

NENA

National Emergency Number Association

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Text-to-911 and Need for Statewide PSAP Boundaries

The Minnesota Department of Public Safety, Emergency Communication Networks division (DPS-ECN), working under the direction of the Statewide Emergency Communications Board (SECB) is preparing to deploy text-to-9-1-1 statewide, which is a significant Next Generation 9-1-1 (NG9-1-1) initiative. A voice call is still the best option for communicating with 9-1-1 in the event of an emergency; however, when a voice call is either not possible or may put the caller in a dangerous situation, text-to-9-1-1 is an option. Texting to 9-1-1 will also be a valuable resource for those who are deaf, hard-of-hearing, or speech disabled.

With that said, similar to wireless voice calls, the location information sent with a text-to-9-1-1 is not as accurate as it is with a wireline voice call. Thus, Public Safety Answering Points (PSAPs) may need to transfer text-to-911 events to neighboring PSAPs based on location of the incident. DPS-ECN is partnering with the Minnesota Geospatial Information Office (MnGeo) to create seamless PSAP boundaries that may be used in the map displays at each PSAP to help better understand where the caller is located and who should respond.

DPS-ECN and MnGeo are working closely with each PSAP to confirm PSAP boundaries throughout the State of Minnesota. MnGeo recently launched a PSAP Boundary Reviewer, which allows each PSAP to review their own PSAP boundary and confirm or propose a new boundary after consulting with their neighboring PSAP. Please see the “PSAP Boundary Reviewer” article on page 5 for more information.

Accurate statewide PSAP boundaries are not only key in the deployment of text-to-9-1-1. They will become even more critical in the future for the Emergency Call Routing Function (ECRF). The ECRF will accurately route 9-1-1 calls, from any device, to the appropriate PSAP based on the caller’s location.

We greatly appreciate all the work our local partners have done and continue to do as they prepare their geospatial data for use in the state’s NG9-1-1 solution.

Best wishes,

Jackie Mines, Director, DPS-ECN

NENA (National Emergency Number Association)



NENA's Mission Statement: *The 9-1-1 Association improves 9-1-1 through research, standards development, training, education, outreach, and advocacy.*

NENA, a non-profit organization, was founded in 1982 to construct 9-1-1 industry awareness, gather information on emergency systems in use, and progress towards the goal of "One Nation - One Number." NENA is an association that concentrates on 9-1-1 policy, technology, operations, and educational issues. The organization has more than 11,000 members that promote public safety and 9-1-1 awareness around the world. NENA collaborates with 9-1-1 leaders, public safety associations, public policy stakeholders, and emergency services and telecommunications partners to assist in the creation of the IP-based Next Generation 9-1-1 system, develop various 9-1-1 programs and initiatives, and to launch industry leading standards.

Serving as a link in the delivery of emergency services, 9-1-1 has, throughout its evolution, become recognized as an asset of the North American public. And the NENA organization has been connected to 9-1-1 every step of the way. From assisting and promoting new system installations, to educating managers on the latest technologies and business practices, NENA and its members have been intertwined with 9-1-1 during the growth and development of the 9-1-1 systems in North America. NENA is proud to share this heritage, and as an organization, we are uniquely positioned to take 9-1-1 to new heights and to meet new challenges. The NENA membership – the breadth and depth of its knowledge and the quality of its leadership – has made 9-1-1 successful. Together, NENA's leadership team represents the diverse NENA membership, and collectively, the 9-1-1 industry. NENA is an organization dedicated to saving lives through the improvement of 9-1-1 services in North America, and beyond.

NENA is widely acknowledged as the leading 9-1-1 standard-setting organization as many of its members are experts in the 9-1-1 industry. MnGeo has reviewed recent drafts of the NENA NG9-1-1 GIS Data Model and similar corresponding standards, along with standards models from the Metropolitan Regional Centerline Collaborative (MRCC), MetroGIS Address Point Specifications, and published NG9-1-1 GIS standards from the states of Iowa, Kansas, North Dakota, Tennessee, and Texas. The draft NENA NG9-1-1 GIS Data Model, MRCC, MetroGIS and other state standards models were used to develop the Minnesota NG9-1-1 GIS Data Standards for road centerlines, address points, emergency service zones, PSAP boundaries, and data maintenance boundaries.

The article was written on behalf of NENA and represents a collection of information obtained through NENA's website. For more information, please visit the [NENA website](#).

NG9-1-1 GIS Standards – Update

The draft MN NG9-1-1 GIS Data Standards and associated materials were distributed to all MN PSAP and GIS stakeholders for a third review last May. The draft standards were also shared with NG9-1-1 industry experts for review and feedback. The review period closed in June and all feedback have been consolidated into a comment tracker, which includes over 350 questions and comments. ECN, MnGeo, the Metropolitan Emergency Services Board (MESB), and the NG9-1-1 GIS Standards Workgroup are currently reviewing and responding to these questions and comments.

Based on feedback from the metro PSAP and GIS stakeholders, it has been decided that the current draft MN NG9-1-1 GIS Data Standards document will need to be reformatted and broken into multiple documents for the appropriate approval processes. The technical and schema specific standards will be extracted into separate documents for each standalone GIS dataset. These technical GIS standards will go through the Minnesota Geospatial Advisory Council

(MGAC) formal review and approval process. Then, the NG9-1-1 specific GIS data roles, responsibilities, and requirements will be in a separate standards document for SECB approval.

The goal is to gain formal approval of all NG9-1-1 GIS data standards by early 2018. The overall approval timeline is highlighted (Figure 1).



Figure 1: NG9-1-1 Standards timeline

Data Preparation – Update

Data Collection and Kickoff Meetings

MnGeo is currently obtaining critical 9-1-1 GIS datasets from all regions in the state. The GIS datasets are being compared to tabular 9-1-1 data such as the Master Street Address Guide (MSAG), Automatic Location Identification (ALI), and English Language Translation (ELT). MnGeo has also met with all counties except those in the NW region to review the data and the validations that have been completed to date. Meetings for the NW region of the state are currently being scheduled. The goal is to complete all data preparation and review kickoff meetings by fall 2017.

Address Validation Phase

Minnesota GIS Newsletters #4 and #5 discussed the first two phases of data preparation, Community Name Validation and Street Name Validation. This issue focuses on the third phase, Address Validation, which involves analyzing all full addresses in the ALI, Road Centerline (RCL), and Address Point (ADP) datasets.

The full address for the ALI and address point datasets consists of the address number, complete street name, and community name. The full address for the road centerline dataset consists of the address range, complete street name, and community name. The three main goals of the address validation include comparing the ALI to the road centerline, comparing the ALI to the address point, and comparing the address point to the road centerline. All comparisons must produce exact matches in at least 98% of instances, which is consistent with the NENA Standard for Address Validation.

The Address Validation comparison reports, which are generated by MnGeo, are designed to show the 9-1-1 GIS Point of Contact (POC) the specific unmatched and tied addresses among the ALI, road centerline, and address point datasets, sorted by community. Unmatched addresses are defined as addresses that do not match to any location. Tied addresses are defined as addresses that yield a match to more than one location. It is the responsibility of the 9-1-1 GIS POC and their partners to review and correct discrepancies in the ALI, road centerline, and address point files. In some cases, the 9-1-1 GIS POC may need to consult with the Address Authority for specific address changes.

Below are two maps indicating the status of Address Validation statewide (Figure 2).

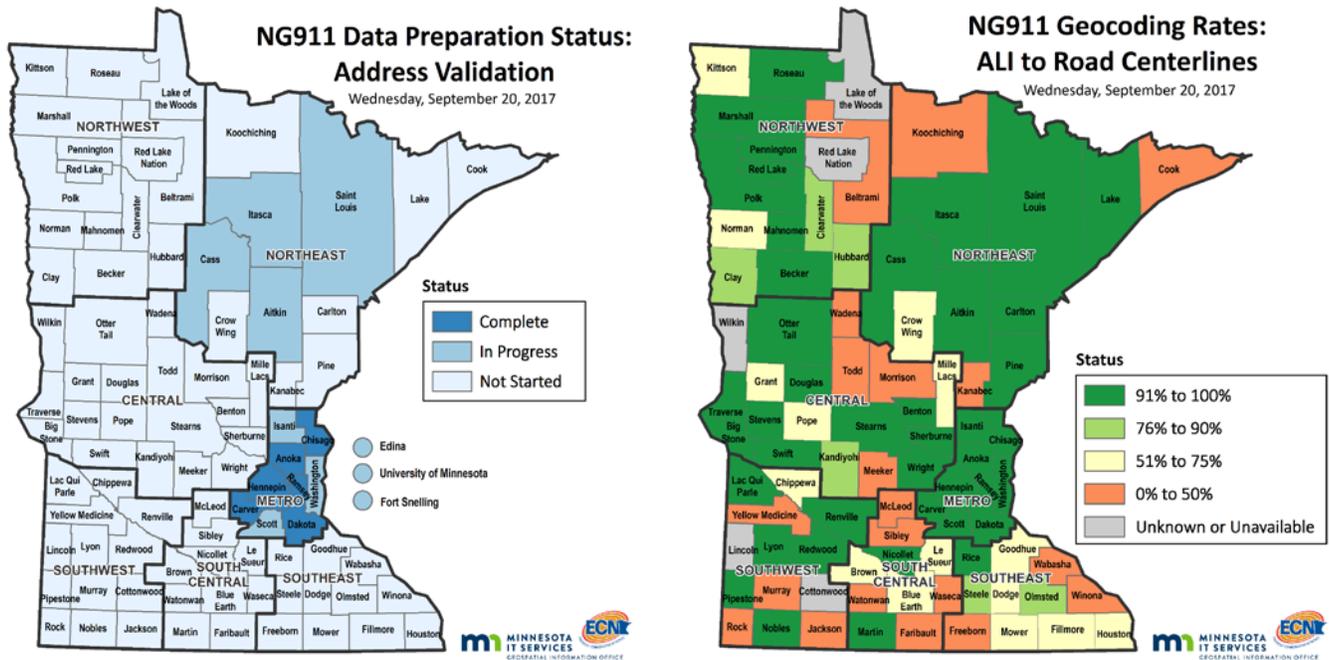


Figure 2: Address Validation statistics and match rates

Please note the statistics and match rates in Figure 2 are preliminary. The address validation statistics and match rates will improve significantly with the successful completion of the Community Name and Street Name Validation phases. In fact, the 9-1-1 GIS POCs, who are responsible for submitting geospatial data to the State of Minnesota, need to complete the Community Name and Street Name Validation phases before they start the Address Validation phase. The 9-1-1 GIS POCs should continue working with their MnGeo representatives to run and receive updated validation reports.

The remaining phases of data preparation include Edge Matching Validation along PSAP boundaries, Geospatial Validation, and Emergency Service Boundary Validation. These phases will be explored in future newsletters.

PSAP Boundary Reviewer

MnGeo and DPS-ECN have developed a map data reviewer and editor and associated user documentation to help resolve differences in submitted boundary data and to help manage the primary wireline PSAP boundaries statewide. The initial goal is to resolve major gaps and overlaps among PSAP boundaries in order to produce a seamless, accurate statewide PSAP boundary layer for use in text-to-911 and eventually the ECRF. The MnGeo NG9-1-1 team is onboarding the 9-1-1 GIS POCs editors from each county into the application. 9-1-1 GIS POCs are asked to work with their PSAP Managers and partners from neighboring PSAPs to resolve gaps, overlaps and any other boundary discrepancies. The goal is to resolve discrepancies by this fall, so the seamless PSAP boundaries are available for the text-to-911 deployments.

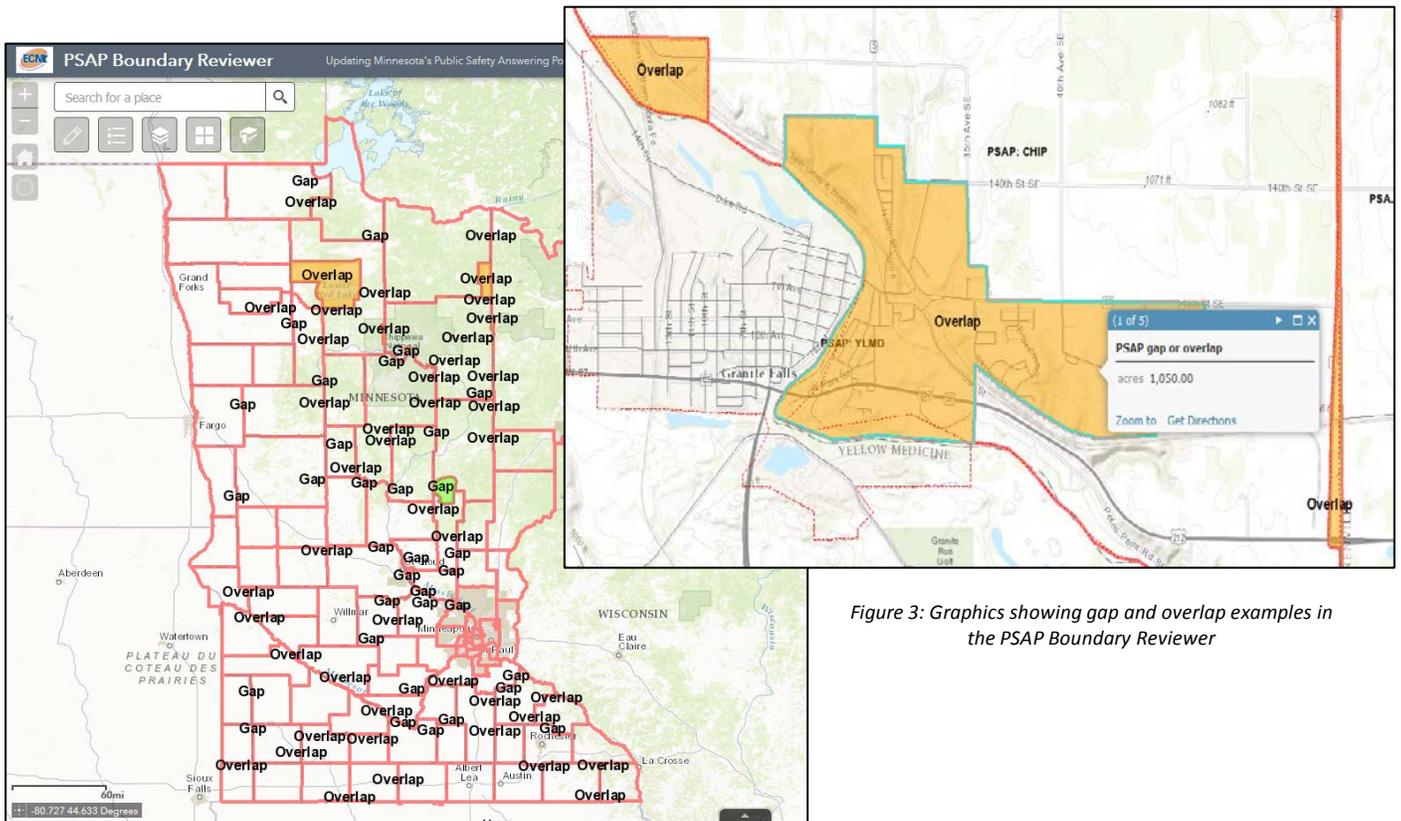


Figure 3: Graphics showing gap and overlap examples in the PSAP Boundary Reviewer

The PSAP Boundary Reviewer highlights all gaps and overlaps greater than five acres (Figure 3). Additional boundary information, such as locally provided Fire, Law, and Emergency Medical Services (EMS) boundaries are included for reference. The Reviewer also depicts all road centerlines and address points, which were provided by the county GIS departments or their GIS data vendors. The GIS datasets illustrated in the reviewer will help local PSAP and 9-1-1 GIS POCs determine where the PSAP boundary should be located.

Upcoming Events

Notable upcoming DPS-ECN and MnGeo NG9-1-1 GIS events:

- ❖ September 28: Statewide Emergency Communications Board (SECB) Meeting
- ❖ October 4-6: Annual MN GIS/Land Information Systems (LIS) Conference
- ❖ October 12: NG9-1-1 GIS Subcommittee Meeting
- ❖ October 18: NG9-1-1 Committee Meeting
- ❖ October 26: SECB Meeting
- ❖ December 6: Minnesota Geospatial Advisory Council (MGAC) Meeting

Neighboring States

For more information about NG9-1-1 efforts in the states surrounding Minnesota, visit:

[Iowa Enhanced 9-1-1](#)

[North Dakota ND911](#)

[South Dakota 9-1-1](#)

Wisconsin: In planning phase. See [NENA status map](#).

If you have a news item pertaining to NG9-1-1 that you would like to share in future issues of this newsletter, please contact:

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