

## MnGeo Priority Projects and Initiatives

December 2, 2015

While there are many worthwhile geospatial projects and endeavors, MnGeo is focusing its efforts and its limited resources on a few projects in order to make meaningful progress. All of these projects are in collaboration with other organizations and are either underway or anticipated to be initiated in the coming months. In alphabetic order, MnGeo's priority projects are:

### **Drainage Record Modernization**

Project Goal: Produce a GIS database template and accompanying data standards for Minnesota's public drainage system records. The database template will be available to interested parties statewide and its use will be required for drainage authorities to receive competitive drainage records modernization cost-share, when available. In addition, the Board of Water and Soil Resources (BWSR) publication, *Drainage Records Modernization Guidelines* will be updated to reflect the creation of the GIS template and standards.

Project Status: In September, the Project Advisory Committee met to discuss results of the focus group meetings and questionnaire. The contractor, Houston Engineering, Inc., is incorporating this feedback into its outline of the template due by the end of December.

Anticipated Completion and Milestones:

<b>Project Milestone</b>	<b>Target Completion Date</b>
Project Start	10/1/2014
Specify template objectives & requirements	1/31/2015
Outline of template and metadata prepared by contractor	12/31/2015
Update <i>Drainage Records Modernization Guidelines</i> publication	5/31/2016
Disseminate information about the GIS database template and guidelines	5/31/2016
Project Complete	6/30/2016

Project Funding: \$230,000

Project Issues, Concerns and Risks: Because of the late start of the project it is behind by a couple months. However, there was some flexibility in the schedule so that it should still finish by the funding deadline of 6/30/2016.

Project Contacts: Greg Fetter (BWSR, Executive Sponsor), Tim Gillette (BWSR, Business Champion), Jim Krumrie (MnGeo, Project Manager), Brian Fischer (Houston Engineering Inc., Contractor), Al Kean (BWSR, State Consultant)

### **Geospatial Commons**

Operations: The long-range objective of the Commons is to be the best source for the widest variety of geospatial data, services, information, ideas and news in Minnesota. Now fully operational, it allows users to find, view and download data; publish metadata and data; and find and use web services and applications. Operations are headed by MnGeo's Mike Dolbow, who continues to work with a team of MN.IT staff from Agriculture, DNR, MnGeo, and MPCA.

Status: Since September, the operations team has brainstormed a number of operational improvements to work on. MnGeo may fund some of these improvements via a small project. In the meantime, MnGeo is pursuing outreach opportunities and metadata training, both intended to increase the number of publishers participating in the Commons.

The operations team recently resolved a small issue around contact tags in metadata generated with ArcCatalog, which removes one barrier for publishers using that method. Over 80 resources have been published since our last report. As of November 20, the count of published resources accessible through the Commons totals 496:

Organization	Published Resources
Metropolitan Council	137
Natural Resources Department	129
Geospatial Information Office	70
Dakota County	41
Agriculture Department	27
Minnesota Geological Survey	26
Pollution Control Agency	18
MetroGIS	17
Transportation Department	11
Health Department	5
Board of Water and Soil Resources (BWSR)	4
Education Department	3
Lake County	3
University of Minnesota, Twin Cities	3
Revenue Department	2
Total	496

**Funding:** Agencies currently provide funding for the operations of the MN Geospatial Commons. Currently there are no dedicated funds for enhancements to the site, although a small amount of project funding may be provided this biennium for a series of small improvements. MnGeo is providing a quarter time Operations Manager, technical and administrative support. Staff members from several State agencies (most notably: DNR, Agriculture and MPCA) have committed to assisting with operational support. Other resources are expected to be made available by MN.IT Services as needed.

**Issues, Concerns and Risks:** Several issues that will likely require future input from leadership and advisory Councils/Committees have arisen, including a precise definition of *how* those decisions are made, and *when* leadership input is required. These issues include, but are not limited to:

- Scope of allowable data formats (such as CAD data)
- Stewards for federal agency datasets (customized for MN) and datasets that do not have an “obvious” steward
- Large data set replications to multiple GDRS nodes
  - Related: do we continue to store/serve/host “purely local” data, or do we aggregate first?

**Contacts:** Dan Ross (Executive Sponsor), Mike Dolbow (Operations Manager)

**Master Services Contract for Aerial Imagery**

**Project Goal:** To provide a list of experienced pre-approved vendors from which State Agencies and Cooperative Purchasing Venture (CPV) member organizations can contract for medium-to-high resolution orthoimagery and planimetric mapping services in a streamlined process through individual custom work orders.

Project Status: A Request for Proposals (RFP) was issued on October 8 and closed October 29. Twelve proposals were received. Evaluation of those proposals is currently underway.

Anticipated Completion and Milestones: Awardees will be announced in mid-December. The first work order, for spring 2016 leaf-off Metro-wide orthoimagery, is anticipated to be issued by the end of calendar year 2015. The Master Contract will be in effect for five years (2016 through 2020 flying seasons).

Project Funding: TBD

Project Issues, Concerns and Risks: Coordinating the contract efforts, while simultaneously informing potential beneficiaries of this project, requires more resources than the project currently has available.

Project Contacts: Chris Cialek (MN.IT Services), Dan Ross (MnGeo)

## **Next Generation 9-1-1**

Project Goal: NG9-1-1 implementation will depend on current and accurate GIS data. Geospatial data will be used for location validation, call routing and emergency response. With the Minnesota Department of Public Safety serving as the lead state agency for NG9-1-1, MnGeo will identify, inventory and collaborate with the public-safety answering points (PSAPs) and 9-1-1 entities to obtain, develop and distribute core geospatial data required to support the program. To succeed, this effort will require several critical, statewide data sets:

- Street centerlines, with address ranges (described below)
- Address points (described below)
- PSAP boundary polygon(s)
- Emergency response – law enforcement, fire and EMS boundary polygon(s)
- Authoritative boundary polygon(s) – GIS data authority for a given area

All GIS data will need to be validated with legacy E9-1-1 data.

Project Status:

- The first issue of the NG9-1-1 GIS project newsletter was distributed in November to all project stakeholders. The newsletter is also available on the ECN website: <https://dps.mn.gov/divisions/ecn/programs/911/Pages/gis-information.aspx>
- MnGeo is collecting PSAP and Emergency Service boundary data from every county and PSAP in Minnesota on behalf of the FirstNet project. The data are being inventoried and aggregated into a single “Public Safety Entities” map layer that will be used by FirstNet to display and query their User Population data.
- MnGeo is also collecting all required NG9-1-1 GIS datasets from counties in the Metro and Northeast regions to begin assessing their data for use in NG9-1-1. The Metro and NE are considered to be pilot regions for developing the necessary data assessment and preparation plans.
- Development is underway for the MN NG9-1-1 GIS Standards, which will serve as a guide for preparing and maintaining GIS data for NG9-1-1 in Minnesota. The Standards Workgroup has been meeting weekly since the beginning of September. The Standards WG has been tasked with recommending and developing standards needed to integrate locally collected and maintained GIS data into statewide layers deemed critical for the Emergency Call Routing Function (ECRF) and Location Validation Function (LVF) of NG9-1-1.
- Finally, the repeatable NG9-1-1 GIS data workflow is currently being planned and designed. This workflow includes accepting GIS data uploads from local GIS sources, standardizing and aggregating the local datasets into the statewide NG9-1-1 schemas, running QA, creating and distributing error reports, and provisioning the ECRF and LVF.

Anticipated Completion and Milestones: Although an official completion date has yet to be established, it is anticipated that geospatial data will need to be ready for NG9-1-1 deployment in 2018. Below is a list of current project tasks with estimated completion dates.

- **Outreach to PSAPs and GIS Sources** – ongoing
- **Project Scope and FY15 Work Plan** – completed March 2015
- **Regional Kickoff Meetings** – completed early June 2015
- **FY16 Work Plan** – completed late June 2015
- **PSAP Request for Information and Summary Report** – completed late August 2015
- **MN NG9-1-1 GIS Standards** – complete by early 2016
- **Metro and NE Region GIS Data Assessment** – complete by July 2017
- **Develop SIF/ELT** (Spatial Information Function/Extract Load Transform) – complete by July 2017

Project Funding: TBD

Project Issues, Concerns and Risks: Issues, concerns and risks will be identified during the first phase of the project.

Project Contacts: Dan Ross (Executive Sponsor), Adam Iten (Project Manager), John Hoshal (GIS Project Lead)

**Parcels, Street Centerline and Address Point Collection**

Project Goal: To collect, standardize and aggregate county parcel, street centerline and address point data into statewide datasets for use by NG9-1-1 as well as for other state agency purposes. MnGeo asks for parcel, centerline and address point data in a single request to counties.

Project Status:

**Parcels**

The [parcels project](#) has been underway for several years. While significant progress has been made (e.g., survey of all 87 counties, development of a Parcel Business Plan, generation of a proposed parcel attribute data exchange standard) there is much work yet to complete. MnGeo is well underway collecting data from local partners and has collected parcels for 42 counties to date.

MnGeo continues to work with the MN Department of Revenue to determine how the Parcels Project complements Revenue’s [PRISM \(Property Record Information System of Minnesota\) Project](#); however, based on timing and the need to move forward, the Parcels and Land Records Committee has recommended proceeding with an updated version of the [DCDATS proposed standard](#) in the interim.

Anticipated Completion and Milestones:

<b>Milestones</b>	<b>Anticipated Due Date</b>
Collect all available data	April 2016
Standardize the three layers	June 2016
Aggregate the three layers into single statewide datasets	August 2016

While we do not expect to be able to obtain complete statewide coverage, we do anticipate we will be able to obtain and aggregate many counties. It is hoped that complete statewide parcel, centerline and address point data layers will be available in 2 years.

Project Funding: There are no dedicated funds for this project.

Project Issues, Concerns, and Risks: Project success is dependent on counties developing and sharing both spatial and attribute data. Issues include: some counties may be reluctant to share their data, data content and quality can vary between counties (and in some cases within counties), no established standard for parcel, address or centerline data in MN, and time/personnel needed to complete collection, standardization and aggregation processes. Currently MnGeo is running into many of the above issues.  
Project Contact: Dan Ross (Executive Sponsor)

### **Street Centerlines**

Project Goal: Create an authoritative, multi-purpose, public-domain centerline spatial dataset representing the entire state of Minnesota that can be relied upon to accurately represent (to the best extent possible) the actual roadway assets of the state. This data layer is to be collaboratively built and maintained to reduce cost, eliminate redundant efforts, facilitate better data capture, provide inter-agency reporting and address a variety of needs from roadway data consumers.

Project Status: The MnDOT tools were recently put into production internally. MnGeo is working with MnDOT to define data workflows that provide data updates from both non-state road authorities and state agencies. The project team is currently working on implementing a database model within MnGeo that will meet the needs of non-state participants. The team has agreed to use the data model created from the Metro Regional Centerline Collaborative as the base model. Some event attributes have been added to support MnDOT needs. MnDOT has brought a vendor on board to assist with defining and documenting data workflows and business rules that will be needed to obtain and accept data from the authoritative source.

Anticipated Completion and Milestones: The goal is to have the data model set up within the MnGeo instance of the tools by February. Anticipated dates for a pilot will depend on getting the new data model into the tools that have been delivered.

Project Funding: MnGeo and MnDOT are providing part-time staff; MnDOT has a very small amount of funding available.

Project Issues, Concerns and Risks: The project is heavily dependent on tools being provided for the MnDOT LRS project. Project resources are limited due to competing priorities and will affect the timing of the project. The project scope needs to be well defined. Concrete goals and objectives are developed; more specific dates must be determined.

Project Contacts: Peter Morey (MnDOT); Dan Ross (MnGeo)

**Address Point Collection** – will be completed as part of the Next Generation 9-1-1 effort.