Minnesota Geospatial Advisory Council Meeting

September 29, 2021

Webex. See meeting invite for details.

Contact gisinfo.mngeo@state.mn.us to request a Webex meeting invitation

10:00 – 12:00.

Agenda

1.	Call to Order (Acting Chair) a. Introductions b. Approval of Agenda c. Approval of Meeting Minutes from May 26	10:00	10 min
2.	Review and Accept Committee Summaries (All)	10:10	5 min
3.	GAC overview and welcome to new members (Ross, Richter)	10:15	10 min
4.	Standards Committee – Bikeway Standard approval (Carlson, Kotz)	10:25	5 min
5.	PLSS legislation support letter (Veraguth, Mavis)	10:30	10 min
6.	Underground Utilities Mapping Project (Swazee, Cederberg)	10:40	10 min
7.	Lidar Update (Sjerven, Vaughn)	10:50	10 min
8.	Break	11:00	5 min
9.	Commons Data Discovery (Ross)	11:05	5 min
10.	Raster Data Discovery (Ross)	11:10	5 min
11.	DNR Public Lands (Watson, Zieman)	11:15	15 min
12.	Legislative Updates (Ross)	11:30	5 min
13.	Updates on MN GAC Priority Projects and Initiatives (Richter)	11:35	15 min
14.	Announcements or Other Business (All)	11:50	10 min
15.	Adjourn	12:00	

GAC Members (return to agenda)

- 1 City, Twin Cities metro
  - Cory Richter, City of Blaine
- 1 City, Greater Minnesota
  - Shawn Strong, City of Brainerd
- 1 County, Twin Cities metro
  - Victoria Reinhardt, Ramsey County
- 1 County, Greater Minnesota
  - Patrick Veraguth, Douglas County
- 1 Regional government, Twin Cities metro
  - Matt McGuire, Met Council
- 1 Regional government, Greater Minnesota
  - vacant
- 2 State agency representatives
  - Kari Geurts, DNR
  - Ben Timerson, MnDOT
- 2 Federal government
  - Jeff Bloomquist, Risk Management Agency
  - vacant
- 1 Tribal government
  - Ryan Bonney, Shakopee Mdewakanton Sioux Community
- 1 Non-profit organizations
  - Karen Tuerk, Monarch Joint Venture
- 2 Business
  - Kendis Scharenbroich, Pro-West & Associates
  - Gerry Sjerven, Minnesota Power
- 1 K-12 education
  - vacant
- 2 Higher Education
  - Len Kne, U-Spatial / UMN Twin Cities
  - Stacey Stark, U-Spatial / UMD
- 1 MetroGIS
  - David Brandt, Washington County
- 1 MN GIS/LIS Consortium
  - Leanne Knott, City of Red Wing
- 1 Surveyor
  - Chris Mavis, Hennepin County
- 3 At-large
  - Alex Steele, Minnehaha Creek Watershed District
  - Heather Bergen-Albrecht, Hennepin County
  - Britta Maddox, Anoka County
- 1 Chief Geospatial Information Officer (ex-officio)
  - Dan Ross, MnGeo

Agenda Item 2. Review and Approval of Committee & Workgroup Summaries

(return to agenda)

3D Geomatics Committee Status Report

Report Date:

September 21, 2021

Chair and Vice Chair:

Sean Vaughn, Co-Chair
Minnesota IT Services@DNR
763-689-7100 x226
sean.vaughn@state.mn.us

Gerry Sjerven, Co-Chair
Minnesota Power
218-355-3990
gsjerven@mnpower.com

Link to Committee Charter:

The 3DGeomatics Charter
(http://www.mngeo.state.mn.us/committee/3dgeo/3dgeo_committee_charter.pdf)

Executive Steering Team

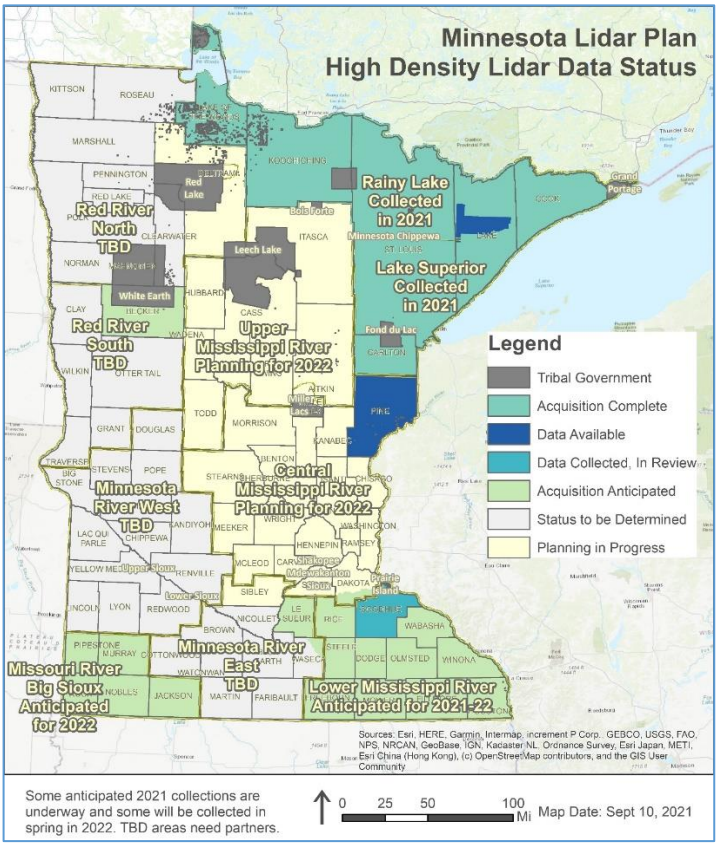
Meetings: 01/19/2021, 02/16/2021, 04/20/2021, 06/15/2021, 08/17/2021, 09/21/2021

- Continued to meet semi-monthly
- Continued to work with Workgroups on progress and updating each group's website presence.

Data Acquisition Workgroup

Administration

- Meets weekly to manage lidar data outreach and acquisition in support of the Minnesota Lidar Plan (please see map below)



- Representatives attended monthly 3DGeo Steering Team meetings
- The creation and publication of the HUB site is near
- Acquisition group plans to present a Lidar panel at the MN GIS/LIS Virtual Conference on October 28, 2021.

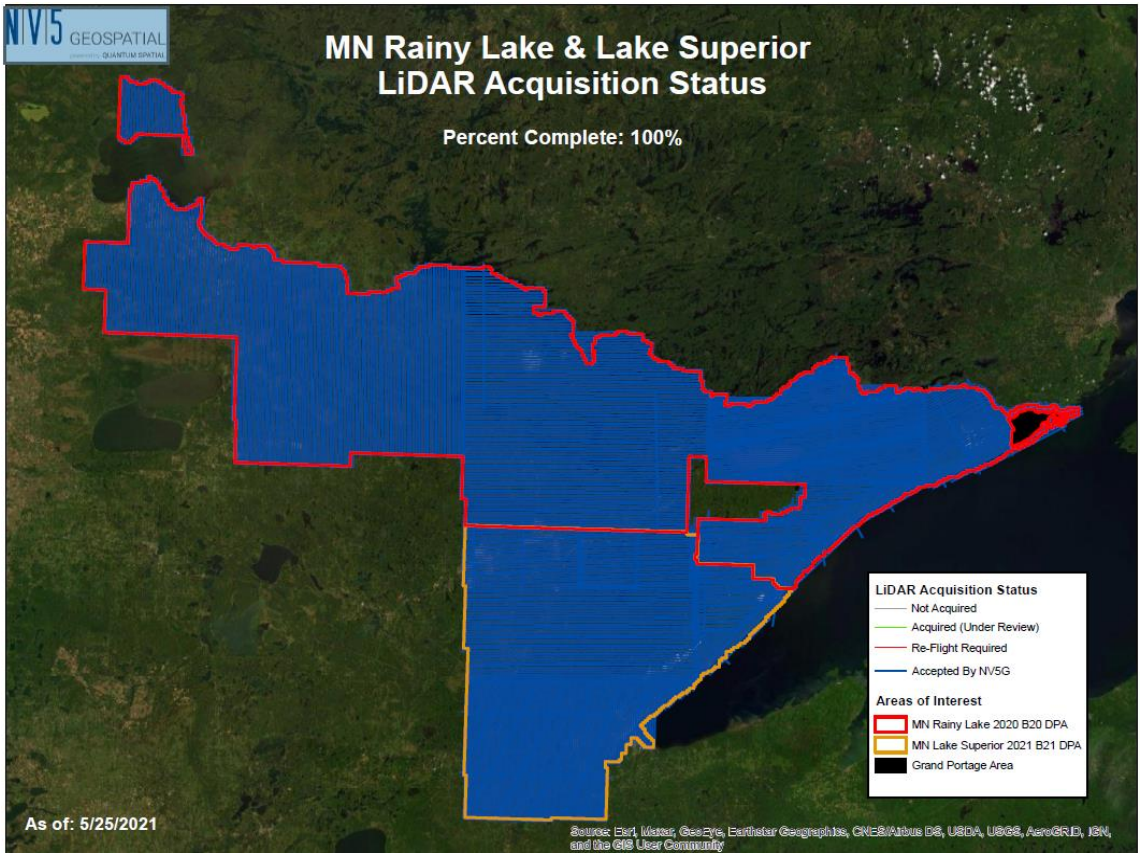
Outreach

- Continued with significant Lidar acquisition outreach, meetings, emails and communications with stakeholder and partners from State agencies, Counties, Non-Profits, private companies, and other partners.
    - Central Mississippi River LAA on May 20th
    - Minnesota River East and West LAA on May 25th
- Hosted an online MN Lidar Plan Overview webinar as an introduction to the plan.

USGS 3DEP Grant Related Activities

- USGS BAA grant proposals for both the Central and Upper Mississippi River LABs are planned. These applications are due on October 8. As of 9/24/2021, over 24 partners have committed to being partners on the grant application.

Lidar Acquisition

- Missouri River Big Sioux planned for Spring 2022
- Lower Mississippi River (SE), partially collected in Spring 2021, the rest in Spring 2022
- Becker County Planned for Spring 2022 through interagency agreement with FEMA
- Acquisition for the Rainy Lake and Lake Superior Block was completed. (please see image below)
- 

Infrastructure Workgroup

- Workgroup continues to support the Acquisition Workgroup
- Representatives attended monthly 3DGeo Steering Team meetings
- Established a Cultural Resources subgroup

Vegetation Workgroup

- Workgroup continues to support the Acquisition Workgroup
- Workgroup meets every other month with short guest presentation, including the use of 3D data for assessing habitat, and the use of topo-bathy lidar for additional applications other than hydrography
- Representatives attended monthly 3DGeo Steering Team meetings
- Established a workgroup web page and SharePoint site

Hydrogeomorphology Workgroup

Prepared by: Andrea Bergman, Jamie Schulz, Rick Moore, Sean Vaughn
Workgroup meetings: 3/9/2021, 4/13/2021, 5/11/2021, 6/8/2021, 8/10/2021

- March workshop meeting focused on outreach documents, lidar updates
- April and May meetings focused on presentation series on lidar background and lidar-derived hydrography, this continued into June and August meetings
- Foundational Hydrography Data Stewards held quarterly meeting 4/26/2021, 7/26/2021
- DEM Hydro-modification Subgroup continues to meet monthly

Progress on work plan:

- Updated and posted 2-page fact sheet
- Created 1-page document on workgroup success and future plans
- Maintained workgroup SharePoint site, and worked with MnGeo to maintain the workgroup web page
- Presentation series on lidar-derived hydrography that will be key to developing needs statement to guide lidar-derived hydrography products
- Foundational data stewards have begun validating attributes in preparations for conflation to new lidar-derived hydro datasets
- DEM Hydro-modification subgroup
    - Focused discussion on definition of Completeness, Confidence, and Scale as it relates to placement of Breachlines during DEM Hydro-modification.
    - Continued improvements to web app
    - Presentation from Michigan Tech Research Institute on hydro-modification to determine wetland connectivity

Education Workgroup

- Workgroup continues to support the Acquisition Workgroup
- Representatives attended monthly 3DGeo Steering Team meetings
- The 3D Geo Education Workgroup met 7/6/21 after a 3 month hiatus following the LCCMR submission deadline. The group did not produce a proposal for consideration of Lidar education funding due to a number of factors regarding Covid-19 funding needs for LCCMR. It has been difficult to garner support for such a project at the state and University levels.
- For that reason, the group is exploring a fee-based model for Lidar education training and what that would look like for the state of Minnesota.

Archiving Pilot Workgroup

Report date:

September 17, 2021

Prepared by:

Ryan Mattke, Workgroup Chair, matt0089@umn.edu
Karen Majewicz, Workgroup Vice-Chair, majew030@umn.edu

Meetings:

The workgroup began meeting in June 2021.

Meeting minutes will be available here: http://www.mngeo.state.mn.us/workgroup/archiving/

Progress on work plan:

- Planned activities at the GIS/LIS Conference (October 2021)
  - Lightning Talk: **Archiving Geospatial Data in Minnesota: Recommendations and Future Directions**
  - Poster: **The Future of Historical Data in Minnesota**
  - Panel Discussion: **What is geospatial data archiving and why is it important for Minnesota?**
- Evaluate and test potential archive technologies
  - Tested metadata capabilities in QGIS
  - Developing a metadata crosswalk (extracting discovery elements from MGMG)
  - Researched the DSpace platform for digital repositories
- Create a proof of concept with pilot data sets in a repository
  - Installed an instance of DSpace on the University of Minnesota servers
  - Experimenting with hierarchical organizational structures
- Engage with data creators at various levels of government, academic institutions, and relevant stakeholders
  - Solicited archiving stories from three survey respondents
  - Developing the stories to post on MnGeo website as examples of the benefits of archiving

Additional comments:

-

Awards Committee

Report date:

September 9, 2021

Prepared by:

Len Kne and Phil Nagel (committee co-chairs)
lenkne@umn.edu and Phil.Nagel@bolton-menk.com

Meetings:

July 16, 2021
August 10, 2021

Progress on work plan:

1. The committee met on July 16 to provide MSGIC award recommendations to Dan Ross for his consideration.
2. The committee met on August 10 to consider one application for the Governor's Commendation.
3. Continue to work on content for new Hub site to encourage more applications to the Governor's Commendation.

Additional comments:

Next meeting TBD

Emergency Preparedness Committee

Report date: September 23, 2021

Prepared by:

- Chair: Stephen Swazee, Executive Director, SharedGeo, chair@mgacepc.org, 651-456-5411
- Vice Chair: Randy Knippel, GIS Manager, Dakota County, vchair@mgacepc.org, 952-891-7080

Full Committee/Leadership Team

Meetings:

- Full committee: June 17, 2nd CY quarterly meeting, online
- Leadership Team: None this quarter

Progress on work plan:

- Conduct at least three meetings of the full committee during 2021
  - March 10 and June 17 to date; October 7th next
- Conduct at least four meetings of the leadership team (Chair, Co-chair, and Project Team chairs)
  - January 20, April 14, June 8, next TBD
- Continue efforts to cleanup committee's online presence and bring efficiency to its IT infrastructure
  - Ongoing
- Randy Knippel to serve as EPC liaison to the Metropolitan Emergency Managers Association (MEMA) by attending that association's monthly meetings
  - Ongoing as defined above

Additional comments:

- MGACEPC YouTube channel showing past meetings and presentations, as well as those of EPC Project Teams (https://www.youtube.com/channel/UC3hwp5_9t3BkiTt-hyALArg) has had over 1,200 views so far this CY.
- The June EPC meeting included a presentation by One Concern featuring former FEMA Administrator Craig Fugate. Video of this presentation can be found on the EPC YouTube channel.
- Significant drop off in committee activities as the result of the distraction that is summer and personal circumstances which required Chair Swazee to be out of Minnesota for the past four months.

Critical Infrastructure Assessment (CIA) Project Team – *GAC PRIORITY*

Stacey Stark, Associate Director, U Spatial, slstark@d.umn.edu, 218-726-7438

Meetings: 6/11/21, 7/16/21, 8/20/21

Progress on work plan:

- Conduct at least three meetings of the Project Team during 2021
  - Committee Meetings 3/16/21, 4/9/21, 5/21/21, 6/11/21, 7/16/21, 8/20/21.
- Develop updated data model (prioritizing fire and police) based on the previous standards identified in Minnesota Structures Collaborative project
  - Initial meeting with Esri and HSEM 6/9/21

- Maintain Esri online app for counties to validate their data (counties U-Spatial has other projects with, as a prototype for workflow).
    - Complete here: z.umn.edu/MNCI, some improvements were made
    - Script developed to use agency naming conventions
    - Script developed to use both a "dept" and a "station" field - parsing value from one field if necessary
    - 17 counties from the U-Spatial Hazard Mitigation Planning contract plus St Louis County and Clay counties have been confirmed.
- Publish comprehensive statewide dataset of fire and police to the Minnesota Geospatial Commons
    - Fire dataset complete - ready to begin clean-up and metadata for publishing.
- Present on this project at the Association of MN Emergency Managers in September 2021
    - Scheduled

Additional comments:

- None.

Geospatial Assistance (GA) Project Team (Forming)
Brian Huberty, SharedGeo, bhuberty@sharedgeo.org, 651-706-6426

Meetings: February 10

Progress on work plan:

- Conduct at least three meetings of the Project Team during 2021
- One meeting to date – next meeting TBD
- Complete charter and work plan and receive approval from the EPC Leadership Team
    - No progress
- Develop first draft of procedures to help emergency managers understand steps for requesting aerial imagery and/or GIS support from federal, state and private assets
    - No progress

Additional comments:

- This Project Team will work to formalize procedures by which emergency managers can request aerial imagery and/or GIS support. Items developed for flooding in the Red River Valley in 2009 coming forward will be used as the starting point.

Situational Awareness Sharing Initiative (SASI) Project Team (Forming)
Nicole Helgeson, SharedGeo, (651) 285-5015

Meetings: No meetings

Progress on work plan:

- Conduct at least three meetings of the Project Team during 2021
    - No progress
- Complete rework of previous SASI charter and work plan and receive approval from the EPC Leadership Team
    - No progress
- Assume responsibility for continued development and maintenance of the Minnesota Situational Awareness Viewer (MNSAV – see: https://www.mnsav.org)

- No progress
- Begin close coordination with the Critical Infrastructure Assessment Project Team to plan for eventual hosting of that Project Team's data efforts on MNSAV.
  - No progress

Underground Utilities Mapping (UUM) Project Team – *GAC PRIORITY*

Barbara Cederberg, CEO, Gopher State One Call (GSOC), barbara.cederberg@gopherstateonecall.org, 651-681-7303
Stephen Swazee, MGAC EPC, Chair, chair@mgacepc.org, 651-456-5411

Meetings:

- January 20: Leadership team
- January 26: Large group
- February 19: Leadership team
- February 25: Large group
- March 18: Leadership team
- March 25: Large group
- April 23: Leadership team
- April 29: Large group
- May 21: Leadership team
- May 27: Large group

Progress on work plan:

- Conduct at least eight monthly meetings of the Project Team during 2021
  - Five meetings to date, September 30th next
  - Numerous CGA conference team meetings to plan presentation
- Complete at least one "low hanging fruit" action item by each of the Project Team's four sub-groups
  - In working closely with One Call Concepts, Project Team has created prototype user interface for Gopher State One Call which displays a fusion map of underground utilities
  - Work commencing on prototype data management system
- Deliver at least one presentation about overall team efforts at an established community appropriate conference (or webinar)
  - Project Team will be presenting at 2021 Common Ground Alliance Conference & Expo, October 13, 2021, Orlando, Florida
  - Damon Nelton to present at MN GIS/LIS in late October
- Publish at least one article about the Project Team in a publication of importance to the industry
  - Damage Prevention-Pro article and MN Government e-bulletin: https://dp-pro.com/minnesota-underground-utilities-mapping-project-team/ has opened discussion with contractors association in Pennsylvania

Additional comments:

- Commissioner Reinhardt, member of the Minnesota Clean Water Council's Policy Committee led efforts to pass a policy statement supporting the efforts of the UUMPT. Policy statement is planned to go before the entire council for vote on October 18.
- Project Team continues to receive briefs and documents from organizations around the world to determine steps other entities have taken to address the various problems due to the lack of geospatial awareness about underground infrastructure. Next event will be by 4M Analytics, an Israeli firm, who is using remote sensing to determine location of buried infrastructure.

U.S. National Grid (USNG) Project Team – *GAC PRIORITY*

Randy Knippel, GIS Manager, Dakota County, Randy.Knippel@co.dakota.mn.us, 952-891-7080

Meetings:

- January 27: National event - USNG Implementation Working Group online meeting
- April 28: National event - USNG Implementation Working Group online meeting

Progress on work plan:

- Conduct at least quarterly meetings of the USNG Implementation Working Group during 2021
  - Two to date, next TBD
- Develop documentation for production of 10K maps
  - In progress
- Refine, update, and publish Minnesota statewide 1K maps
  - Techniques developed for production of 10K maps will be used in this project
- Work with SharedGeo to complete a new USNG mapbook publishing application on USNG Center (www.usngcenter.org)
  - Prototype continues in testing and refinement
- Develop an introductory USNG video
  - Several EPC produced presentations now available on the MGAC EPC YouTube channel.
  - Training plan for standardized presentations currently in development
- Conduct workshops and presentations where appropriate
  - Three online training sessions provided this CY to date.

Additional comments:

- Working closely with Cobb County, Georgia, EPC collaborative partner SharedGeo has developed a USNG ELM for marine shore locations and buoys.
- Efforts to install ELMs are underway in Bayfield, Dane and Sawyer counties of Wisconsin.

Image Service Sustainability

Report date:

Prepared by:

Meetings:

Progress on work plan:

Additional comments:

Outreach Committee

Report date:

Prepared by:

Meetings:

Progress on work plan:

Additional comments:

Parcels and Land Records Committee

Report date:

09/23/2021

Prepared by:

Preston Dowell, 218-742-9824, dowellp@stlouiscountymn.gov

Meetings:

Whole PLRC - August 26, 2021, September 21, 2021
Boundary Alignment subcommittee - July 12, 2021, September 14, 2021
Open Data subcommittee - June 7, 2021, August 24, 2021, September 28, 2021
Remonumentation subcommittee – 4-21, 5-11, 6-11, 7-15, 8-16, 9-14, 9-20, 9-27

Progress on work plan:

The work of the PLRC is primarily done in the subcommittees.

Boundary Alignment Subcommittee

The boundary alignment subcommittee has made progress on multiple fronts. All activities support GAC Priority 3 "Updated and aligned boundary data from authoritative sources"

1) Definition of Boundary Alignment:

The subcommittee met and adopted a definition of what boundary alignment means. This was necessary since "boundary" can mean different things to different stakeholders. The adopted definition is as follows:

> "Boundary alignment" is the spatial alignment of boundary features (lines or polygons) that are intended to come together along a shared location, avoiding gaps and overlaps between features.
>
> For the purposes of this Committee, the term "boundary" refers to the encompassing area of an entity across a geographic landscape, or a line that delineates the edges of such an area. Boundaries may denote areas of land ownership, zoning, jurisdictions (e.g., cities, counties, states, tribal territories), as well as various other delineations such as emergency service zones, school districts, etc.
>
> Boundaries may or may not be visible in the real world, as some may follow physical features whereas others may not. Often, boundaries between neighboring entities come together at a shared boundary, marking the beginning of one entity and end of another. "Boundary alignment" refers to A) coming to agreement on shared boundary location and B) representing the agreed-upon shared boundary with Geographic Information System (GIS) data that has the same location information across both entities.
>
> Boundary GIS data may be represented by lines (a series of coordinate-defined points connected to create a linear object that has length, but not area) or polygons (a series of coordinate-defined points connected to create an area). Aligning GIS data boundaries means ensuring coincidence of neighboring boundary features, where intended: each boundary line (or polygon) contains the same x, y, and z-coordinates along the shared boundary. Upon successful completion of boundary alignment, there should be no gaps or overlaps between the GIS data making up each boundary.

Some GIS datasets may have a measurable tolerance for which boundaries need align. This tolerance may vary by organization or depending on the purpose of these data, the methods of data collection and/or creation, as well as standards or best practices applicable to the dataset.

Boundaries may be considered aligned when shared-boundary line or polygon features are within a defined tolerable distance of one another.

2) Developing best practices for boundary alignment:
Alignment of county boundaries are a key geospatial boundary that the PLRC is hoping to address. We have created a document to review and analyze county boundaries which will aid in the boundary alignment process.

3) MN PLSS Status Map
The MN PLSS Status Map was developed as a repository for available basic certified PLSS data. We are working to transition this map to MnGeo servers. In the future, data will be added to the map to aid in the boundary alignment process

4) Arrowhead Alignment Project
The Arrowhead GIS Collaborative (Itasca County, St. Louis County, Carlton County, Lake County, Cook County) has decided to align their common county boundaries. The PLRC is supporting this process by attending meetings and providing guidelines and support. We hope to document the process of this project and apply it to future alignment projects.

Open Data Subcommittee:

September 2021

The PLRC Open Data Parcel Workgroup met twice this quarter on June 7 and August 24 and another meeting is planned on September 28.

The Open Data Parcel Workgroup defined goals and defined working teams. The teams, their overall goals are shared in the table below. Each team has met multiple times and is actively working towards their goals.

The activities of the Open Data Parcel Subcommittee support GAC priority 2 “Statewide publicly available parcel data”

Team	Champion/Team	Goals, Level of Effort and Priority
Online Communication Team Overall goal: Share open parcel data vision and status of data & sets up the hub site	Stacey Stark Katie Rossman (champion) Alison Slaats Karen Majewicz Mike Koutnik	Create StoryMap that explains the business need for statewide aggregated parcel data (model it on PLS StoryMap). Ideas: GAP analysis; emergency management (like forest fires & evacuation plan); non-profits like DU Level of effort: Medium Priority: High
		Create web map that provides some high-level info by county (open data status, link to county website data access, etc.) – could be combined or included in StoryMap Level of effort: Easy Priority: High

Team	Champion/Team	Goals, Level of Effort and Priority
Operational Team Overall goal: products to describe parcel data	Alison Slaats (champion) Ryan Stovern Drew Lundgren	Create a summary of what parcel data each county is sharing with MnGeo now (attributes) Level of effort: Easy-medium Priority: Medium
		Create a cross-reference between county parcel fields and GAC standard fields for counties to review Level of effort: Easy-medium Priority: Medium
County Outreach Team Overall goal: Publish aggregated parcel dataset of all open data counties.	Mark Sloan Chad Martini Pat Veraguth Stacey Stark Katie Rossman Ryan Stovern (champion) Alison Slaats	Write letter to all counties from Committee about publishing open parcel data. Level of effort: Difficult policy questions; Easy technical solution Priority: High
		Consider a regional approach with a regional leader/representative to lead the effort and identify regional leader/rep Level of effort: Medium policy questions; Easy technical solution Priority: High
		Create outreach to counties from GAC & MnGeo (outreach led by regional leader/rep). It is a high priority to have get regional leaders involved. Level of effort: Medium to difficult Priority: High
PRISM Exploration Overall goal: Evaluate PRISM data for use with parcel boundaries	Sally Wakefield (co-champions) Mike Zabinski (co-champions) Ryan Stovern Katie Rossman	Explore how PRISM data could be to fill GAC-standard fields or be related to GAC-standard parcel data (see spreadsheet: DCDATS [GAC] standard vs PRISM standards). Is the comparison still up-to-date or have standards changed since this was made? Prism data Info Level of effort: Easy Priority: Easy

The Remonumentation Subcommittee:

The Remonumentation Subcommittee has met several times in the past 3 months.

The activities of the Remonumentation Subcommittee support GAC priority 14 “Remonumentation of all section corners in the state”.

The subcommittee developed a hub initiative site https://mnplss-umn.hub.arcgis.com/. The site is intended to be a place for people to find out about PLSS remonumentation and to keep the message clear and concise.

The subcommittee is in the process of developing a business case and proposed legislation. The legislation is based on the Michigan Remonumentation model. The subcommittee is meeting weekly to complete this work. We want to submit this legislation for the upcoming session.

The Subcommittee is seeking letters of support from numerous entities. We are trying to show that there is a large coalition of stakeholders that support this initiative.

The Meet Me at the Corner event was canceled this year due to the GIS/LIS Conference transitioning to a virtual format. There is a possibility that Kandiyohi County will host the event next year.

Additional comments:

The subcommittee has been hard at work on GAC Priorities 2, 3 and 14. At this point, a letter of support from the GAC supporting the remonumentation effort would help keep this priority moving forward.

Standards Committee

Report date:

September 8, 2021

Prepared by:

Mark Kotz, Chair (mark.kotz@metc.state.mn.us)
Curt Carlson, Vice Chair (curtis.carlson@state.mn.us)

Meetings in 2021:

1/20/21 Bikeways Standards subgroup
1/26/21 full committee
2/3/21 Bikeways Standards subgroup
2/11/21 Bikeways Standards subgroup
2/22/21 Bikeways Standards subgroup
3/1/21 Bikeways Standards subgroup
3/17/21 full committee
5/17/21 Bikeways Standards subgroup
5/24/21 Metadata Standard subgroup
5/27/21 Bikeways Standard subgroup
6/15/21 Metadata Standard subgroup
6/29/21 full committee
7/8/21 Metadata Standard subgroup
9/3/21 Bikeways Standard subgroup
Full committee Meeting minutes available here

Progress on work plan:

- Work with stakeholder groups to modify remaining original Governor's Council on Geographic Information (GCGI) standards to the GAC format and have adopted by the GAC. This will involve review and possibly changes to these standards.
    - Minnesota Geographic Metadata Guidelines: A subgroup has formed to finalize a draft of version 2 of the Minnesota Geographic Metadata Standard
    - Codes for Identifying Reaches and Watercourses: a subgroup of the 3D Geomatics Committee has proposed a modified version of the standard
    - Codes for Identifying Watersheds: no progress
    - Codes for Identifying Lakes and Wetland Basins: no progress
- Complete the Bikeways Data Standard for approval by the GAC
    - Second public review period was spring of 2021
    - Submitting final draft to the GAC for approval on 9/29/21.
- Facilitate the creation of usage guides for key GAC standards.
    - A stakeholder group is working on a usage guide for the Bikeways Data Standard
- If ready in 2021, work with stakeholders on an emergency service provider boundary standard
    - No work by the Standards Committee
- If ready in 2021, work with stakeholders on a stormwater data standard
    - MetroGIS is working on this. No formal work by the GAC Standards Committee.

Minnesota Geospatial Advisory Council

Bikeways Data Standard

DRAFT Version 1.0

DRAFT version 1.0 approved by the Standards Committee on 9/7/2021

Table of Contents

About the GAC

The mission of the Minnesota Geospatial Advisory Council (GAC) is to act as a coordinating body for the Minnesota geospatial community. The GAC is authorized by legislation passed in 2009 and reauthorized in 2014 Minnesota Statutes (16E.30, subd. 8). It represents a cross-section of organizations that include city, county, regional, state, federal and tribal governments as well as education, business and nonprofit sectors.

As part of this mission, the GAC works with the Minnesota geospatial community to define and adopt standards needed by the community. GAC standards are developed and proposed by geospatial community subject matter experts. The GAC's Standards Committee administers a process to ensure community-wide public review and input for any proposed standards.

The GAC does not mandate or enforce standards. It offers the standards as a resource to the community. Organizations may choose to adopt the standards and require their use internally.

Introduction

Bikeways data are a key component of mapping, planning, measuring and engineering for multimodal transportation and recreation infrastructure. Having standardized specifications for sharing, converting and organizing bikeways information makes these processes more efficient while providing decision-makers with the information they need to do their jobs effectively.

This standard establishes a common set of attributes and field definitions for local, regional and state governments and other partner organizations to utilize for bikeways data sharing in Minnesota.

Purpose of this Standard

The purpose of this standard is to provide a single, commonly accepted set of attribute specifications (field name, type, and length) for transferring and aggregating bikeways data in Minnesota for a wide variety of purposes. It is intended to be used when data are being transferred between organizations. Its use will improve the ability to share data resources by reducing incompatibilities when acquiring, processing, and disseminating bikeways data.

A secondary goal of this standard is to support the establishment of a repeatable process for improving inventory and knowledge of what bikeways exist in Minnesota. This inventory will be useful to local, regional and state governments for identifying network gaps within and between jurisdictions, easing data transfer between all levels of government and across partnering stakeholder organizations, and providing data critical for level of service, level of traffic stress and other network evaluations.

Applicability

Data producers may have unique methods, definitions, and criteria for capture and storage of bikeway data that satisfy their own business requirements. This standard seeks to establish attribute specifications for data exchange purposes. It does not attempt to define internal data capture or storage specifications for data producers, though some may find benefit in storing data in this format. Organizations within Minnesota are encouraged to adopt this standard for purposes of data exchange.

Sources of this Standard

The proposed standard draws heavily from the Metro Collaborative Trails and Bikeways data specifications that were developed by the seven Metropolitan Counties and Metropolitan Council, working through MetroGIS beginning in fall 2016. The National Recreation and Park Association standard was slightly modified and forms the basis of the Metro Collaborative Trails and Bikeways specifications which support the collective business needs of the MetroGIS collaborative parties.

Compliance Notes

Organizations in Minnesota are encouraged to adopt and comply with this standard for purposes of data exchange. Some data producing organizations choosing to comply with the standard collect all data included in the standard. Other organizations collect only some of the data and may choose to work toward full compliance over time. A dataset that fully complies with this standard will consist of geospatial lines with all attribute fields specified in this standard. It will also comply with the inclusion, mixed case, abbreviation and domain specifications of this standard.

Inclusion

Inclusion is a term used to explain the requirement for a field to be populated in a dataset to comply with the standard. Three types of inclusion are possible: Mandatory, Conditional, and Optional.

Mandatory

Field must be populated for each record to be compliant with Standard. Null values are not allowed.

Example: Bikeway Facility Type is a Mandatory field in this standard. If Bikeway Facility Type values are missing, the database does not comply with the Bikeways Data Standard.

Conditional

Each field must be populated with a non-null value for each record that is applicable to the feature or for which a specified condition exists.

Example: Not all bikeways will have a Bikeway System Name. However, when one does the field must be populated to comply with this standard.

Optional

Field is not required to be populated to comply with the standard.

Mixed Case

Like other GAC standards, all field values in this standard will use a mixed case format. Some end users may want an all-caps format for a specific purpose. Data may be converted to all caps by end users if desired. It is more difficult to automatically convert all caps back to mixed case.

Abbreviations

All field values in this standard must be spelled out unless specifically defined otherwise in the field description. This is done to remove ambiguity and better align with other existing standards.

Domains

Several domain tables accompany this standard in a spreadsheet available at this link. To comply with this standard, a bikeways dataset must use the codes from specified domains, but it does not need to include the domain tables with the data. If a local value exists that is not included in a domain (e.g. a facility type), it may be submitted to the MN Geospatial Advisory Council, Standards Committee to be included in the domain. Domains will be updated on a periodic basis, as needed. The date of the most recent change to each domain table is included in the spreadsheet.

Data Element Details

Appendix A: MN GAC Bikeways Data Standard Schema Spreadsheet

Appendix A is a spreadsheet available at this link showing the schema for this standard. It includes all data elements in the standard, with field name, type, width and other important information about each data element.

1. Identification Elements

1.1 Feature Unique ID

Database Name	UNIQUE_ID		
Data Type	String	**Inclusion**	Mandatory
Width	36	**Domain**	
Examples	28A7BCD3-2AD1-46BF-B34F-DE1ABBE1ABD8		
Description	This is intended to be a persistent unique identifier derived from a Globally Unique Identifier (GUID) for the segment. A GUID is a 36-character unique identifier generated using a standardized process to ensure a minimum probability of duplication.		

2. Primary Feature Elements

2.1 Bikeway Name

Database Name	BKWYNAME		
Data Type	String	**Inclusion**	Conditional
Width	150	**Domain**	
Examples	Luce Line State Trail, Luce Line Regional Trail		
Description	Proper name of the bikeway or bikeway segment.		

2.2 Bikeway System Name

Database Name	BKWYSYSTEM		
Data Type	String	**Inclusion**	Conditional
Width	150	**Domain**	
Examples	Grand Rounds Scenic Byway System		
Description	Name of the overall bikeway system that may be comprised of multiple bikeways.		

2.3 Bikeway Shared Name

Database Name	SHAREDNAME		
Data Type	String	**Inclusion**	Conditional
Width	150	**Domain**	
Examples	Luce Line Trail, Winter Recreation Trail		
Description	Alternate bikeway name that is used when the bikeway is part of more than one route or has more than one use. Multiple bikeway names may be included in this field separated by a comma.		

2.4 Bikeway Facility Type

Database Name	FACTYPE		
Data Type	String	Inclusion	Mandatory
Width	100	Domain	BikewayFacilityType
Examples	On Road Bicycle Boulevard, Off Road Shared-Use Path		
Description	This field indicates the bicycling facility's main function. It also describes whether the bicycling facility is located on-road (on the same grade as a parallel road) or off-road (on a different grade from a parallel road).		

3. Ownership and Administration Elements

3.1 Federal System

Database Name	FED_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of the federal system. Bikeways can be managed by a federal agency without being given a national designation.		

3.2 National Designation

Database Name	NATION_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway has a national bikeway designation (i.e. United States Bicycle Route (USBR), historic, scenic, recreation, millennium, or legacy).		

3.3 State System

Database Name	STATE_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of a state system.		

3.4 Regional System

Database Name	REGION_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of a regional or multi-county system.		

3.5 County System

Database Name	COUNTY_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of a county system.		

3.6 Local System

Database Name	LOCAL_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of a local/municipal system.		

3.7 Tribal System

Database Name	TRIBAL_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of a tribal organization system.		

3.8 Private System

Database Name	PRIV_SYS		
Data Type	String	**Inclusion**	Mandatory
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether the bikeway is part of a private system such as velodromes, summer mountain bike trails at private ski hills, and bikeways on company campuses.		

3.9 Landowner

Database Name	LANDOWNER		
Data Type	String	**Inclusion**	Optional
Width	150	**Domain**	
Examples	City of St. Paul, White Bear Township		
Description	Owner of the land beneath the bikeway.		

3.10 Landowner Type

Database Name	OWNERTYPE		
Data Type	String	**Inclusion**	Optional
Width	50	**Domain**	LandownerType
Examples	County, School District		
Description	Type of entity which owns the land beneath the bikeway.		

3.11 Managing Organization

Database Name	ORGNAME		
Data Type	String	**Inclusion**	Optional
Width	150	**Domain**	
Examples	Three Rivers Park District, Jonathan Association		
Description	Name of the bikeway's managing or administrative organization. This may be different from the landowner.		

3.12 Managing Organization Type

Database Name	ORGTYPE		
Data Type	String	**Inclusion**	Optional
Width	50	**Domain**	LandownerType
Examples	Regional Government, Unknown		
Description	Type of the bikeway's managing or administrative organization.		

4. Access and Descriptive Elements

4.1 Bikeway Status

Database Name	BKWYSTATUS		
Data Type	String	**Inclusion**	Optional
Width	50	**Domain**	BikewayStatus
Examples	Open, Planned, Closed, Construction		
Description	Current status of the bikeway. That is, if and how the bikeway is available to users.		

4.2 Bikeway Surface Type

Database Name	BKWYSURF		
Data Type	String	**Inclusion**	Optional
Width	50	**Domain**	BikewaySurface
Examples	Concrete, Asphalt/Bituminous, Wood Chips		
Description	The predominant surface type users would expect to encounter on the bikeway.		

4.3 Year Programmed

Database Name	YEAR_PRGRM		
Data Type	Integer	**Inclusion**	Optional
Width	Short	**Domain**	
Examples	2020, 2025		
Description	Year that the bikeway is programmed for construction or funding.		

4.4 Year Open

Database Name	YEAR_OPEN		
Data Type	Integer	**Inclusion**	Optional
Width	Short	**Domain**	
Examples	1994, 2008		
Description	Year that the bikeway first opened for use.		

4.5 Width in Feet

Database Name	WIDTH_FT		
Data Type	Double	**Inclusion**	Optional
Width	default	**Domain**	
Examples	6.5, 8		
Description	Width of the bikeway segment in feet. May be approximated if there are frequent changes in width.		

4.6 Seasonal Accessibility

Database Name	SEASNL_ACC		
Data Type	String	**Inclusion**	Optional
Width	20	**Domain**	SeasonalAccess
Examples	All Year Round, Summer Only, Winter Only		
Description	Whether the bikeway is open for seasonal or year-round use.		

4.7 Bikeway Direction

Database Name	DIRECTION		
Data Type	String	**Inclusion**	Optional
Width	20	**Domain**	BikewayDirection
Examples	One Way, Two Way, Contraflow		
Description	Permitted direction of travel on the bikeway.		

5. Bikeway Feature Elements

5.1 Pavement Markings

Database Name	PVMNTMARKS		
Data Type	String	**Inclusion**	Optional
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether pavement marking exists along the bikeway. Pavement markings exist on bikeways to indicate the separation of the lanes for road users, assist the bicyclist by indicating assigned travel paths, indicate correct position for traffic signal actuation, and provide advance information for turning and crossing maneuvers		

5.2 Lighting

Database Name	LIGHTING		
Data Type	String	**Inclusion**	Optional
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether lighting exists along the bikeway segment.		

5.3 Signing

Database Name	SIGNING		
Data Type	String	**Inclusion**	Optional
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether active transportation related signing (i.e., regulatory, warning, or wayfinding signs) exists along the bikeway segment.		

6. Safety Elements

6.1 Separation Type

Database Name	SEPARATION		
Data Type	String	**Inclusion**	Optional
Width	100	**Domain**	BikewaySeparation
Examples	Buffer-Separation, Barrier-Separation, None, Other, Unknown		
Description	Whether the bikeway is part of a separation system, as well as the type of separation. A separated bikeway can be an on-street bicycle lane that has physical separation from vehicles, such as bollards.		

6.2 Roadside Barrier Type

Database Name	ROAD_BR		
Data Type	String	**Inclusion**	Optional
Width	100	**Domain**	RoadsideBarrier
Examples	Flexible, Rigid, None		
Description	Whether the bikeway has a roadside barrier, as well as the type of barrier. Roadside barriers are used to protect all traffic from roadside obstacles or hazards, such as steep slopes or bodies of water.		

6.3 Rumble Strips

Database Name	RMBL_STRIPS		
Data Type	String	**Inclusion**	Optional
Width	10	**Domain**	YesNoUnknown
Examples	Yes, No, Unknown		
Description	Whether rumble strips (any type) exist along the bikeway segment.		

6.4 Rumble Strip Type

Database Name	RMBL_TYPE		
Data Type	String	**Inclusion**	Optional
Width	100	**Domain**	RumbleStripType
Examples	Rectangular Corrugated, Sinusoidal, Other, Unknown		
Description	The type of rumble strip that exists along the bikeway segment.		

6.5 Rumble Strip Placement

Database Name	RMBL_PLACE		
Data Type	String	**Inclusion**	Optional
Width	100	**Domain**	RumbleStripPlacement
Examples	Edgeline Rumble Stripe, Shoulder Rumble Strip, Other, Unknown		
Description	The placement of the rumble strip if one exists along the bikeway segment.		

7. Data Maintenance Elements

7.1 – Bikeway URL

Database Name	BKWY_URL		
Data Type	String	**Inclusion**	Optional
Width	255	**Domain**	
Examples	https://www.threeriversparks.org/location/cedar-lake-farm-regional-park		
Description	Link to a website with information about the bikeway.		

7.2 – Data Source

Database Name	DATASOURCE		
Data Type	String	**Inclusion**	Mandatory
Width	50	**Domain**	BikewayDataSource
Examples	Google Maps, Local Imagery, Site Visit		
Description	The source of the data, as input by the Editing Organization.		

7.3 – Editing Organization

Database Name	EDIT_ORG		
Data Type	String	**Inclusion**	Mandatory
Width	100	**Domain**	
Examples			
Description	The organization that made the last substantial change to the data record including geospatial edits. **Note**: This is not intended to be used to identify an aggregating organization that ran a batch process to populate fields derived from existing data (e.g. populating the State Code).		

7.4 – Edit Date

Database Name	EDIT_DATE		
Data Type	Date	**Inclusion**	Mandatory
Width	default	**Domain**	
Examples	4/5/2018 4:34:15 PM		
Description	The date of the last substantial change to the data record including geospatial edits. **Note**: This is not intended to be used to identify the date a batch process was used to populate fields derived from existing data (e.g. populating the State Code).		

7.5 – Comments

Database Name	COMMENTS		
Data Type	String	**Inclusion**	Optional
Width	255	**Domain**	
Examples			
Description	A general comments field for additional notes.		

Appendix A: MN GAC Bikeways Data Standard Schema

Appendix A is a spreadsheet available at this link showing the schema for this standard. It includes all the data elements in the standard, with field name, type, width and other important information about each data element.

Appendix B: MN GAC Standards Domains

Appendix B is a spreadsheet available at this link showing all the domain tables used in Minnesota Geospatial Advisory Council standards. It includes a tab showing when each domain table was last updated.

Appendix C: MN GAC Standard Lookup Tables

Appendix C is a spreadsheet available at this link showing all the lookup tables used in Minnesota Geospatial Advisory Council standards. It includes a tab showing when each table was last updated.

Agenda Item 5. PLSS legislation support letter (return to agenda)

Letter from the Remonumentation Chair:

The Parcels and Land Records Committee (PLRC) has been very busy over the summer. The PLRC Committee has been subdivide into three sub committees.

- Open Data
- Boundary Alignment
- PLSS Remonumentation

The PLSS Remonumentation Subcommittee has met several times and is developing a business case for remonumentation. There are over 300,000 PLSS corners in the state and less than half of those have been certified and about a quarter have GPS coordinates on them. Some counties are remonumented and some have done very little. Many of the rural counties cannot afford to finance this work. We are looking to find a revenue source for this project, and we are developing legislation for this purpose. We are about ½ way through the legislation development, but we have a long way to go. We would like to have something ready for the next legislative session. We are going to need support from several organizations to get this project rolling in the legislature. We are looking for a letter of support from the GAC to move ahead.
Thanks,

Patrick D. Veraguth
PLSS Remonumentation Chair.

Example Letter of Support

(Representative or Senator),

My name is _____. I am a [enter profession here] in [name your city/town and state]. I am also a member of [name your respective organization]

I am very concerned about the deterioration of the Public Land Survey System (PLSS) in Minnesota. The PLSS is the foundation for determining the location of nearly every property description in Minnesota. The PLSS is the first example of public infrastructure that keeps Minnesota's economy moving forward.

From farmers to loggers, small business owners to government agencies and property owners to tenants, the PLSS affects every Minnesotan in many ways.

The PLSS was conducted in Minnesota from 1847 to 1905. Most of these PLSS corners were originally wooden posts. The Government Land Office (GLO) originally set these corners and gave the power of maintaining them to the State. The State gave that responsibility to the Counties. Traditional funding sources linked to fees leave greater Minnesota short of necessary funds. This has led to a steady deterioration of the PLSS.

The Geospatial Advisory Council (GAC) has developed legislation to address remonumentation of the PLSS. I encourage you to support this legislation in order to keep Minnesota's economy thriving.

Thank you for your consideration,

Name
Affiliation
Address

CC: mnplssinitiative@gmail.com

Agenda Item 13. GAC Priority Projects and Initiatives (return to agenda)

Rank	Project or Initiative Name	Status	Priority Owner	Champ
1	Statewide publicly available parcel data	Active	Alison Slaats	Kotz
2	Updated and aligned boundary data from authoritative sources	Active	Preston Dowell	Ross
3	Statewide publicly available road centerline data	Active	MnGeo	Ross
4	Statewide publicly available address points data	Active	MnGeo	Ross
5	A project team to develop geospatial data sharing methodologies to support the state's underground utilities community	Active	Steve Swazee	Cederberg
6	Establish a workflow for developing, sharing and maintaining statewide, publicly available, authoritative geospatial data for primary critical infrastructure themes	Active	Stacey Stark	Swazee
7	New lidar data acquisition across Minnesota for use in developing new derived products guided by committee developed standards	Active	Gerry Sjerven	Ross
8	Improvements to the MnGeo Image Service, such as Web Mercator support, tiling, and complementary options such as "composite of latest leaf off imagery", and downloading options	Active	Alison Slaats	Ross
9	The implementation of an archive for Minnesota geospatial data	Active	Ryan Mattke	many
10	Development of a culvert data standard for data sharing across the geospatial and infrastructure asset management communities and to support development of a future statewide culvert inventory	Active	Rick Moore	Lord
11	Maps, procedures, templates and other materials to help all levels of government implement the U.S. National Grid	Active	Randy Knippel	Knippel
12	Accurate hydro-DEMs (hDEM) that serve modern flood modeling and hydro-terrain analysis tools, and the development of more accurate watercourses and watersheds	Active	Sean Vaughn	Many
13	Remonumentation of all section corners in the state	Active	Pat Veraguth	Ross
14	A trails data standard	Active	Sandra Yassin	
15	Outreach and education to show success stories for geospatial technology	Active		
16	A Geospatial Commons advisory group to provide advice, guidance and strategic direction for the Commons from the broad perspective of the MN geospatial data stakeholder community			
17	A forum (committee, workgroup, etc.) for MN geospatial professionals to discuss and share best practices, standards, lessons learned, etc. for implementing and supporting the geospatial components of NG9-1-1			

18	Statewide and regional (e.g. Twin Cities metro) publicly available basemap services			
19	A parks data standard			
20	A project team to develop a long-term, statewide strategy for optical, lidar, radar, aerial and satellite imagery			
21	Dynamical Downscaled Climate Information (high resolution climate projection data)			
22	Best practices based on Criminal Justice Information Services (CJIS)/Bureau of Criminal Apprehension (BCA) guidance for connecting law enforcement data to GIS systems for analysis and sharing			
23	Statewide, publicly available, authoritative geospatial data for businesses with state-required licenses, permits or registrations			
24	Best practices/guidelines for sharing snow emergency parking restrictions between cities			
25	An inventory and assessment of Minnesota's geospatial data assets			
26	Summary data by region for property crimes in an accessible GIS format			
27	Data standard for street parking restrictions			