**Metro Regional 9-1-1 Data Viewer Application
Project Plan & Proposal**

**Working Draft v. 1.3 (May 22, 2019)
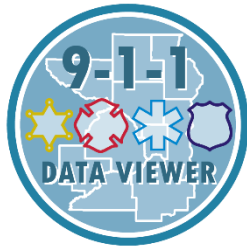Note: Project Plan Content is Subject to continual review and modification**

Metro Regional 9-1-1 Data Viewer Application Project Plan

Anoka County	Carver County
Chisago County	Dakota County
Hennepin County	Isanti County
Ramsey County	Scott County
Sherburne County	Washington County
Metropolitan Council	Metropolitan Emergency Service Board
MetroGIS	

Regional 9-1-1 Data Viewer Application

As per the decision and direction of the MetroGIS Coordinating Committee, the top priority in 2019 for the MetroGIS Work Plan is the development of the proposed Regional 9-1-1 Data Viewer Application.

General description of the project*.* The project proposes the creation, deployment and on-going maintenance of **a web-based data viewer application** for the entire Seven County Metropolitan Region—as well as Chisago, Isanti and Sherburne Counties to the north of the metro—containing key geospatial datasets related to the work of E9-1-1 and NextGen9-1-1 service.

Purpose and need. This application would be primarily used for reference and resource, for viewing the data and enhancing communications and to facilitate the interactions between the **GIS-enabled** and **non-GIS enabled** professionals engaged in the work of E9-1-1 and NextGen9-1-1.

Goal of the project. The goal of this project is to have an easy-to-use, well-designed, data viewer available which contains specific datasets central to the various business needs of the work of E9-1-1 and transition to NextGen9-1-1**.**

Primary Use Case – 9-1-1 Data Management: The primary intended use of this application is for 9-1-1 Data Management. The application is intended to support the shared viewing, enhancement of inter-agency communications, and fostering understanding of the relationships of the datasets to one another for the benefit of participating county PSAP/MSAG Coordinators and their counterparts at Metropolitan Emergency Service staff.

Secondary Use Case – Responder Boundary Validation: The secondary intended use of the application is to assist in providing a resource to support Responder Boundary Validation among the participating PSAP managers, fire chiefs, police chiefs and emergency medical service providers of the region.

Tertiary Use Case – 9-1-1 Address Validation: The tertiary intended use case of the application is to provide a shared data viewing resource for the telecommunications service providers (e.g. Comcast, Link) and 9-1-1 service providers to have a common operating picture of the current placement, status and naming of streets, address assignments, municipal boundaries and so forth.

Quaternary Use Case – General Public Safety Data Viewer. The quaternary intended use case of this resource is to provide a general public safety data viewer an include datasets as deemed needed and appropriate to meet this aim. These data sets will include features such as nursing

homes, police and fire stations, placement of hydrants, prisons, hospitals and other features relevant to the context of the work of 9-1-1.

Subject area and participant agencies of the project. The proposed viewer intends to contain the data within the Seven Metropolitan Counties (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington) as well as Chisago, Isanti and Sherburne Counties. These ten (10) counties comprise the service area of the Metropolitan Emergency Services Board (MESB). Additionally, the Metropolitan Council, will participate in providing staff, technical expertise and maintenance of the viewer.

Access to viewer. While the primary intended audience of the Data Viewer is for government agencies involved in the creation, viewing, usage and consumption of data related to E9-1-1 and NextGen9-1-1 service deployment, the viewer will be fully publicly available.

Datasets to be included. Initial datasets to be included in the first iteration of the view include the following:

Table 1: Datasets for the first iteration of the 9-1-1 Data Viewer

Dataset	Authoritative Source	Notes
Address point data	*Data is authoritatively sourced from city and county partners.* *Regional dataset of address points is federated by the Metropolitan Council and published as the Metro Regional Address Point Dataset*	*Address point data will be published to the viewer in the Minnesota Address Point Data Standard (v. 1.2)*
Road centerline data	*Data is authoritatively sourced from city and county partners.* *Regional dataset of road centerline data is federated by the Metropolitan Council and published as the Metro Regional Centerline dataset*	*Road centerline data will be published in the Metro Regional Centerlines Collaborative (MRCC) (v. 1.7). Once a statewide road centerline standard is adopted, the metro partners will assess its fitness to meet their needs and will determine how to transition to that standard.*
Municipal boundary data	*Data is authoritatively sourced from city and county partners.* *Regional dataset of municipal boundaries is federated by the Metropolitan Council (quarterly) and published as a regional dataset.*	*The Metropolitan Council currently collects this data on a quarterly basis from the Seven Metropolitan Counties to create the regional municipal boundary dataset.*

County boundary data	*Data is authoritatively sourced from county partners.* *Regional dataset of county boundaries is federated by the Metropolitan Council (quarterly) and published as a regional dataset.*	*The Metropolitan Council currently collects this data on a quarterly basis from the Seven Metropolitan Counties to create the regional county boundary dataset.*
Parcel data	*Data is authoritatively sourced from county partners.* *Regional dataset of parcel data is federated by the Metropolitan Council (quarterly) and published as a regional dataset.*	*The Seven Metropolitan Counties as of January 2019 intend to provide parcel data in the statewide Parcel Data Transfer Standard (v. 1.1). Quarterly updates (Jan, Apr, Jul, Oct) are planned through 2019 and beyond.*
Public service answering point (PSAP) service area boundaries	*Data is authoritatively sourced from the Metropolitan Emergency Services Board (MESB) on behalf of its member Public Safety Answering Points (PSAPs). The MESB, by agreement of the counties which form its service area maintains and updates the PSAP boundaries.*	*Each PSAP is divided into Emergency Service Zones. Each ESZ is uniquely identified with a unique number within the metro region.*
Emergency service zone (ESZ) area boundaries	*Data is authoritatively sourced from the Metropolitan Emergency Services Board (MESB) on behalf of its member Public Safety Answering Points (PSAPs) and their associated responder agencies. The MESB, by agreement of the counties which form its service area maintains and updates the ESZ boundaries.*	*Each ESZ service area is associated with a large PSAP service area.*
Responder boundaries	*Data is authoritatively sourced from the Metropolitan Emergency Services Board (MESB) on behalf of its member Public Safety Answering Points (PSAPs) and their associated responder agencies. Responders, for purposes of the viewer, will include law enforcement, fire, and EMS.*	*Each responder service area may be associated with multiple ESZ service areas and/or multiple PSAP service areas. Responder boundaries will be based on standardized responder agency names.*
Aerial imagery	*Initially the aerial imagery will be sourced from the esri ArcGIS On Line available data or the MnGeo Aerial Image Server, later iterations of the Data Viewer may source higher resolution imagery or more updated imagery from county or other regional government sources*	
Hydrographic feature names and features	*Data is authoritatively sourced from the Department of Natural Resources; the key feature for the Data Viewer are the names of the hydrographic features (to appear atop the aerial imagery as text), vector representations*	*Names of lakes, streams, places and other geographic features in the state and their official spelling is the responsibility of the Department of Natural Resources (Mn. Stat. 83A.02)*

	of features will be incorporated as needed by the users.	
Park and Trail features	*Data is authoritatively sourced by the Cities and Counties and federated by the Metropolitan Council as the Regional Park and Trail dataset. This dataset uses the metro-modified version of the National Recreation and Park Association data schema.*	*Metro partners have published this dataset as a work in progress. Population of attributes and completion of the dataset is in progress as of December 2018.* *(Potential inclusion of Sherburne, Isanti and Chisago counties in the metro regional park and trail dataset?)*
Landmark sites	*- Fire stations* *- Police stations* *- Nursing homes / Elder-care sites* *- Schools (grade schools through colleges)* *- Hospitals / Medical* *- Major event centers (e.g. U.S. Bank Stadium)* *- Post offices* *- U.S. National Grid*	*Dataset is intended to show the location of features needed by E9-1-1/NextGen9-1-1 including police and fire stations, schools, hospitals and major sites such as sports and event stadiums.*

Additional dataset inclusion. Once the successful first iteration of the 9-1-1 Data Viewer is launched, project partners will ascertain the inclusion of additional datasets including:

Infrastructure amenities (such as hydrants), MSAG data (in tabular format) and other relevant datasets applicable to the needs of the viewers and users.

Part I - Steps to Completion and Roles of Participants: Overview

Step 1: Preparation of ESN/PSAP Dataset by MESB

As the MESB is the authoritative source of the ESN/PSAP boundaries, MESB staff are to prepare and maintain a version of the data where both ESN(ESZ) and PSAP boundaries will be consumable by the web application with all needed content and label attributes included.

Step 2: Metadata and Publication of ESN/PSAP Boundary Data

MESB is to complete Minnesota Metadata Standard-compliant record for the metro regional ESZ/PSAP datasets and publication of these datasets on the Minnesota Geospatial Commons.

Metropolitan Council staff will provide guidance and support to MESB staff for creating a user profile, compliant metadata and publishing of its data.

Note: *This dataset has been determined to be **public** as per Advisory Opinion 18-012 provided by the Data Practices Office of the Department of Administration. This opinion, and its letter of request from MESB Executive Director Jill Rohret are provided in an appendix to this plan.*

Step 3: Creation of Initial Prototype of the Data Viewer with available datasets

Once the MESB has successfully published its ESZ/PSAP boundary data to the Minnesota Geospatial Commons, Metropolitan Council GIS Staff will assemble the first iteration of the Data Viewer with the datasets identified in Table 1 and provide the tools and functionality needed. Basic tool sets and functionality for the initial test version of the Data Viewer includes the following in the user interface.

The first version of the interface of the **9-1-1 Data Viewer** endeavors to include the following tools/features:

- Standard viewer functions of Zoom In/Zoom Out/Pan;
- Ability to Turn On/Off the various layers available;
- Identification tool (e.g. ability to click on a feature to view its data attributes);
- Ability to apply transparency to the layers available for comparison purposes;
- A basic measurement tool for determining linear distances between features;
- Easy integration for downloading, emailing or printing a PDF map from the map viewer with scale bar and other common cartographic features;
- A citation of the authoritative sources/responsible agency for the each of the datasets in the viewer;
- Information or a link to where the sourced digital data can be accessed and/or downloaded;
- Ability to query/search data layers in the Data Viewer by entering certain attributes, such as address, ESN, or parcel PIN, and then zoom to the feature;

As the proposed interface is intended primarily as a viewer, the **first version** of this application **would not** provide the following features:

- Direct download of datasets
- Linear routing capability
- Geocoding
- Advanced spatial analysis features

Later iterations of the 9-1-1 Data Viewer may work to incorporate these features.

Step 4: MESB Review of Initial Prototype

Once the Metropolitan Council has created the first prototype of the Data Viewer, MESB staff will review and test the prototype thoroughly. During this review, the MESB will document and communicate all needed revisions, changes and improvements to the Metropolitan Council GIS Staff to integrate. Changes needed may refer to the:

- Design (text treatments, colors, overall appearance)
- Function (usability, availability and performance of tools)
- Responsiveness (behavior of displayed features)

Step 5: Correction of Prototype by Metropolitan Council staff after MESB Review

Metropolitan Council staff will then execute corrections and revisions to the prototype viewer as per the direction of MESB staff and their review.

Step 6: Messaging to metro-regional partners of availability of prototype for user-experience testing

MESB, Metropolitan Council and MetroGIS staff will then reach out to county partners that the Data Viewer is available for county and municipal stakeholder review.

Step 7: Stakeholder User Experience Testing

The 9-1-1 Data Viewer application will be pushed live (*in a soft-release, e.g. not publicly announced*) for user experience and testing review by PSAP, county and municipal stakeholders. For a **90-day** review period, PSAP, county and municipal partners will be encouraged to review the viewer and provide comments on its look, feel, design, content and usability. The comments will be collected by county GIS staff and communicated to and documented by MESB and MetroGIS staff. Metropolitan Council GIS staff will then carry out the needed corrections and revisions.

Step 8: Correction of Prototype by Metropolitan Council staff after Stakeholder Review

Metropolitan Council staff will execute corrections and revisions collected by the counties, MESB and MetroGIS staff to the prototype viewer.

Step 9: Final Stakeholder Review and Approval

Upon completion of the changes and revisions by Metropolitan Council staff, stakeholders will have 30-day period to confirm changes are made to their satisfaction and to signal their approval.

Step 10: Formal announcement and release

With all final stakeholder revisions and approvals in place, MESB and MetroGIS staff can develop a joint announcement and determine how best to message the applications availability to the wider public and consumer community.

Part II - Agency and Individual Involvement

Who are the stakeholder agencies and anticipated beneficiaries of the project?

The **stakeholders** include all the agencies involved in E9-1-1 and NextGen9-1-1 integration in the metropolitan region. Agencies with a potential interest in this project would include:

- County GIS Staff of the participating service areas;
- City GIS Staff of the participating service areas;
- County PSAP Staff of the participating counties;
- Responder Agency representatives: Law Enforcement, Fire, EMS
- Emergency Management representatives
- Other Regional E9-1-1/NextGen9-1-1 Leadership;
- Metropolitan Emergency Services Board Staff;
- Metropolitan Council GIS Staff
- Metro Transit Police Department;
- LOGIS;
- Telecom and 9-1-1 service providers doing business in the metro region;
- GIS or PSAP Staff of Counties that are adjacent to the metro region;
- Other County government interests needing a 9-1-1 data viewer;
- Other Municipal government interests needing a 9-1-1 data viewer;

Who would fulfill the role of *project champion* and what agency do they represent?

Jill Rohret, Executive Director, Metropolitan Emergency Services Board would serve as the project champion. A project champion is defined as a member of senior management or a policy-maker advocate from a stakeholder agency.

Who would fulfill the role of *project owner* and what agency do they represent?

Marcia Broman, 9-1-1 Data Coordinator, Metropolitan Emergency Services Board would serve as the primary project owner. A project owner is a stakeholder responsible for the on-going decisions and ensuring results are satisfactory; the owner assists the project manager and technical leads in providing leadership to guide the project.

Who would fulfill the role of *project manager* or *technical lead* and what agency do they represent?

The role of project manager/technical leads for this project would include GIS staff members at the Metropolitan Council, Jon Hoekenga and Matt McGuire as technical co-leaders. MetroGIS Coordinator Geoff Maas would work in support and partnership with Hoekenga, McGuire and Broman toward the delivery of the Regional 9-1-1 Data Viewer including the facilitation of inter-agency communications and research as needed. The role of project manager or technical lead is traditionally a stakeholder responsible for managing the timeline and delivery of the project. As this is a unique inter-agency effort, all four individuals listed would work together toward that aim in a collaborative co-equal fashion to ensure the project progresses.

Who would serve as *project team members/project staff,* and what kinds of work or tasks would they perform?

Steps 1 & 2 - Completion of ESN/PSAP dataset, creation of metadata record and establishment of MESB account for publishing the data on the Minnesota Geospatial Commons

Marcia Broman, MESB
Kay Simons, MESB
Pamela Oslin, MESB
Jon Hoekenga, Metropolitan Council
Geoff Maas, MetroGIS

Step 3 - Creation of Initial Prototype of the Data Viewer with available datasets

Matt McGuire, Metropolitan Council
Jon Hoekenga, Metropolitan Council
Geoff Maas, MetroGIS (support role)

Step 4 - MESB Review of Initial Prototype

Marcia Broman, MESB
Kay Simons, MESB
Pamela Oslin, MESB
Pete Eggimann, MESB

Step 5 - Corrections/modifications based on internal (MESB) review of first prototype

Matt McGuire, Metropolitan Council
Jon Hoekenga, Metropolitan Council
Geoff Maas, MetroGIS (support role)

Step 6 - Messaging to metro-regional partners of availability of prototype for user-experience testing

Marcia Broman, MESB
Geoff Maas, MetroGIS

Step 7: User Experience Testing by Metro County Partners and Stakeholders

County staff would message the availability of the Data Viewer for user experience testing and collect comments on needed changes and improvements to the application.

Anoka County:

John Slusarczyk, GIS Coordinator
Val Sprynczynatyk, PSAP Manager
Renee Hanck, PSAP 9-1-1 MSAG/Data Coordinator

Chisago County:

Beth Johnson, GIS/9-1-1 Coordinator
Alicia Stovern, PSAP Manager
Jon Eckel, MICS Director

Carver County:
Chad Riley, GIS Manager
Craig Prisland, GIS Staff
Allison Kampbell, GIS Staff
Tim Walsh, PSAP Manager
Peter Sauter, PSAP 9-1-1 MSAG/Data Coordinator

Dakota County:
Randy Knippel, GIS Manager
Kent Tupper, GIS Staff
Todd Lusk, GIS Staff
Cheryl Pritzlaff, PSAP Manager
Troy Ruby, PSAP 9-1-1 MSAG/Data Coordinator

Hennepin County:
Jesse Reinhardt, GIS Manager
Warren Fong, 9-1-1 GIS Data Coordinator
Kevin Schwartz, PSAP Director
PeggyLynn Scott, PSAP 9-1-1 MSAG/Data Coordinator

Isanti County:
Amber Dalbec, GIS Coordinator
Robert Dowd, PSAP Manager
Robert Shogren, PSAP 9-1-1 MSAG/Data Coordinator

City of Minneapolis
Steve Misterek, GIS Manager/Coordinator
Jonathan Obermoller, GIS Staff
Christine McPherson, PSAP Director
Nancy Pelletier, PSAP 9-1-1 MSAG/Data Coordinator
Scott Petersen, PSAP Technical Coordinator

Ramsey County:
Matt Koukol, Enterprise GIS Manager
Vic Barnett, PSAP 9-1-1 MSAG/Data Coordinator
Nancy Pass, PSAP Director
Jon Rasch, PSAP Manager

Metropolitan Council:
Mark Kotz, GIS Manager
Jon Hoekenga, GIS Systems Analyst
Matt McGuire, GIS Systems Analyst
Tim Lynaugh, Metro Transit Police Business Systems Manager
Chad Loeffler, PSAP Manager Metro Transit Police Department
Geoff Maas, MetroGIS Coordinator

LOGIS:
Michael Simmons, GIS Staff

Scott County
Tony Monsour, Principal GIS Analyst
Matt McLees, Principal GIS Analyst
Jason Allen, Scott County Addressing Coordinator
Scott Haas, PSAP Manager
Tracy O'Day, PSAP 9-1-1 MSAG/Data Coordinator

Sherburne County
Brett Forbes, GIS Coordinator
Laura Anderson, PSAP Manager

Washington County
David Brandt, Geospatial Systems Architect
Darlene Pankonie, PSAP Manager
Erin Domine, PSAP 9-1-1 MSAG/Data Coordinator

MSP Airport
Heidi Hieserich, PSAP Manager
Lauren Petersen, PSAP 9-1-1 MSAG/Data Coordinator

City of Bloomington
Hal Busch, Information Systems Manager
Jim Scanlon, PSAP Manager

City of Eden Prairie
Dan Sletten, GIS Technician
Lisa Vik, PSAP Manager

City of Edina
Tony Martin, PSAP Manager

City of St Louis Park
Bryan Kruelle, PSAP Manager
Marv Solberg, PSAP 9-1-1 MSAG/Data Coordinator

University of Minnesota
Jeff Lessard, PSAP Manager

934th Security Forces Squadron/Fort Snelling
Robert Doyle, PSAP Manager

Allina EMS
Angie Fox, PSAP Manager

Hennepin EMS
Wendy Lynch, PSAP Manager

North Memorial Ambulance
Tama Lynn, PSAP Manager

Ridgeview Ambulance
Jeff Frederick, PSAP Manager

Minnesota Department of Transportation
Ted Krinke, MNDOT Dispatch ([Theodore.Krinke@state.mn.us)](Theodore.Krinke@state.mn.us)

Step 8: Correction of Prototype by Metropolitan Council staff after Metro Partner and stakeholder review

Matt McGuire, Metropolitan Council
Jon Hoekenga, Metropolitan Council
Geoff Maas, MetroGIS (support)

Step 9: Final stakeholder review and final approval

Jill Rohret, MESB
Marcia Broman, MESB
Geoff Maas, MetroGIS

Step 10: Formal announcement and release

Marcia Broman, MESB
Geoff Maas, MetroGIS

Part III – Additional Project Context and References

What general purpose or business need is being fulfilled by this project?

GIS-enabled staff at county and regional agencies need to be able to clearly and efficiently communicate with *non-GIS enabled staff* in 9-1-1 leadership, PSAPs, emergency response agencies, CAD support, telecom service providers, 9-1-1 service providers, and city addressing authorities on the status and correctness of the geospatial data representing the address points, centerlines and boundary features of the region.

At present, this task is challenging because many 9-1-1 personnel are not enabled with GIS software and are unaware of the nuances of the data which are produced by different agencies.

The transition from current 9-1-1 systems (which are traditionally non-geospatial and tabular data based) to NextGen9-1-1 systems (which will make use of geospatial technology and data) will require the validation of 9-1-1 caller locations against GIS datasets supplied by the county and regional authoritative sources. Making this data easily available will improve data quality assurance by facilitating data validation and troubleshooting, as well as error detection, investigation and reporting.

Because service area boundaries of PSAPs, emergency response agencies, telecommunications service providers, and 9-1-1 service providers do not necessarily align with municipal or county boundaries, there is a strong need for users to review regional data, rather than having to access separate county GIS data viewer applications. Visibility to regional datasets at one location will facilitate important cross-border issues that arise due to disparate jurisdictions or boundaries.

What does success 'look like' for this project?

- Timely deployment and maintenance of the proposed 9-1-1 Data Viewer being available with minimal or no downtime;
- User experience and content aligning with user and stakeholder community needs and expectations;
- 9-1-1 Data Viewer in use by the target stakeholders as a reliable tool to conduct their work;
- The most current regional data loaded into a readily-available, mobile-enabled (*full definition needs clarification*), easy-to-use viewer application which features a user-friendly format;
- Clearly articulated long-term roles for maintenance and upkeep of the application.

Funding

This project needs no start-up funding as of this writing. Resources to develop and advance this project are 'in-kind' provided by the of participating stakeholder agency staff time. Should funding be needed later in the project, appropriate agency budget or grant funding can be pursued as needed.

Known Contingencies

The following are unknown factors that will need to be addressed before the project can be completely deployed. None of the contingencies are 'fatal'; in that they do not hold back the project from being advanced and taking place:

>> Parcel data from Sherburne, Isanti and Chisago counties not readily available in the statewide Parcel Data Transfer Standard as it is for the Seven Metropolitan Counties

>> Status of completeness of Sherburne County's address point and road centerline data is not yet known;

>> No complete list of stakeholder contacts who need to review the Data Viewer remains in development

>> Standardized park and trail data for Sherburne, Isanti and Chisago County is not yet available;