

## MnGeo Priority Projects and Initiatives

March 2, 2016

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: An amendment to the original LCCMR work plan was approved in January, 2016 that adds additional tasks and extends the project timeline until the end of December, 2016.

The contractor, Houston Engineering, Inc., has created a draft/prototype geodatabase template and outline of the updated guidelines document. Both are currently under review by the Project Team and will be discussed at the next PAC (Project Advisory Committee) meeting on March 10<sup>th</sup>.

Anticipated Completion and Milestones:

<b>Project Milestone</b>	<b>Target Completion Date</b>
Project Start	10/1/2014
Specify template objectives & requirements	1/29/2016
Outline of template and metadata prepared by contractor	9/30/2015
Update <i>Drainage Records Modernization Guidelines</i> publication	6/30/2016
Disseminate information about the GIS database template and guidelines	12/30/2016
Project Complete	12/30/2016

Project Funding: \$230,000

Project Issues, Concerns and Risks: One of the additional tasks added to the amended LCCMR work plan entails training at least two drainage authorities to use the geodatabase template and to upload their data to the Geospatial Commons. Two drainage authorities willing to share their data via the Geospatial Commons may not be found.

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 and supported by MN.IT staff who serve Agriculture, DNR, MnGeo, and MPCA.

Status:

MnGeo and the support team are moving to implement operational improvements that:

1. Stabilize the system’s ability to respond to increased demand
2. Add capacity for new publishers and resources
3. Reduce excessive or unwanted duplication and replication to agency file servers (“GDRS nodes”)
4. Diversify available methods for publishers to provide resources

These improvements will take place over the next year and a half, and are slated behind other projects in terms of timing and priority. During that time, the team continues to focus on governance issues and adding content from new and existing publishers.

Over 20 resources have been published since our last report, and one new publisher (MVTA). As of February 22, the count of published resources accessible through the Commons totals 520:

<b>Organization</b>	<b>Resource Count</b>
Metropolitan Council	141
Natural Resources Department	139
Geospatial Information Office	74
Dakota County	45
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
University of Minnesota, Twin Cities	4
Education Department	3
Lake County	3
Revenue Department	2
Minnesota Valley Transit Authority	1

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?

Contact: Mike Dolbow (Operations Manager)

### **Master 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: Evaluations of the twelve Master Contract proposals received in response to October’s RFP were completed in December. Nine vendors were ultimately selected. Master contracts were executed with each by January 15, 2016. Vendors selected include:

- |                                       |                            |
|---------------------------------------|----------------------------|
| • Aerial Services, Inc. (ASI)         | Cedar Falls, Iowa          |
| • Ayres Associates                    | Madison, Wisconsin         |
| • Continental Mapping Consultants     | Sun Prairie, Wisconsin     |
| • Geophex Surveys                     | Raleigh, North Carolina    |
| • GRW                                 | Lexington, Kentucky        |
| • Mapping Resources Group, Inc. (MRG) | Zimmerman, Minnesota       |
| • Quantum Spatial                     | Lexington, Kentucky        |
| • Sanborn                             | Colorado Springs, Colorado |
| • Surdex Corporation                  | Chesterfield, Missouri     |

The Metropolitan Council issued the first Work Order Solicitation associated with the Aerial Imagery Master Contract on January 20, 2016. Nine responses were evaluated and the winning vendor was selected in mid-February to acquire Metro-wide 4-band, 30-cm imagery this spring. Four Metro counties are currently negotiating to buy-up to 15-cm (6-inch) imagery in conjunction with this Work Order.

Cialek presented on the status of this Master Contract to the Southeast Minnesota GIS Users Group (SEMNUG) in Rochester on February 25, 2016.

Anticipated Completion and Milestones: This master contract is in force for two years, with an option to extend those contracts for three additional years. Any number of specific Work Orders are permitted during that time.

Project Funding: No dedicated funding has been identified for this master contract. Each organization creating specific Work Orders is expected to fund its own individual projects.

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 second issue of the NG9-1-1 GIS project newsletter was distributed in February 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 and assessing all required NG9-1-1 GIS datasets from counties in the Metro and Northeast regions 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. The assessment findings are being compiled into Data Readiness Assessments for each County/PSAP, which will be shared back with each County/PSAP upon completion.
- 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 2015. 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. An extract of the DRAFT MN NG9-1-1 GIS Data Standards is currently being reviewed by the Metro GIS stakeholders. The extract will be distributed to all Minnesota GIS stakeholders for review and comment later in March.
- 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 and then standardizing, validating, and aggregating the local datasets into the statewide NG9-1-1 datasets. Other workflow tasks include generating and distributing condition/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 and approve by late 2016
- **GIS Data Assessment and Data Readiness Profiles** – complete by late 2016

- **Develop SIF/ELT** (Spatial Information Function/Extract Load Transform) – complete by late 2016

Project Funding: \$700K per year for 3 years

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 47 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	June 2016
Standardize the three layers	August 2016
Aggregate the three layers into single statewide datasets	September 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 LRS 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 NG9-1-1 that can be shared with non-state participants. The team has agreed to use the data model created from the Next Generation 9-1-1 effort for centerlines which is based on the Metro Region Centerline Collaborative work. MnGeo will be responsible for bringing data together from MnDOT, other state and non-state road authorities.

Anticipated Completion and Milestones: The goal is to have the first draft of the standard and data model set up within the MnGeo instance of the tools by April. MnGeo is working on a data flow and repository to support moving data from non-state road authority data into the shared centerline (NG9-1-1) repository.

Project Funding: DPS and MnGeo are covering staff time and infrastructure to build out the repository, data model, and work flow as the data and system will be used for NG9-1-1.

Project Issues, Concerns and Risks: The project is heavily dependent on requirements, tools and standards being provided for the NG9-1-1 project. The project scope needs to be well defined. Concrete goals and objectives are developed; more specific dates must be determined.

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

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

Project Goal: Create an authoritative, multi-purpose, public-domain address point dataset representing the entire state of Minnesota that can be relied upon to accurately represent (to the best extent possible) the actual location of addresses in Minnesota. 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 address data consumers.

Project Status: MnGeo is working with PSAP (Public Safety Answering Points) and local authorities to define data standards that will be used to build out a standard statewide data set.

Anticipated Completion and Milestones: The goal is to have the first draft of the standard and data model available for review by stakeholders by April. MnGeo is working on a data flow and repository to support moving data from partners into the NG9-1-1 repository.

Project Funding: DPS and MnGeo are covering staff time and infrastructure to build out the repository, data model, and work flow as the data and system will be used for NG9-1-1.

Project Issues, Concerns and Risks: The project is heavily dependent on requirements, tools and standards being provided for the NG9-1-1 project. The project scope needs to be well defined. Concrete goals and objectives are developed; more specific dates must be determined.

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