MetroGIS Coordinating Committee

Thursday, January 25, 2024

MetroGIS Coordinating Committee

January 25, 2024

1) Call to Order

2) Approve Today's Meeting Agenda

3) Approve Minutes from last meeting on October 26, 2023
Minutes are available at *metrogis.org*

Tanya: Review action items from last meeting

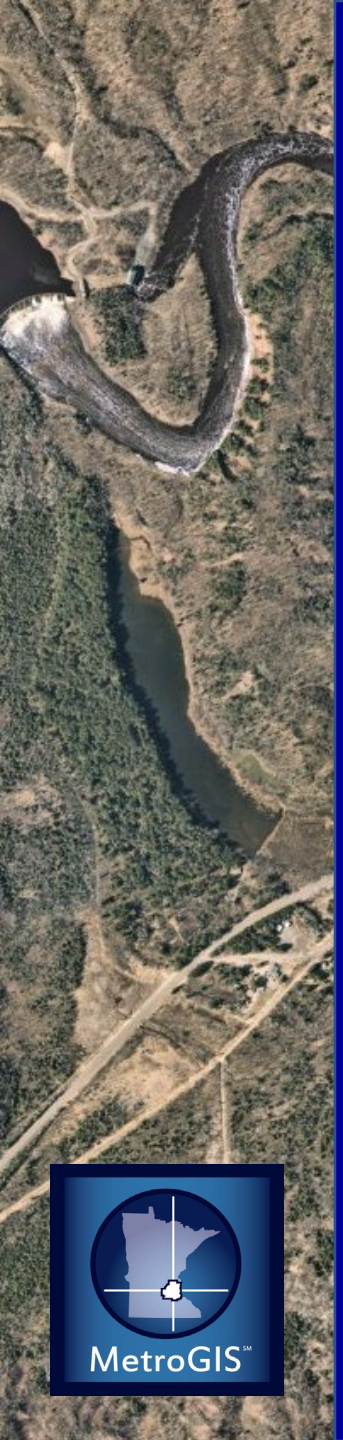
Agenda Item 4

Project Updates

MetroGIS℠

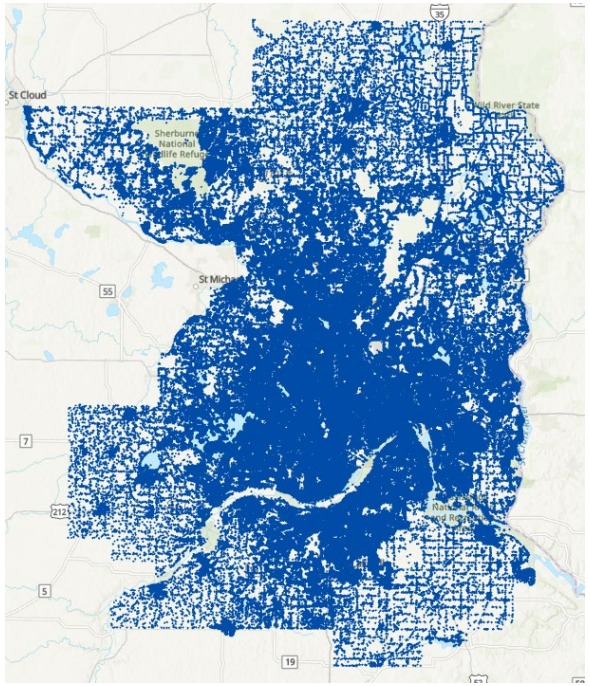
Agenda Item 4a

Regional GIS Data Provisioning

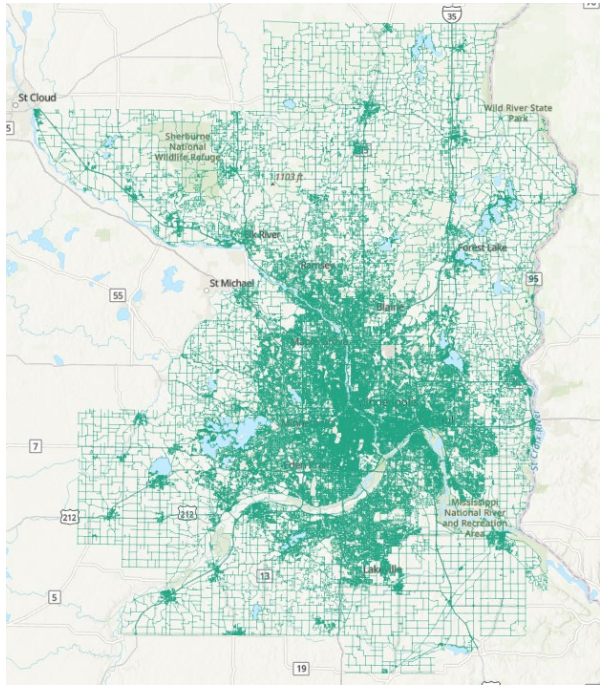


Key function of MetroGIS:

Regional Datasets

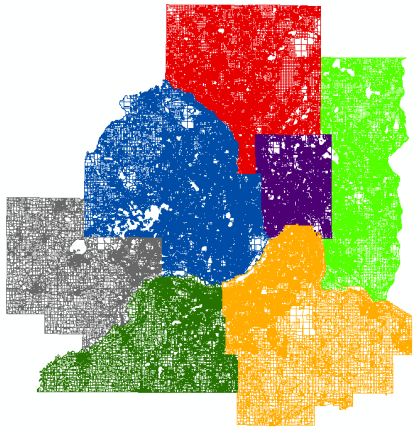


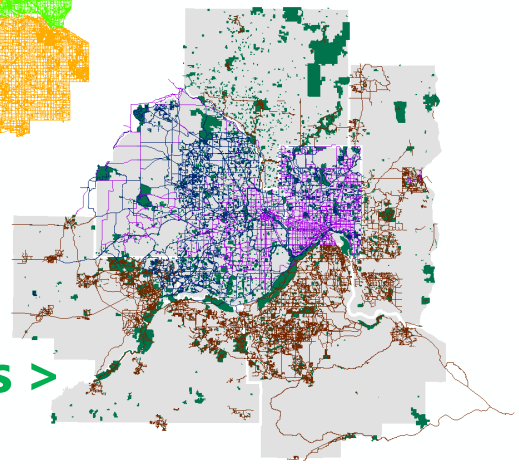
Address points



Road centerlines

< Parcels

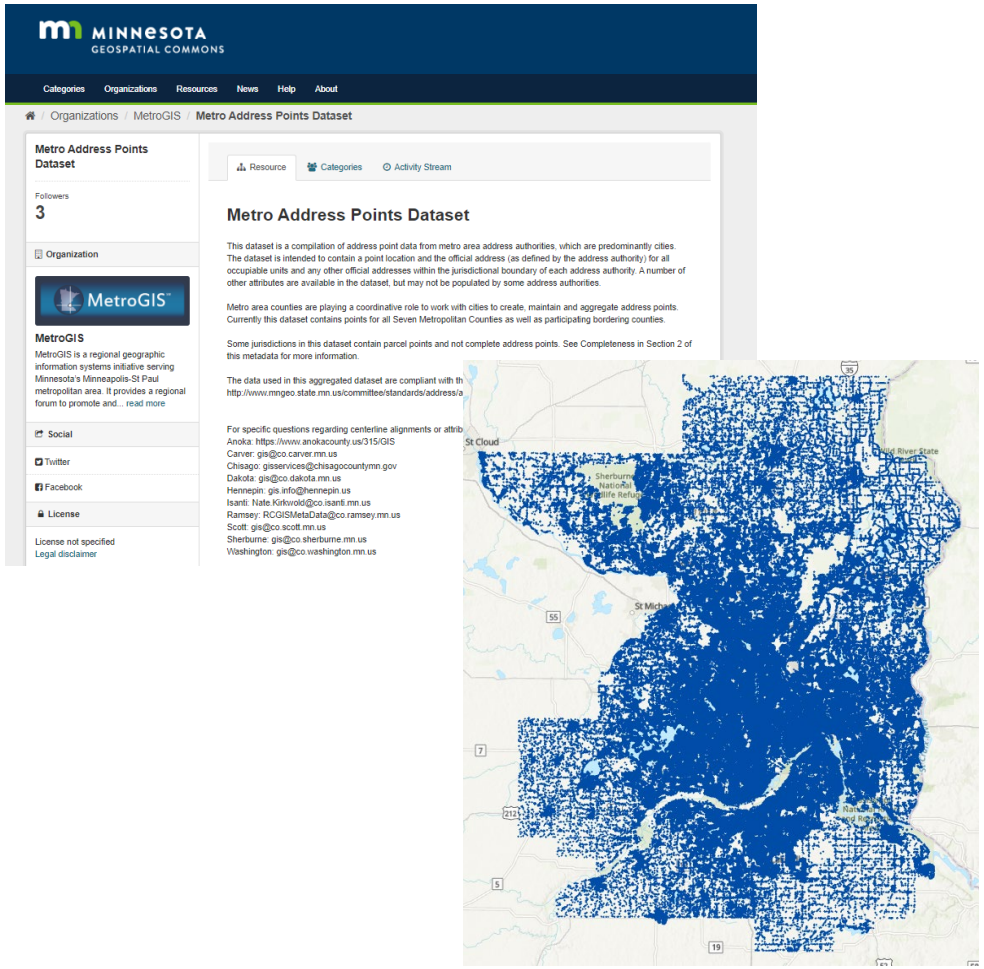


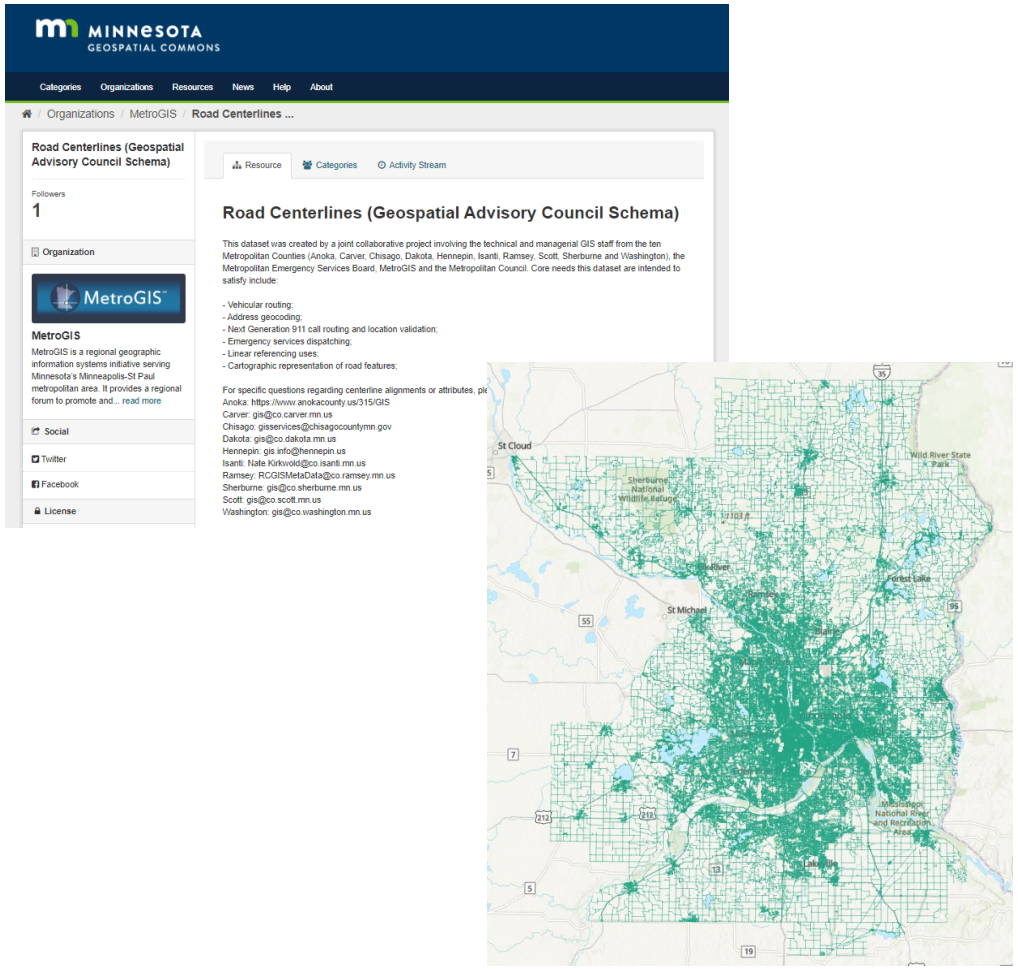


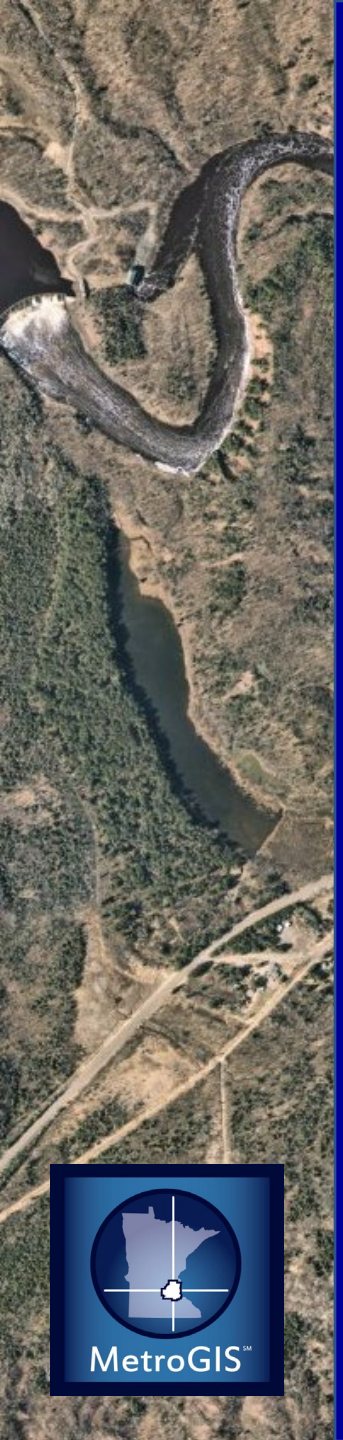
Parks/Trails >

Key function of MetroGIS:

Regional Datasets







Regional Datasets

Four Priorities:

1 – Integrate our data into external systems

2 – Maintain and improve validation and standard adherence

3 – Documentation (processes and workflows)

4 – Identify roadblocks to long term sustainability

Regional Da

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1 – Integrate our d ns

2 – Maintain and i standard adherence

3 – Documentatio lows)

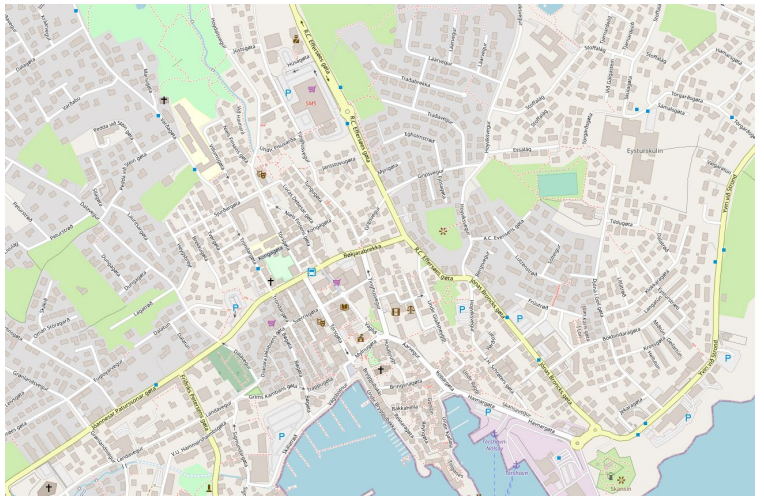
4 – Identify roadbl inability

Regional Datasets

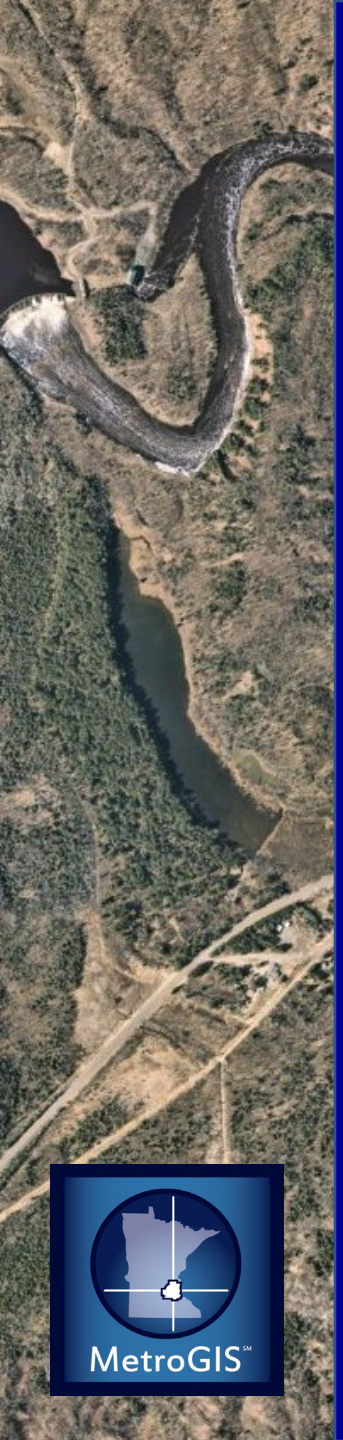
1 – Integrate our data into external systems

External Platform Publishing

Google
ESRI Community Base Map
Open Street Map
HERE
Etc.



MetCouncil able to contribute to ESRI Geocoding Service
GAC Work Group 'CANDO' – External Publishing

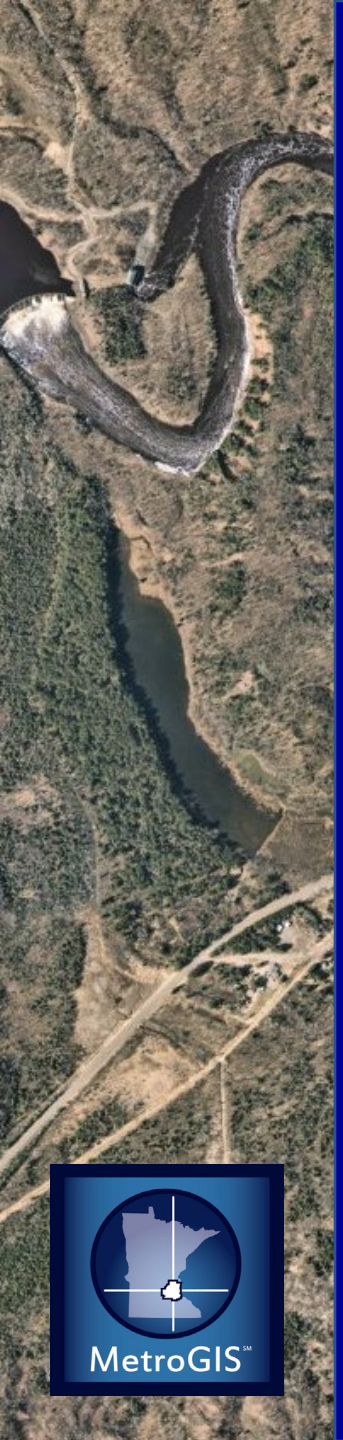


Regional Datasets

2 – Maintain and improve validation and standard adherence

Maintenance of current practices and actions
MOA/Contract renewal (roles)
Edits and revisions as needed
Usage for/Connectivity to NG9-1-1
Availability of high-quality data

2023: New validation scripts (Python 3)
Pro-active report on the regional process
Logs and reports on when submittals are made

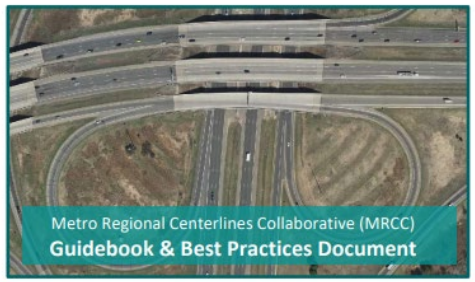


Regional Datasets

3 – Documentation

Preserve knowledge our work
Document the “what/why/how”
Resource for new staff/new participants
Processes and workflows

Road centerlines (5 years old…)



Published: May 31, 2018 (v. 1.0)

Prepared for the partner agencies of the
Metro Regional Centerline Collaborative (MRCC)

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

Supplemental information on Geocoding Side Elements

Actual (Assigned) Vs. Theoretical Addresses

After carrying both actual (assigned) and theoretical address ranges in early draft versions of the standard, the MRCC opted to drop theoretical ranges and carry only the **actual (assigned)** address ranges.

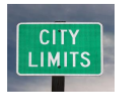
Under state statute (§412.221, Sub. 18) only cities are vested with the ability to assign legal addresses, so any address range within a city (incorporated municipality) will reflect the ranges they have legally assigned to their street or road segment.

In townships and un-organized areas, there remains an obvious need for address ranges. County governments generally hold sway in these areas and often assign addresses out of necessity. When a city annexes an area of an adjoining township, they may renumber that segment of road which now fall into the city to match their existing road system. This happens with some frequency in the metro counties.

Theoretical ranges differ from actual ranges in that they are mathematically interpolated based on their location along a given street segment line (e.g. a point in the exact middle of a segment with a theoretical range of 0 to 100 would have a value of '50').

What is the difference between CTU and a Postal Community?

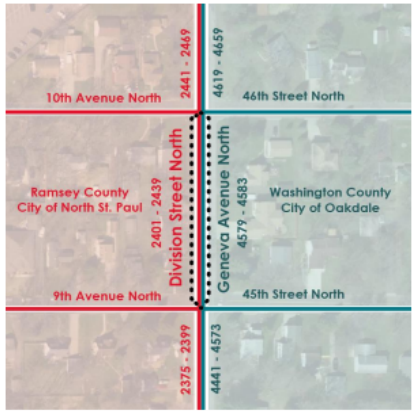
CTU_L or **CTU_R** is the name of the city, township or unorganized territory which is on the left or right side of a given street segment. **Postal Community (POSTCOMM_L or POSTCOMM_R)** is the name of the city of the mailing address as defined by the U.S. Postal Service. These two fields may be different since the USPS allows the use of more than one city name for some ZIP codes.

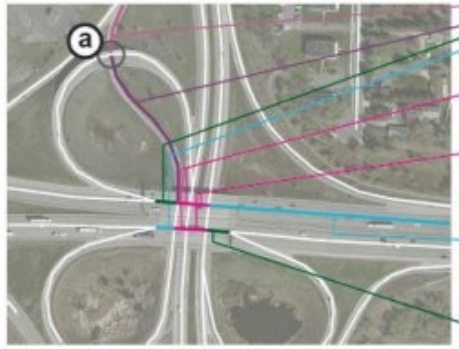


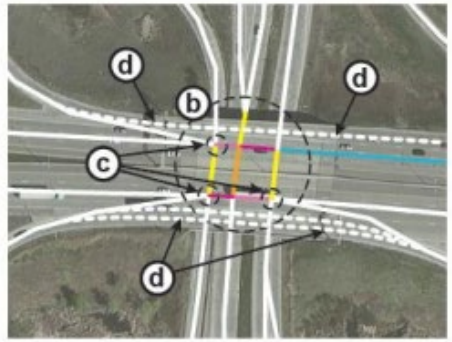
Coincident Example:

The map at right illustrates a standard example for where and how the 'coincident exclusive' technique is used. In this example, a road forms the boundary between Ramsey County (left side in *red*) and Washington County (right side, in *teal*).

In Ramsey County, the street is known as **Division Street North**, while in Washington County, the street is known as **Geneva Street North** (*to make matters more interesting, a portion of this road is also coincident with State Highway 120, which would be carried as an alternate street name*). Also shown are the address ranges for each segment, which differ between the two counties (*in Ramsey County, the ranges are in the 2300s to the 2400s, while in Washington County they are in the 4400s to the 4600s*).







ELEV_FROM ELEV_TO
0 -1

ELEV_FROM ELEV_TO
-1 0

Westbound
ELEV_FROM ELEV_TO
1 0

Eastbound
ELEV_FROM ELEV_TO
0 1

ELEV_FROM ELEV_TO
1 1

ELEV_FROM ELEV_TO
1 1

Westbound
ELEV_FROM ELEV_TO
0 1

Eastbound
ELEV_FROM ELEV_TO
1 0

(a) *Roads below grade will use negative values;*

(b) *Each intersection of lines creates separate segments;*

(c) ***Best practice:*** *On/off ramps should connect to minimize small segments*

(d) ***Best practice:*** *Connectivity of the ramp to the main road is of more importance for routing and maintenance than the accurate representation of the shape of the ramp;*

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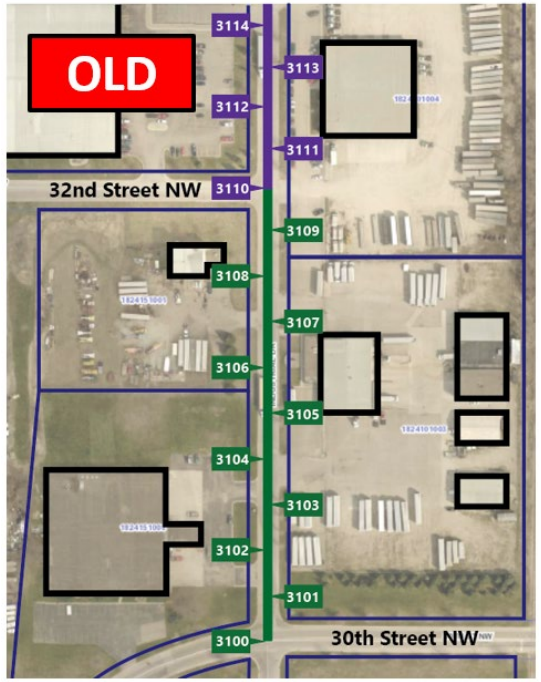
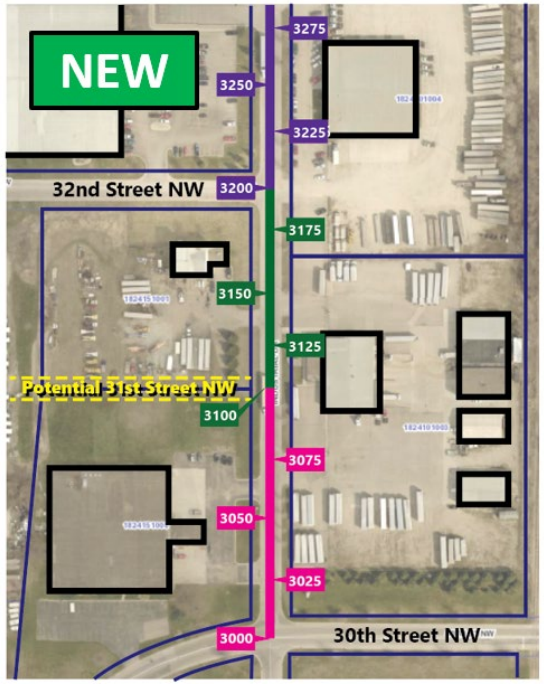
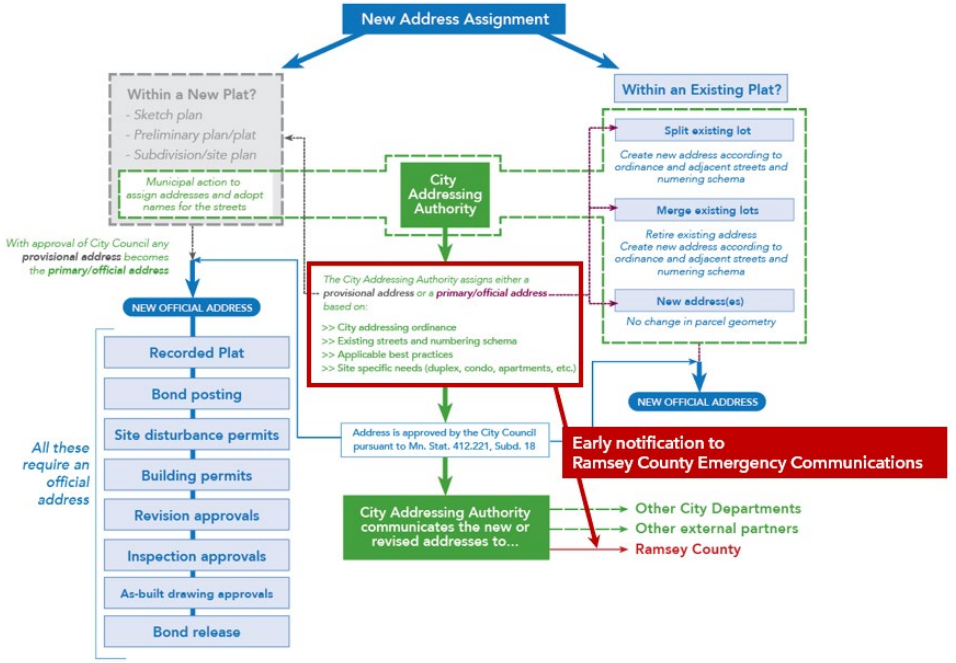
Addressing

Process, authority, data, situations, etc.







Addressing

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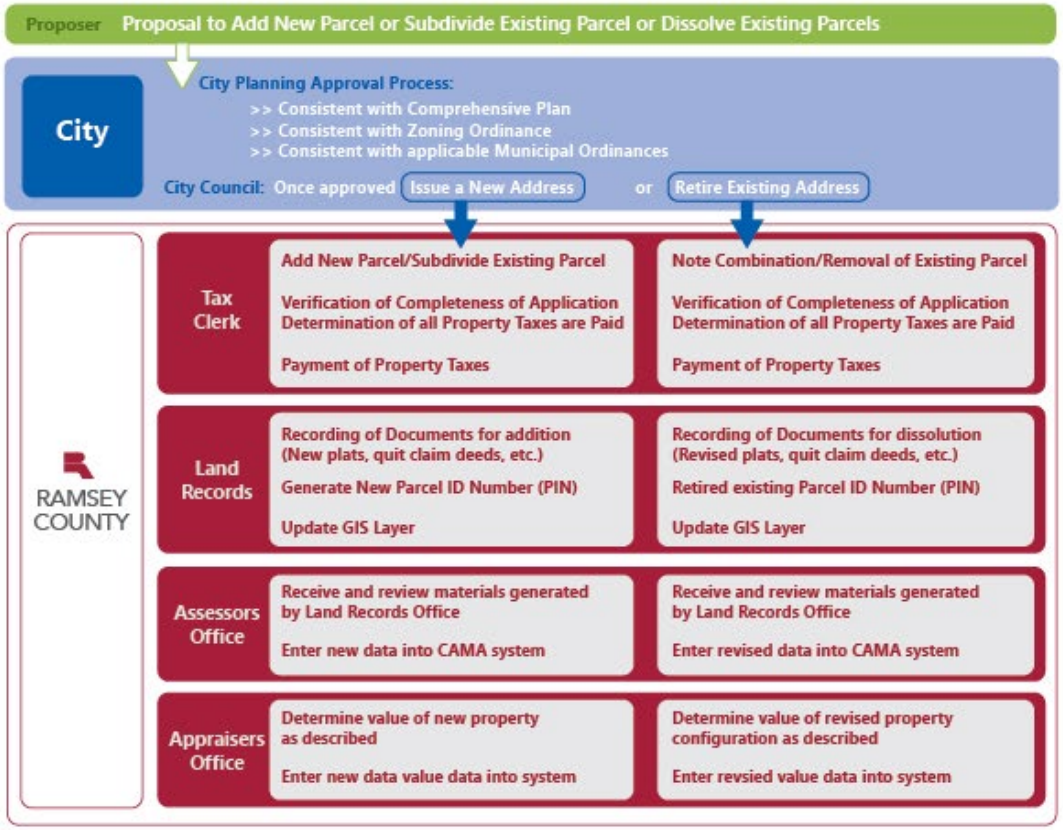
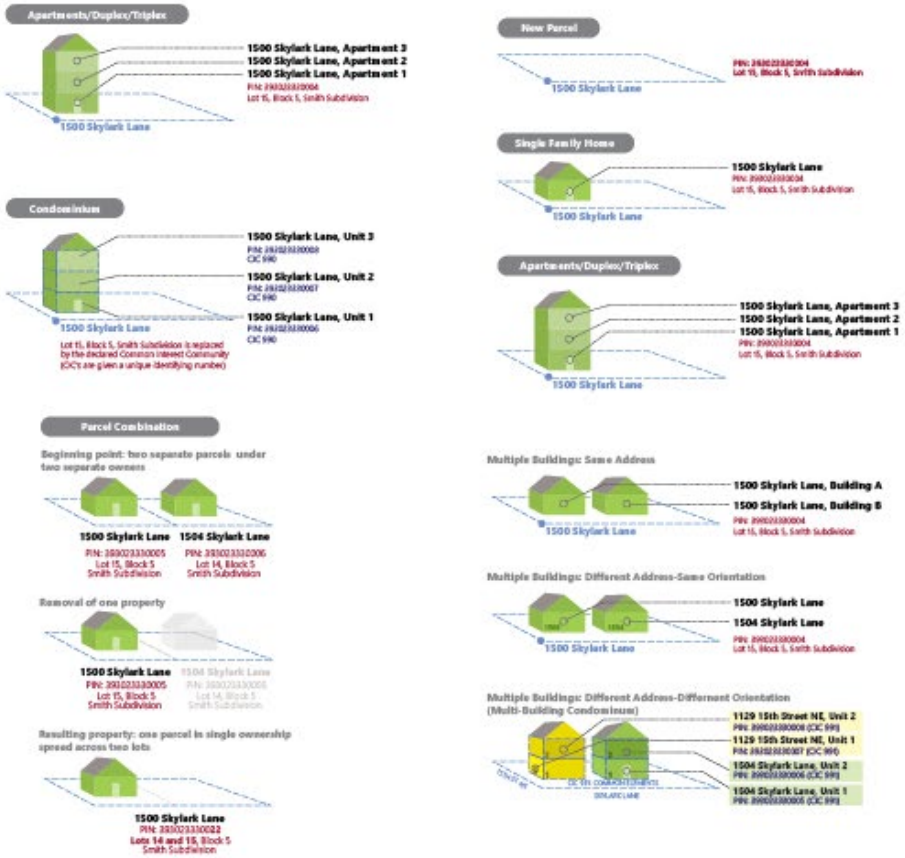
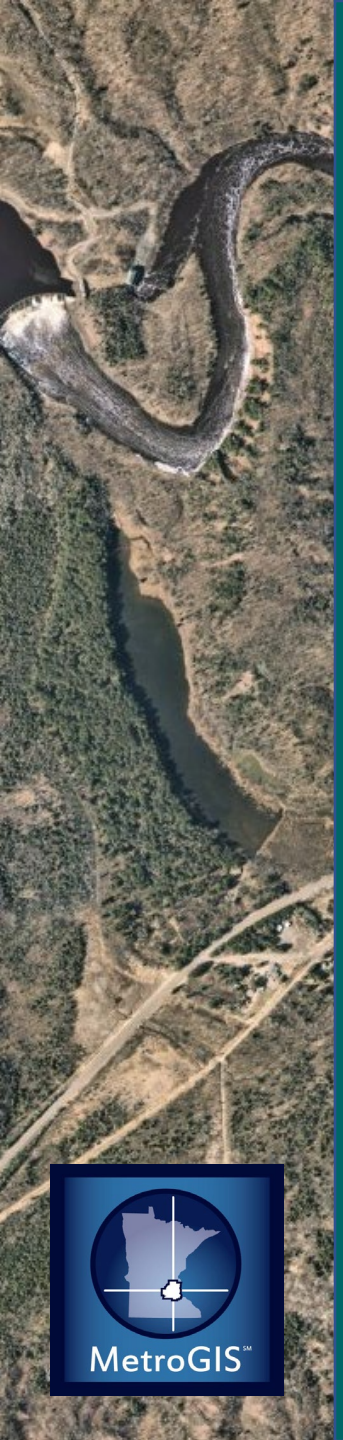






Ramsey County Parcel Data - Workflow Process

ASSESSOR'S OFFICE

County Assessor's Staff
- Property assessments
- Valuations of land/improvements
- Tax capacity determination
- Other data collected relevant to property

→ Assessor's Office staff enters data into the Tyler system → tyler technologies → Assessor's Office Work, Analysis Reporting, etc.

Parcel tabular data export

Export of 8 separate [.csv] files

FTP site

INFORMATION SERVICES GIS STAFF

FME processing

Python scripts

Cleaned-up tabular data

Parcel geometry

Merge tabular data & parcel geometry

Ramsey County Parcel Dataset

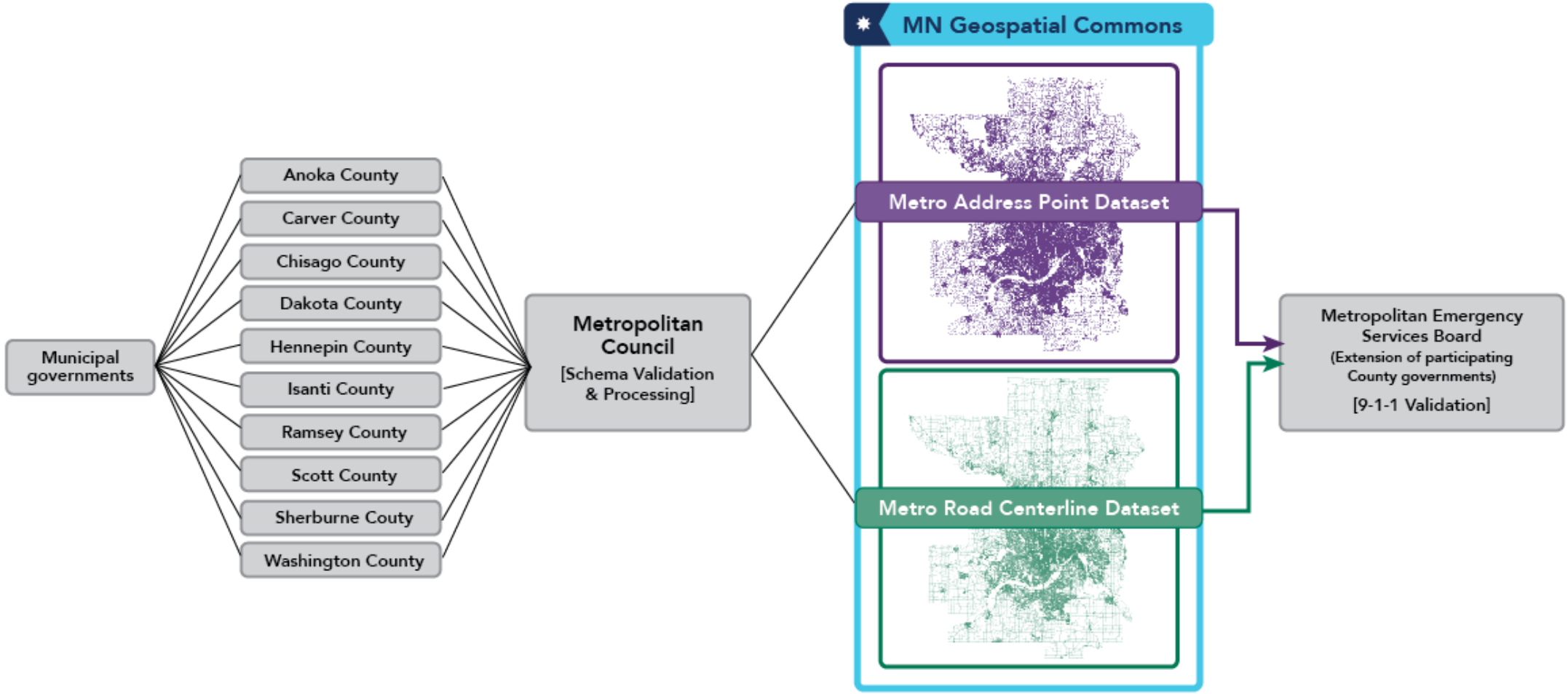
- Map Ramsey and other web maps
- Provided to Ramsey County municipalities
- Translated into GAC Standard for MetroGIS Regional Parcel Dataset with the other 6 metro counties
- Provided to public

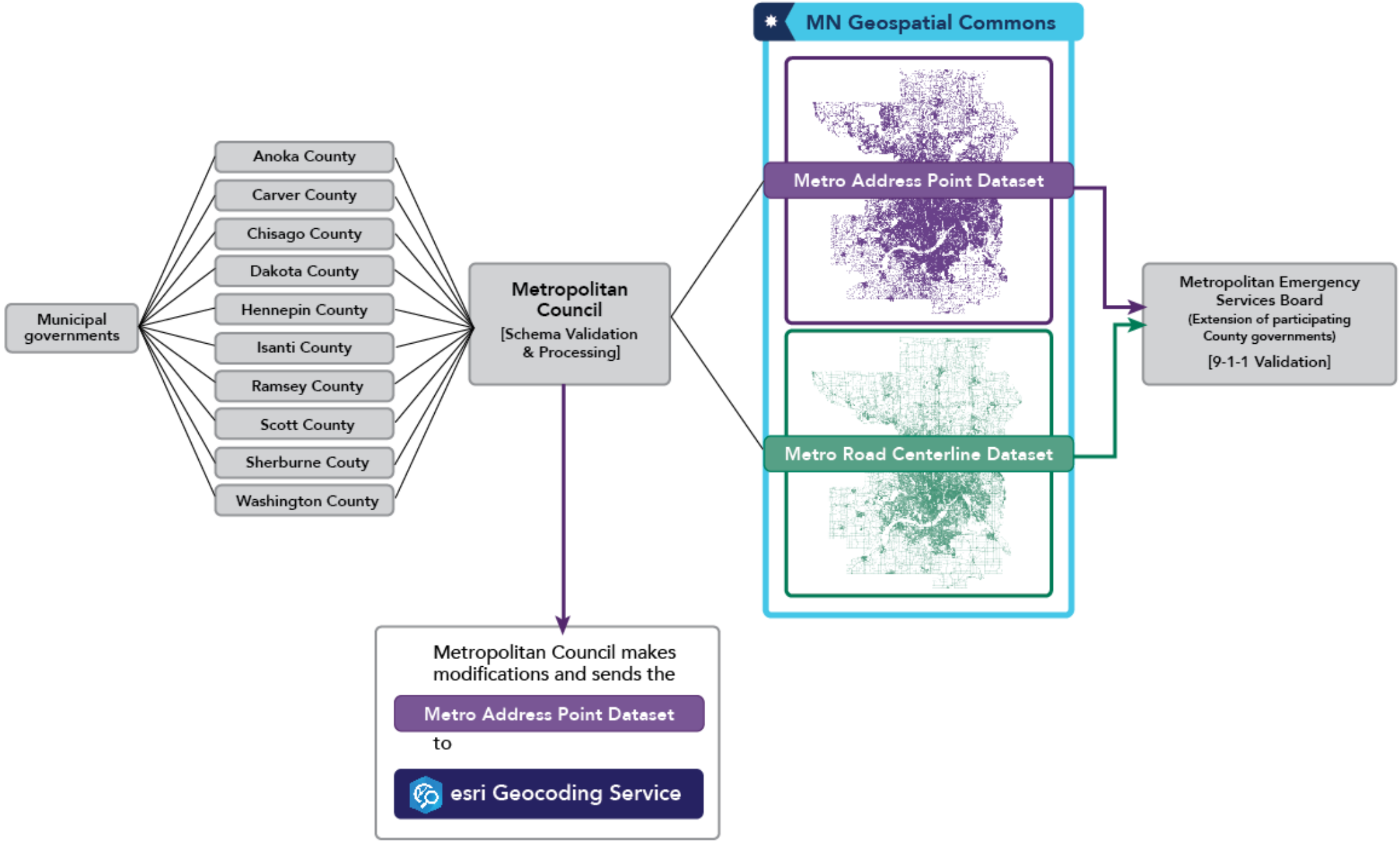
ASSESSOR'S OFFICE

Data/updates from Municipalities
- New plats
- Plat revisions/re-plats
- Minor subdivisions
- Parcel splits or mergers
- Etc.

→ Assessor's Office staff creates and maintains the parcel geometry and populates the parcel fabric → esri PARCEL FABRIC

MetroGIS℠


Municipal governments
Anoka County
Carver County
Chisago County
Dakota County
Hennepin County
Isanti County
Ramsey County
Scott County
Sherburne Couty
Washington County
Metropolitan Council
[Schema Validation & Processing]
MN Geospatial Commons
Metro Address Point Dataset
Metro Road Centerline Dataset
Metropolitan Emergency Services Board
(Extension of participating County governments)
[9-1-1 Validation]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[9-1-1 Validation]
Metropolitan Council makes modifications and sends the
Metro Address Point Dataset
to
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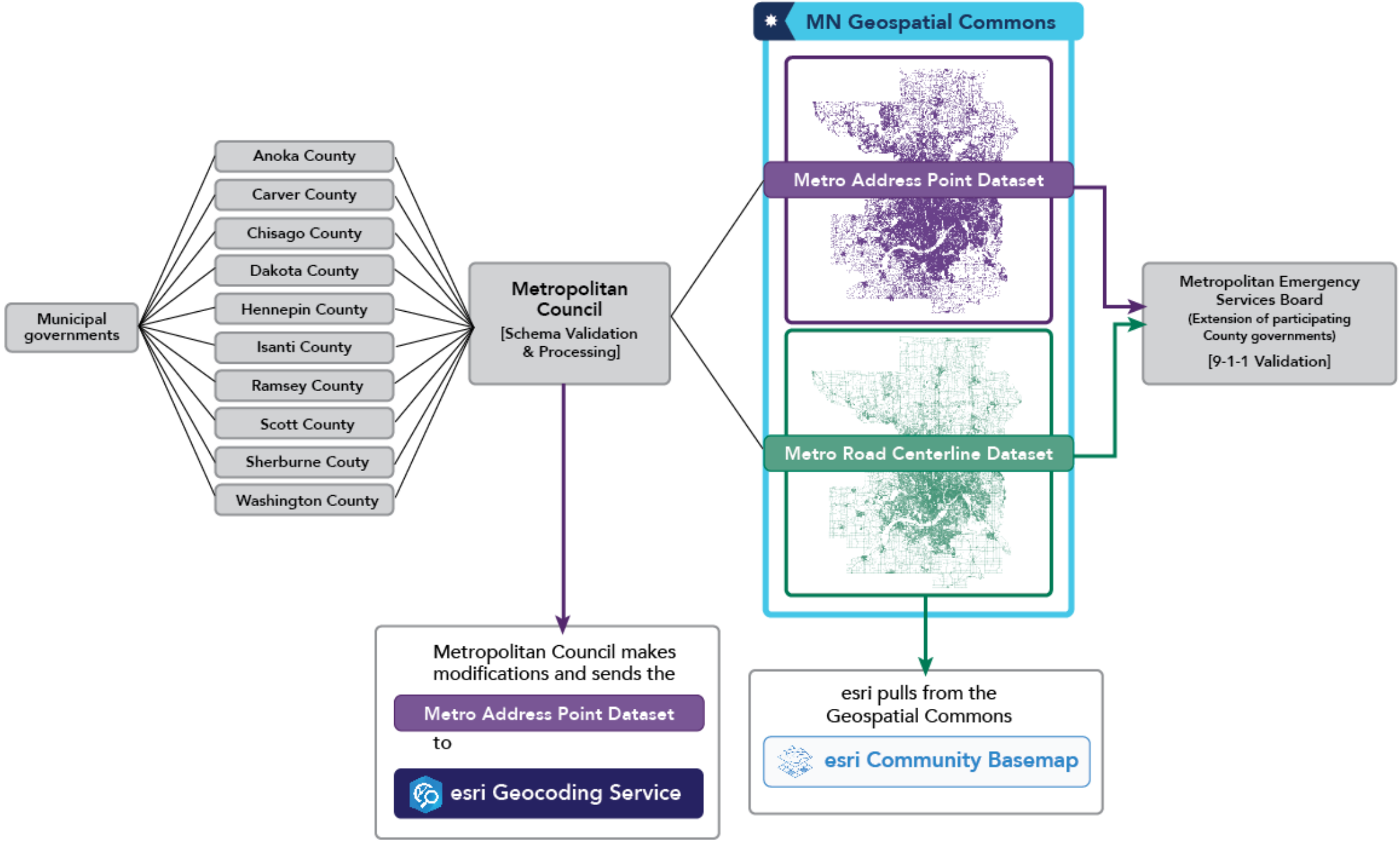
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(Extension of participating County governments)
[9-1-1 Validation]
Metropolitan Council makes modifications and sends the
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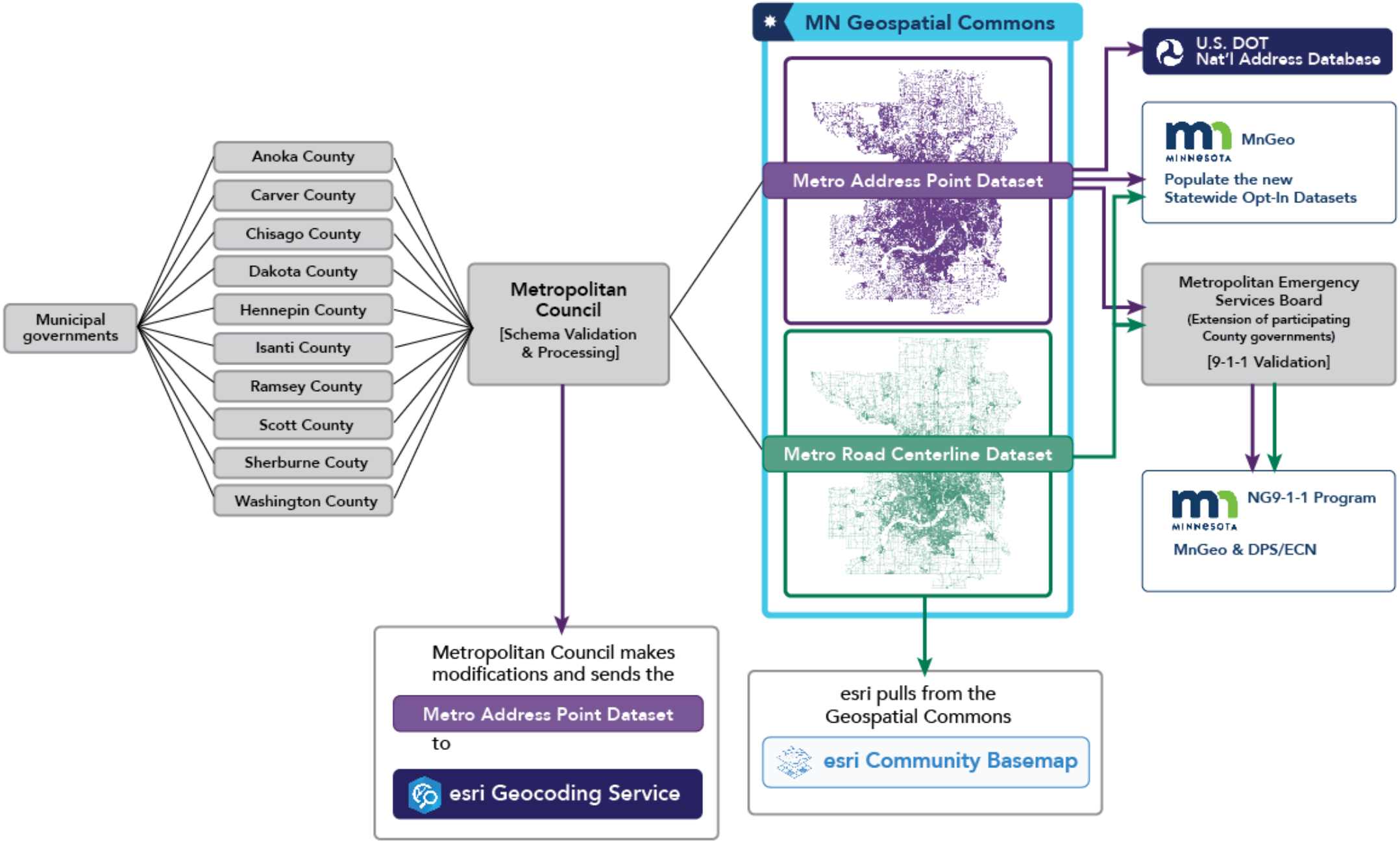
to
esri Geocoding Service
esri pulls from the Geospatial Commons
esri Community Basemap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Carver County
Chisago County
Dakota County
Hennepin County
Isanti County
Ramsey County
Scott County
Sherburne Couty
Washington County
Metropolitan Council
[Schema Validation & Processing]
MN Geospatial Commons
Metro Address Point Dataset
Metro Road Centerline Dataset
U.S. DOT Nat'l Address Database
MnGeo
Populate the new Statewide Opt-In Datasets
Metropolitan Emergency Services Board
(Extension of participating County governments)
[9-1-1 Validation]
NG9-1-1 Program
MnGeo & DPS/ECN
Metropolitan Council makes modifications and sends the
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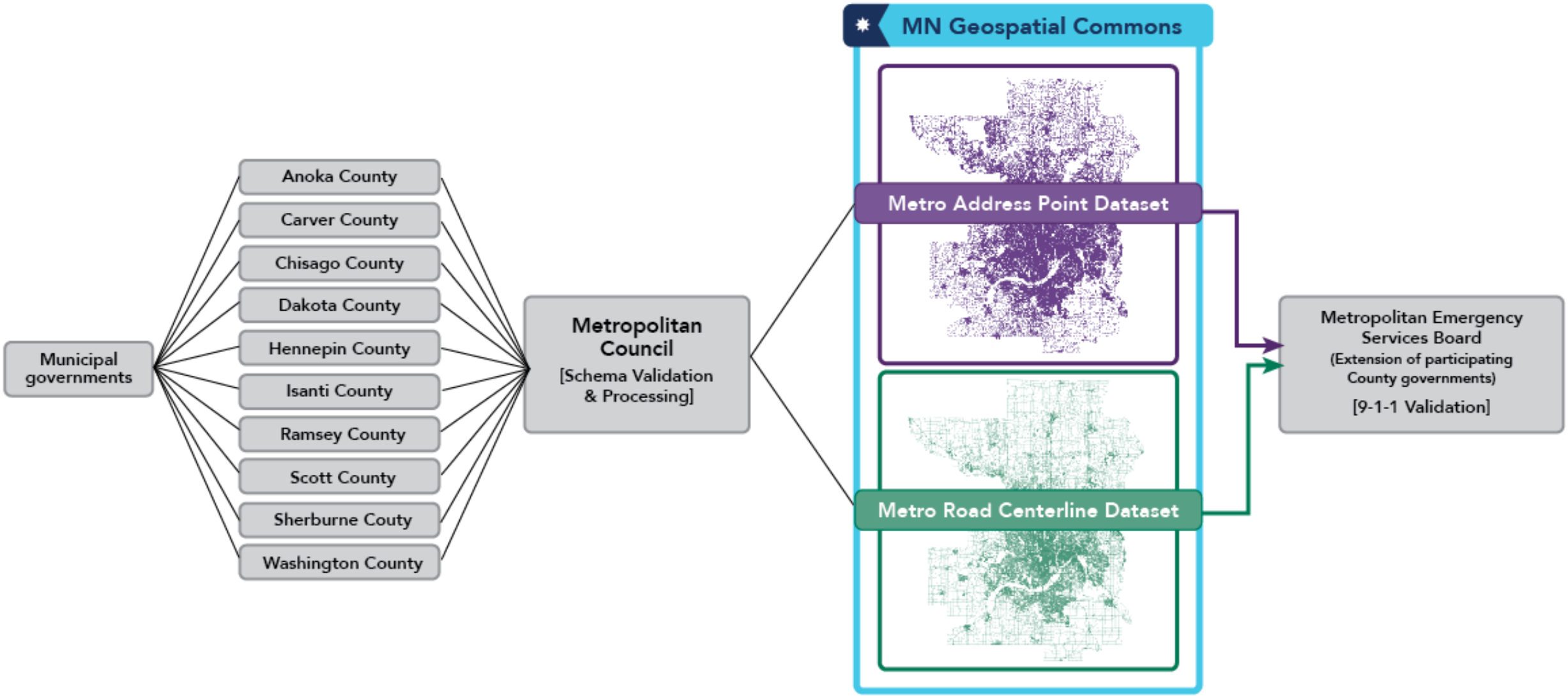
esri pulls from the Geospatial Commons
esri Community Basemap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[Schema Validation & Processing]
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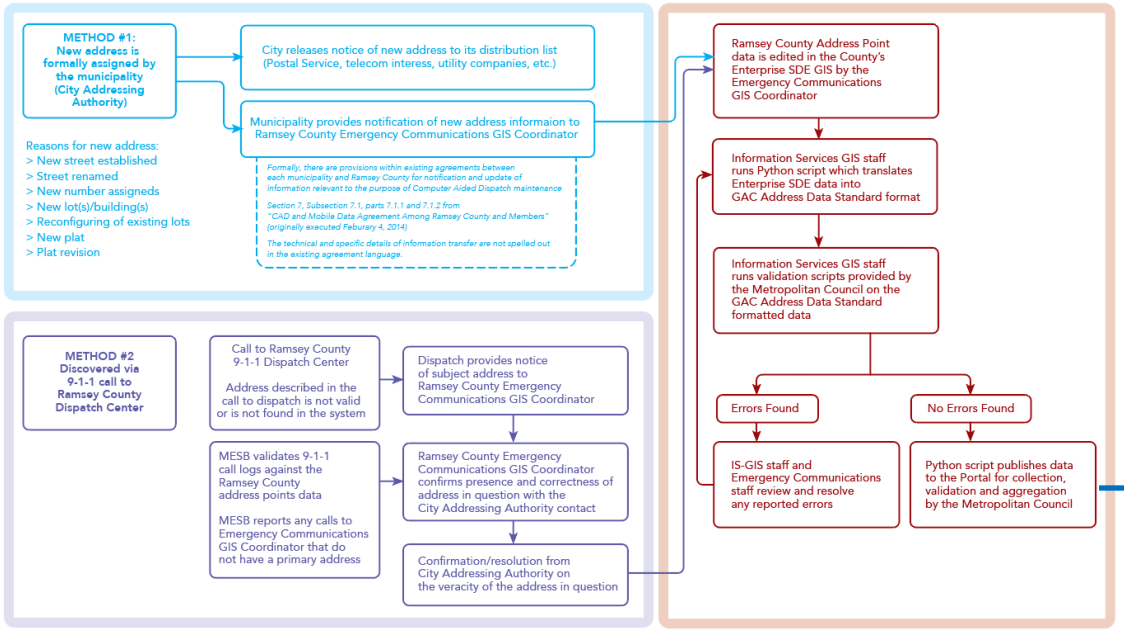
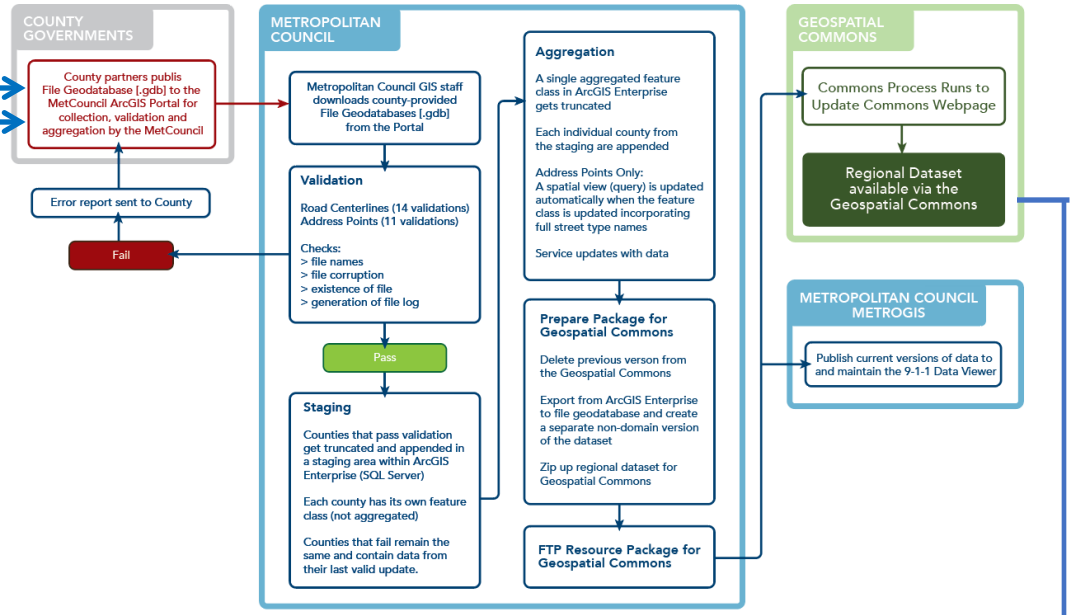
Metro Address Point Dataset
Metro Road Centerline Dataset
Metropolitan Emergency Services Board
(Extension of participating County governments)
[9-1-1 Validation]

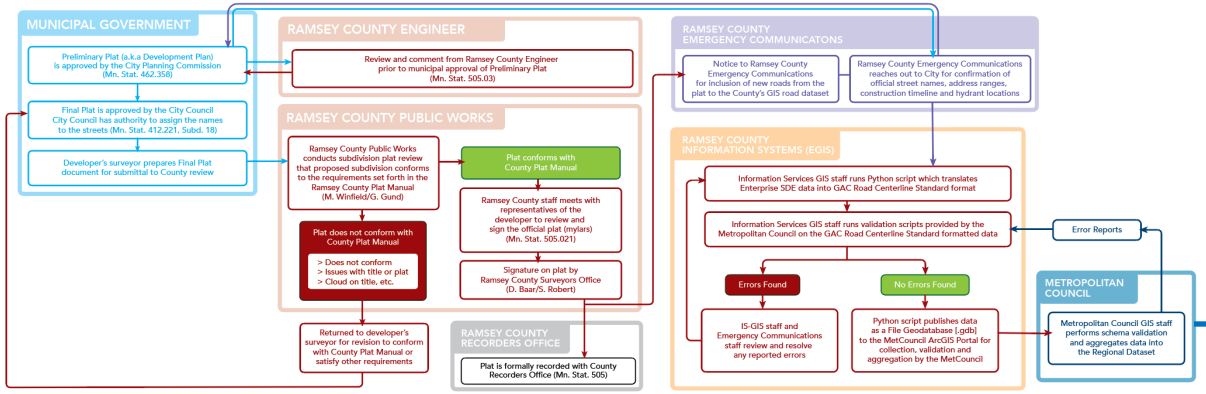
CITY/COUNTY PROCESS – ADDRESS DATA



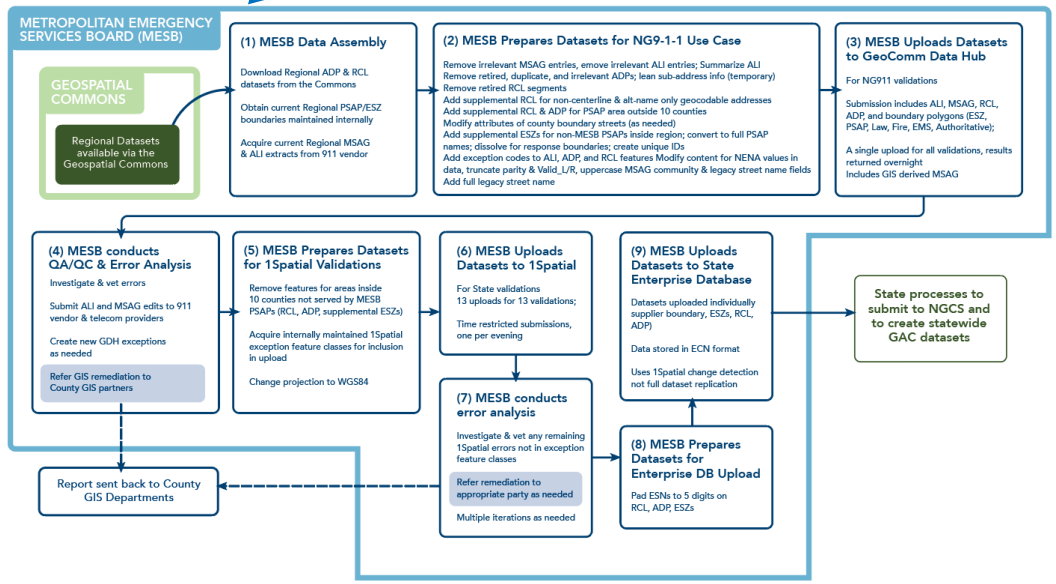
MET COUNCIL PROCESS

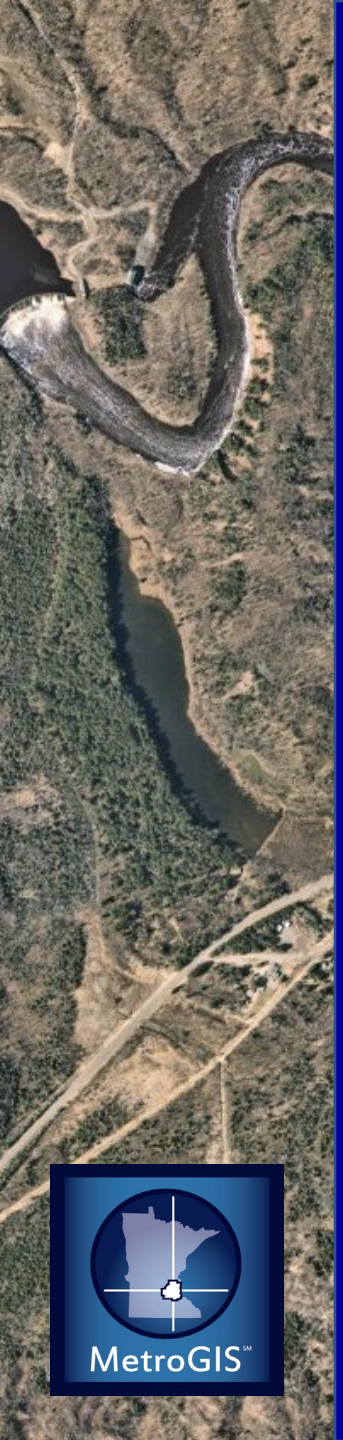


CITY/COUNTY PROCESS – ROAD CENTERLINE DATA



MESB PROCESS





Regional Datasets

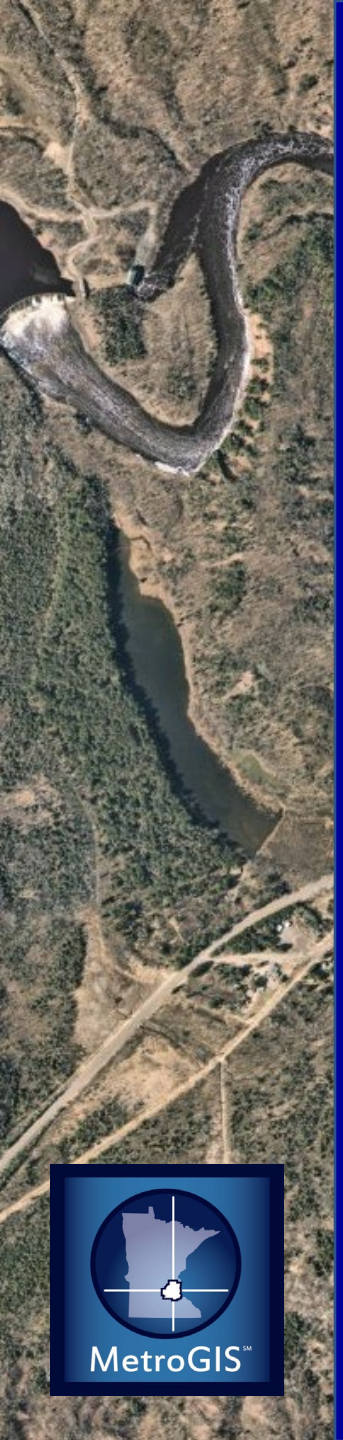
4 – Identify Roadblocks

What could impede continued production and availability of regional datasets?

Maintenance of MOA/Contract agreement

Prevent loss of knowledge (purpose, process, etc.)

Training, staff turnover, resources, etc.



Regional Datasets

Four Priorities:

1 – Integrate our data into external systems

2 – Maintain and improve validation and standard adherence

3 – Documentation (processes and workflows)

4 – Identify roadblocks to long term sustainability

Agenda Item 4b

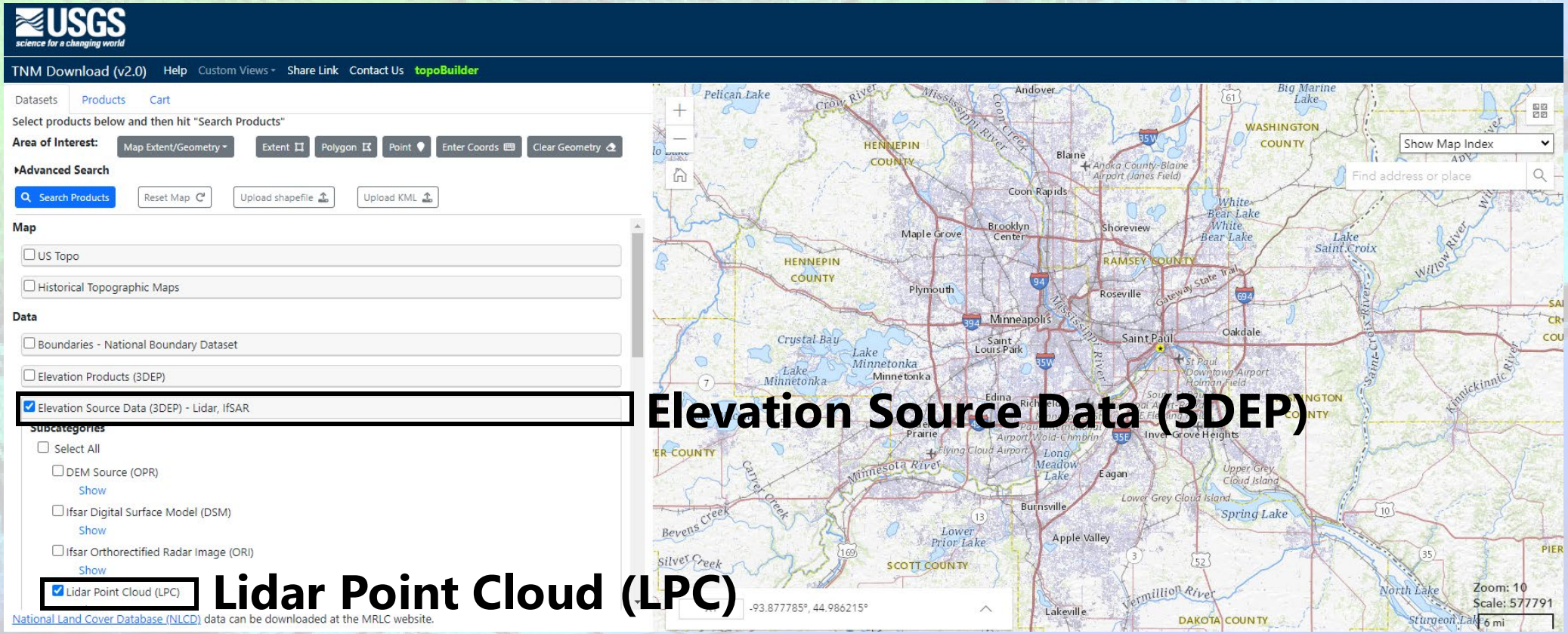
LIDAR Update

MetroGIS℠

4b - LIDAR Project Update

Preliminary data is downloadable from the National Map

https://apps.nationalmap.gov/downloader/



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MetroGIS℠

https://lidarhub-minnesota.hub.arcgis.com/

Agenda Item 4c
External Platform Publishing
MetroGIS℠

External Platform Publishing

Metro regional datasets made available to/integrated with/published in:

- ESRI Community Basemap
- Google Maps
- Open Street Map
- HERE
- Others as they emerge

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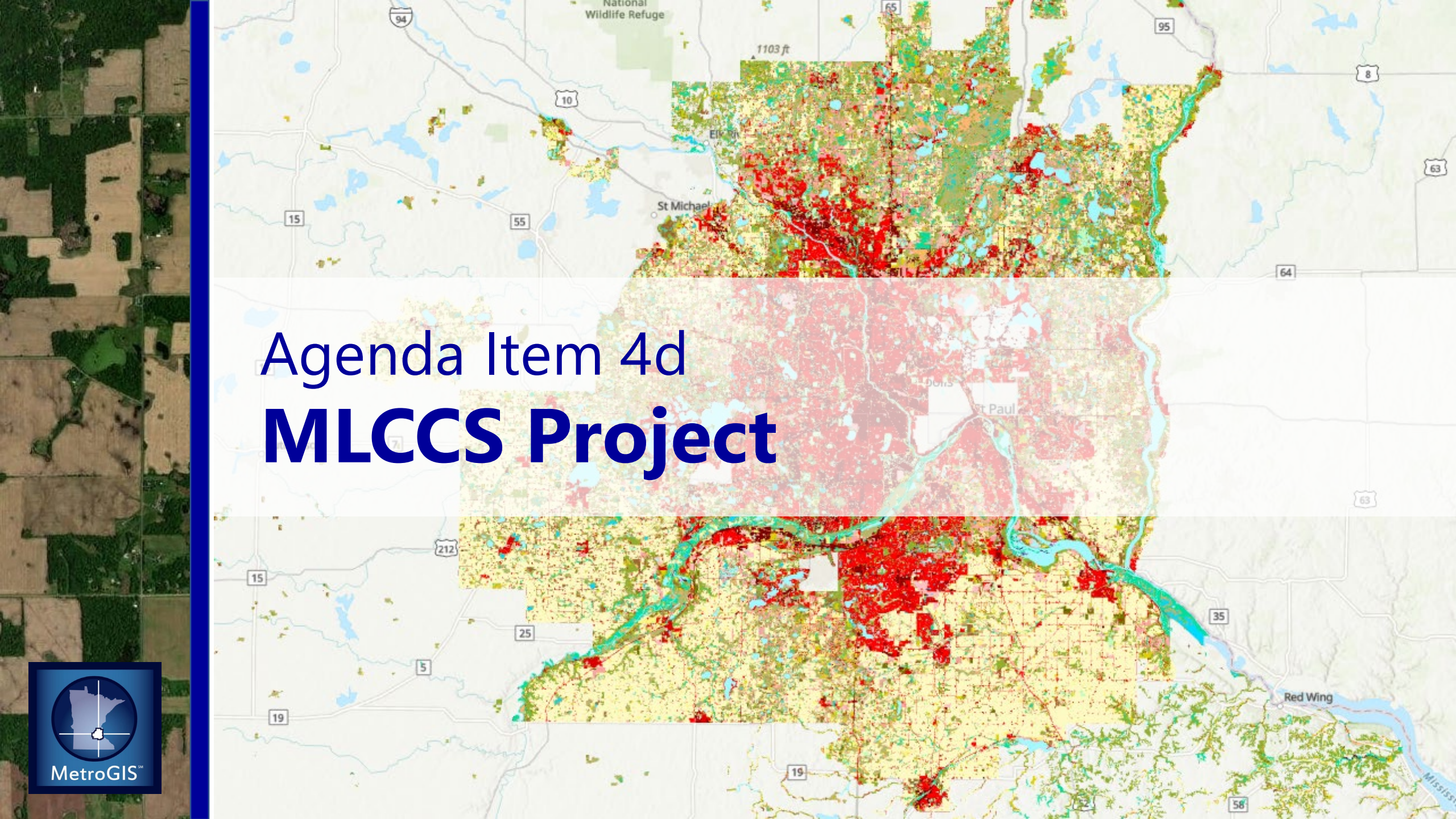


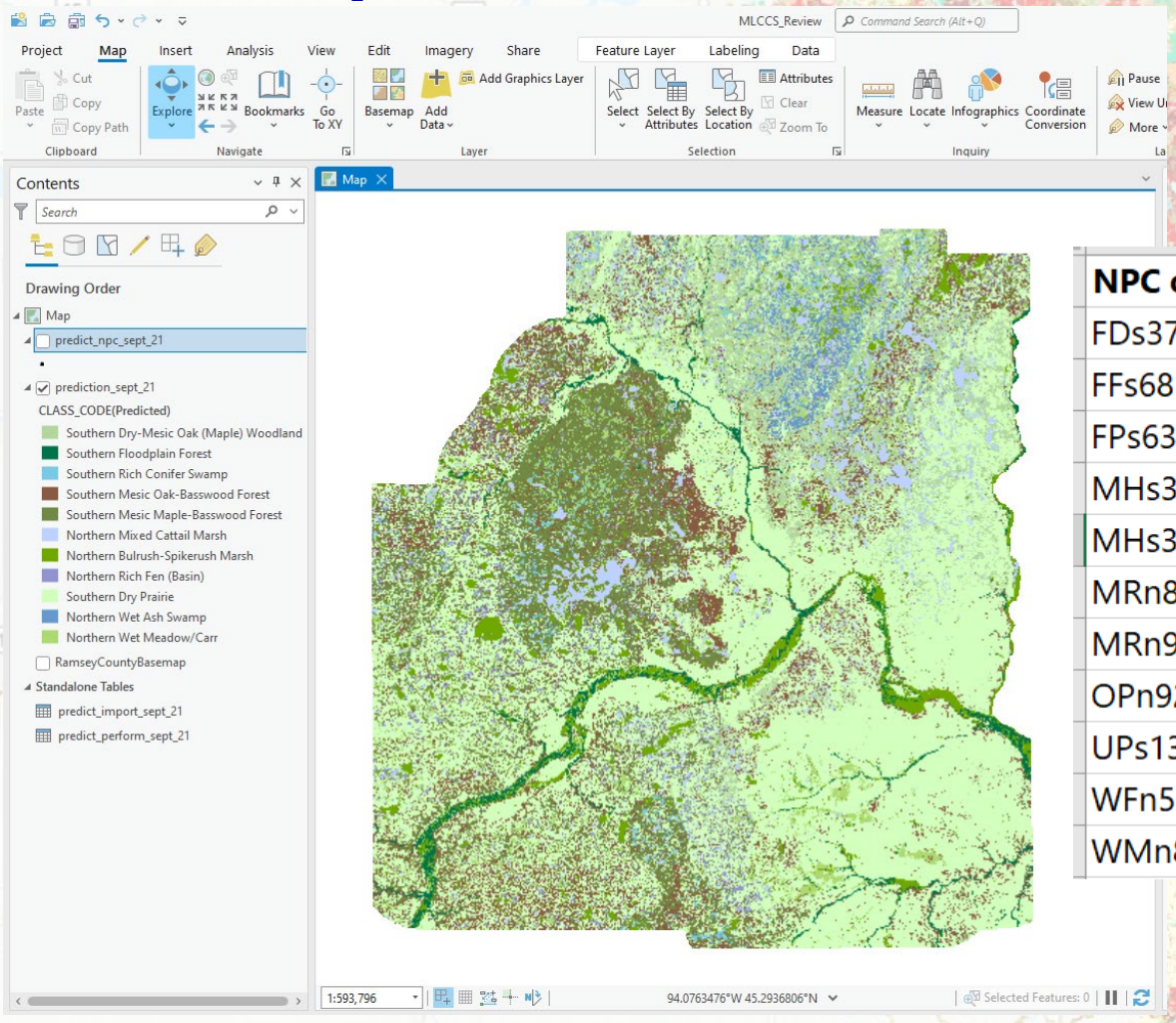
Agenda Item 4d

MLCCS Project

MLCCS Project

Minnesota Land Cover Classification System

MetroGIS provided $26,500 in 2023



NPC class code	NPC Class
FDs37	Southern Dry-Mesic Oak (Maple) Woodland
FFs68	Southern Floodplain Forest
FPs63	Southern Rich Conifer Swamp
MHs38	Southern Mesic Oak-Basswood Forest
MHs39	Southern Mesic Maple-Basswood Forest
MRn83	Northern Mixed Cattail Marsh
MRn93	Northern Bulrush-Spikerush Marsh
OPn92	Northern Rich Fen (Basin)
UPs13	Southern Dry Prairie
WFn55	Northern Wet Ash Swamp
WMn82	Northern Wet Meadow/Carr

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MLCCS Project

Minnesota Land Cover Classification System

Training Layers used in the model

variable	Full name	Source
aspect_group	Aspect in four groups - north (315 to 45), east (45 to 135), south (135 to 225), west (225 to 315)	from the aspect_real layer
aspect_real	Aspect in real numbers	Processed from 30m DEM (Aspect SA tool in ArcGIS)
canopy_height	Canopy height, LiDAR derived	DNR Forestry
chili	Continuous heat-insolation load index	https://developers.google.com/earth-engine/datasets/catalog/CSP_ERGo_1_0_US_CHILI
curvature	curvature of raster surface	Processed from 30m DEM (Aspect SA tool in ArcGIS)
distRiver	Distance to nearest flowing water body	Calculated with the distance tool in ArcGis 10.8 from the DNR river and stream centerlin
geomorphic	Geomorphology of Minnesota - Geomorphic Association	University of Minn. Duluth, Minnesota Geological Survey, and MN DNR
glacial_phase	Geomorphology of Minnesota - Glacial Phase	University of Minn. Duluth, Minnesota Geological Survey, and MN DNR
landsurfacetemp_2022_low	Land Surface Temperature 2022, Twin Cities -	Metropolitan Council
NdwiDifffMayToSeptL8	Seasonal wetness: Normalized diffrence water index of May-Sept	
nlcd_2019	National Land Cover Dataset (NLCD) from 2019	https://www.usgs.gov/centers/eros/science/national-land-cover-database
nwi_veg_int_0	National Wetlands Inventory (NWI), Simplified Plant Community Classification	https://www.dnr.state.mn.us/eco/wetlands/nwi_proj.html
riparian_floodplain	FEMA Floodplain and Floodway combined with DNR streams intesecting flat areas	https://www.fema.gov/flood-maps
sedimentary	Geomorphology of Minnesota - Sedimentary Association	University of Minn. Duluth, Minnesota Geological Survey, and MN DNR
slope_percent	landform slope, percent	Processed from 30m DEM (Aspect SA tool in ArcGIS)
soil_texture_simple	SSURGO soils - Surface Texture, simplified to 13 classes	Natural Resources Conservation Service (NRCS) - https://www.nrcs.usda.gov/resources/d
soils_grigal_relief	Cummins Grigal Soils of Minnesota - DESC attribute	U of M, Dept. of Soil, Water and Climate
soils_grigal_texture	Cummins Grigal Soils of Minnesota - TEXT_1 attribute	U of M, Dept. of Soil, Water and Climate
soils_grigal	Cummins Grigal Soils of Minnesota - GEISSOIL_K attribute	U of M, Dept. of Soil, Water and Climate
soils_hydric	SSURGO soils - HydrcRatng attribute	Natural Resources Conservation Service (NRCS) - https://www.nrcs.usda.gov/resources/d
soils_order	USDA STATSGO - Dominant Soil Orders	https://www.sciencebase.gov/catalog/item/5748b4cae4b07e28b664dda4
soils_orgmatter	SSURGO soils - OrgMatter attribute	Natural Resources Conservation Service (NRCS) - https://www.nrcs.usda.gov/resources/d
soils_slope_group	SSURGO soils - Slope, reclass to 5 groups	Natural Resources Conservation Service (NRCS) - https://www.nrcs.usda.gov/resources/d
solar_area	Area Solar Radiation - watt hours per square meter	Processed from 30m DEM (Aspect SA tool in ArcGIS)
spring_ndvi	Normalized difference vegetation index for spring	Processed from Landsat 8 : https://developers.google.com/earth-engine/datasets/catalo
summer_ndvi	Normalized difference vegetation index for summer	Processed from Landsat 8 : https://developers.google.com/earth-
topo_landform	Geomorphology of Minnesota - Topographic Expression	University of Minn. Duluth, Minnesota Geological Survey, and MN DNR
tpi100m	Topographic position index at 100 m	Processed from dep3_10m (Focal Statistics SA tool in ArcGIS)
um_mlccs_2013	MLCCS and Impervious Surface by Landsat and Lidar: 2013	U of M, Remote Sensing and Geospatial Analysis Laboratory

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Agenda Item 5

Filling Vacant Committee Seats

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January 2024 – Reach Out

Academic Seat:	**Macalester College** **University of Saint Thomas** **Saint Paul College** **Saint Mary's University of Minnesota**
Utilities Seat:	**Connexus Energy** **Xcel Energy** **CenterPoint**
Non-Profit:	**MN Compass**
Federal Government:	**MNRRA** **USACOE** **USGS**

Agenda Item 6

GAC Update (Mayer/Slaats)

Minnesota Geospatial Advisory Council

MetroGIS Coordinating Committee Meeting

January 25, 2024

MINNESOTA
GEOSPATIAL ADVISORY COUNCIL

Heather Albrecht, Chair
Britta Maddox, Vice Chair

2024-25 Advisory Council Members

- **City, Twin Cities metro**
  - Dennis Tumberg, City of Chanhassen
- **City, Greater Minnesota**
  - Vacant
- **County, Twin Cities metro**
  - Victoria Reinhardt, Ramsey County
- **County, Greater Minnesota**
  - Christy Christensen, McLeod County
- **Regional government, Twin Cities metro**
  - Tanya Mayer, Met Council
- **Regional government, Greater Minnesota**
  - Jill Amundson, West Central Initiative
- **State agencies**
  - Kari Geurts, DNR
  - Ben Timerson, MnDOT
- **Federal government**
  - Jeff Bloomquist, Risk Management Agency, USDA
  - Mitch Bergeson, US Geological Survey
- **Tribal government**
  - Ryan Bonney, Shakopee Mdewakanton Sioux Community
- **Non-profit organizations**
  - Jessica Fendos, LOGIS
- **Business**
  - Kendis Scharenbroich, Pro-West & Associates
  - Gerry Sjerven, Minnesota Power
- **Higher Education**
  - Len Kne, U-Spatial / UMN Twin Cities
  - Stacey Stark, U-Spatial / UMN Duluth
  - Shana Crosson, U-Spatial, Research Computing, UMN Twin Cities
- **MetroGIS**
  - David Brandt, Washington County
- **MN GIS/LIS Consortium**
  - Leanne Knott, City of Red Wing
- **Surveyor**
  - Pat Veraguth, Douglas County
- **At-large**
  - Cory Richter, Ramsey County
  - Heather Albrecht, Hennepin County
  - Britta Maddox, Anoka County
- **Chief Geospatial Information Officer (ex-officio)**
  - Alison Slaats, MnGeo

MnGeo Update

Updates from MnGeo

- October 31 - Governor Walz, Jack Dangermond and Alison Slaats presented to state agency senior leadership about using GIS to support One Minnesota plan, and data-driven decision making
- Technology Modernization Fund (TMF)
  - MNIT has funds for modernization of technology
  - MnGeo has applied for TMF funds to update the Geospatial Commons. Goals of the work are to upgrade architecture and refresh website. Web service-based architecture would result in more Commons resources with services.

Open/Opt-In Data Update

Maps on the following slides will show the following info:

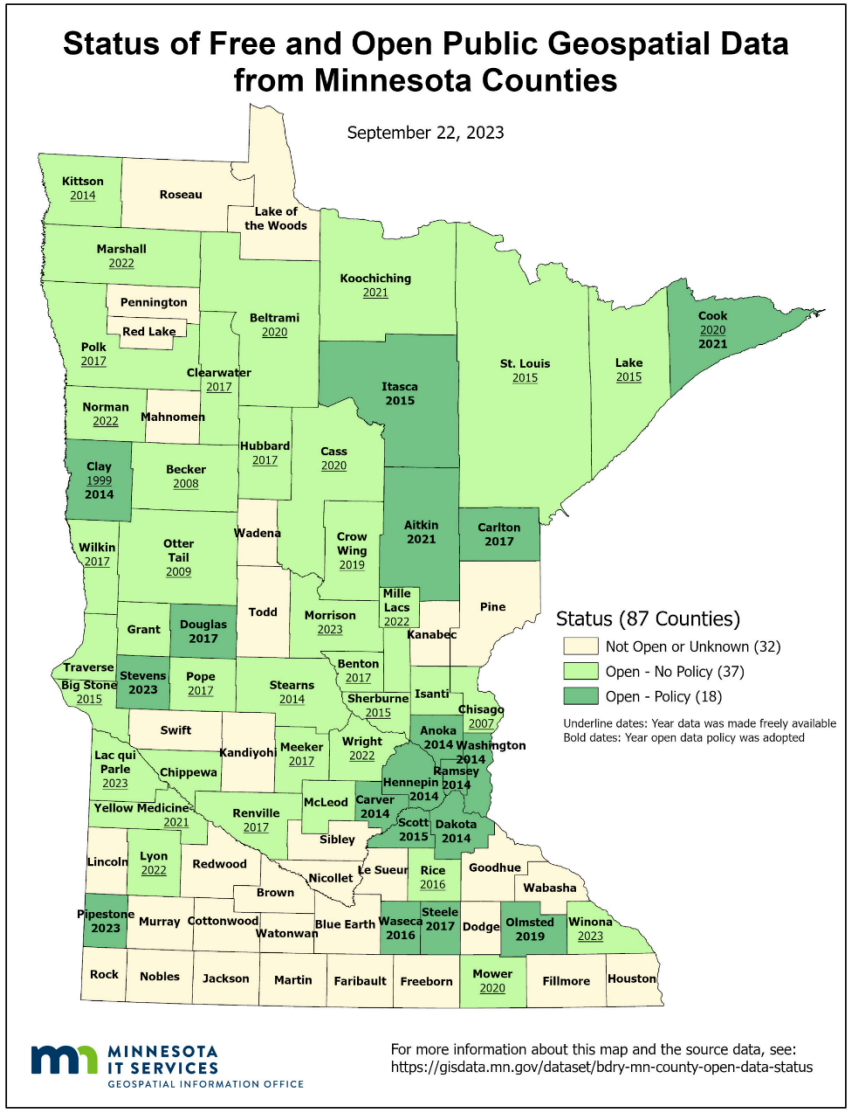
- **Open Data Counties:** Counties that share their data freely, on their own site and on the Geospatial Commons
- **Parcel Opt-In Counties:** Counties that have agreed to include their parcel data in the statewide GAC-standard parcel dataset on the Geospatial Commons
- **Road Centerline, Address Point and Emergency Service Zone Opt-In Counties:** Counties that have agreed to include their (NG911) data in the statewide GAC-standard datasets on the Geospatial Commons as soon as it is available
- **Recently published – 1st Generation Road Centerlines and Address Points:** Counties that have agreed to include their road centerline and address points data in the first public statewide GAC-standard road centerline and address points datasets on the Geospatial Commons

Status of Free and Open Data Public Geospatial Data

Status	Number of Counties	Total
Open - Policy	18	55
Open - No Policy	37	
Not Open or Unknown	32	32

Additions since last update: Morrison & Winona

https://gisdata.mn.gov/dataset/bdry-mn-county-open-data-status



Statewide Publicly Available Parcel Data

Published quarterly

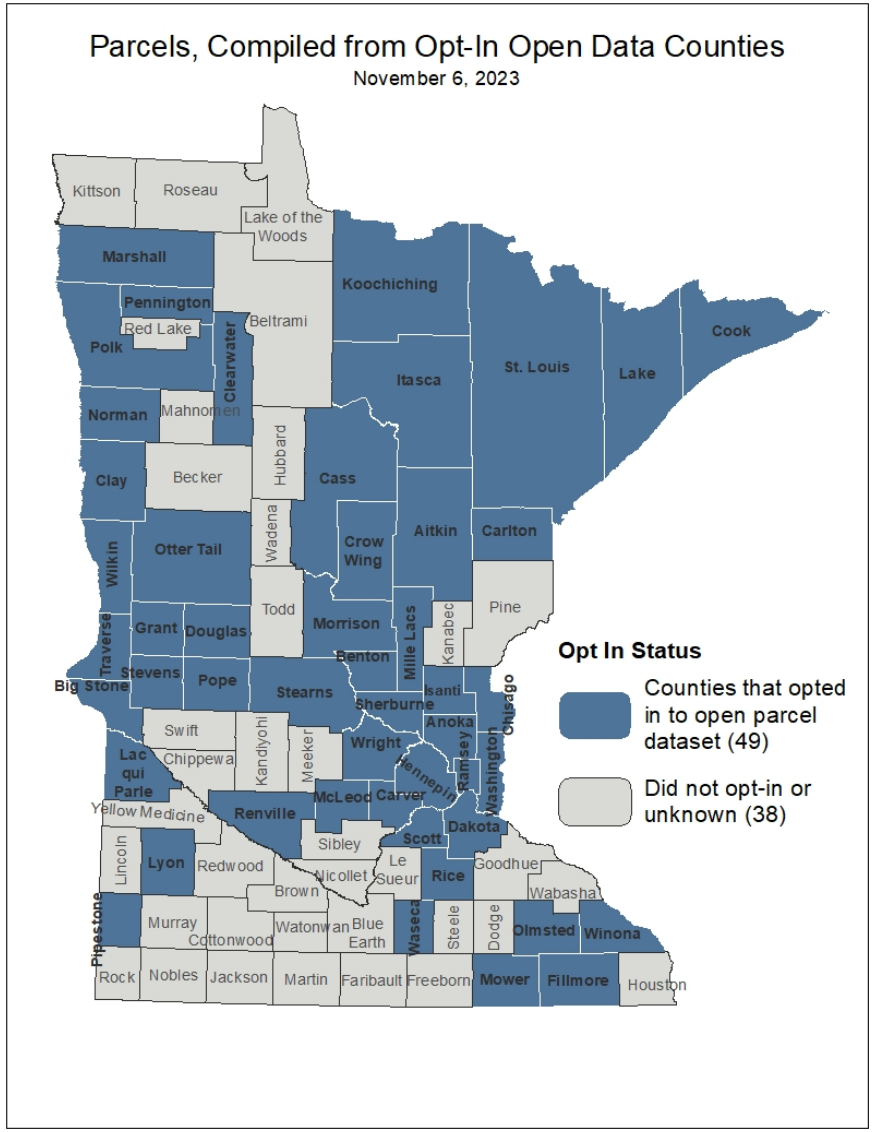
Most recent update, **November 6, 2023**

- New Counties: Cass, Lac qui Parle, McLeod, Morrison, Pipestone

Coming soon:

- Create a secure ArcGIS Online statewide feature layer for internal (government) use

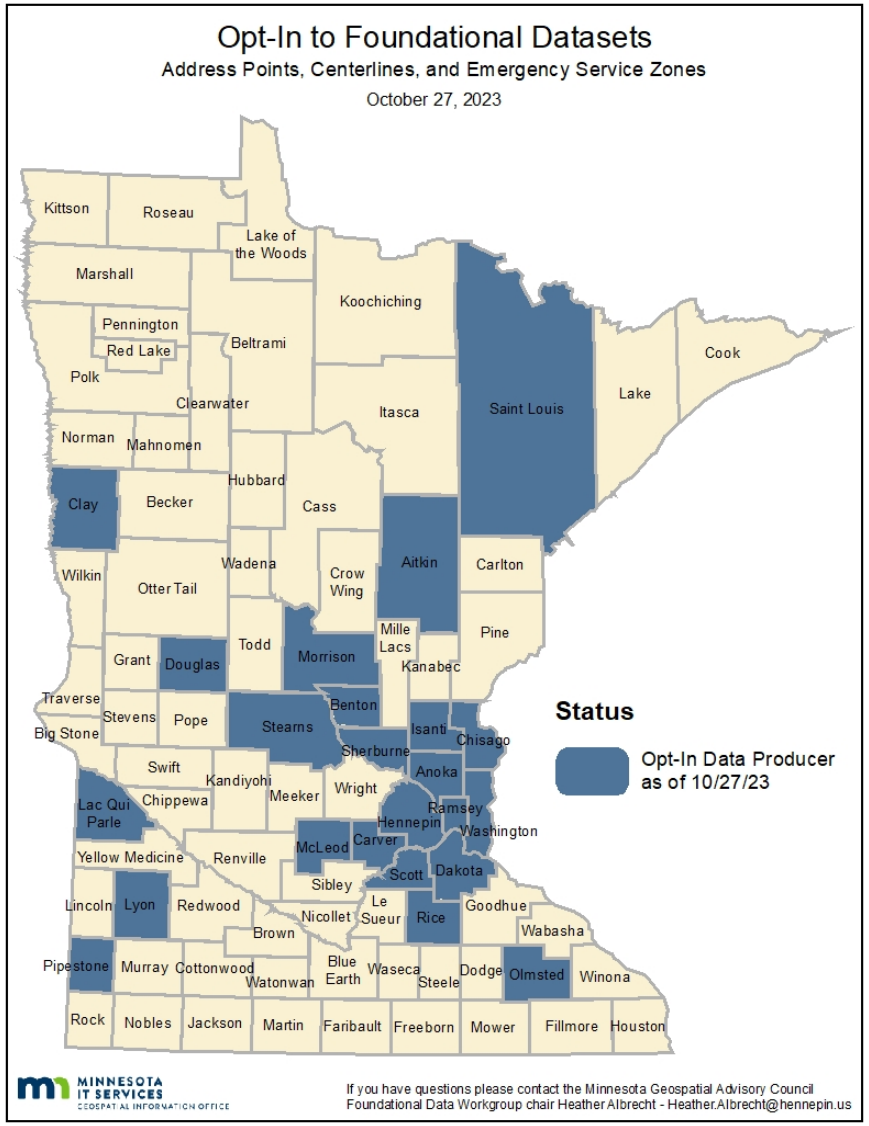
https://gisdata.mn.gov/dataset/plan-parcels-open



Road Centerline, Address Points and Emergency Service Zones

Opt-In to share RCL, ADP and EMZ's

- 21 Counties have opted in!
- Peer to Peer process modeled after PLRC parcel sharing efforts
- Work being done by **Open Data** sub-committee (Outreach Committee)
- Outreach volunteers needed!



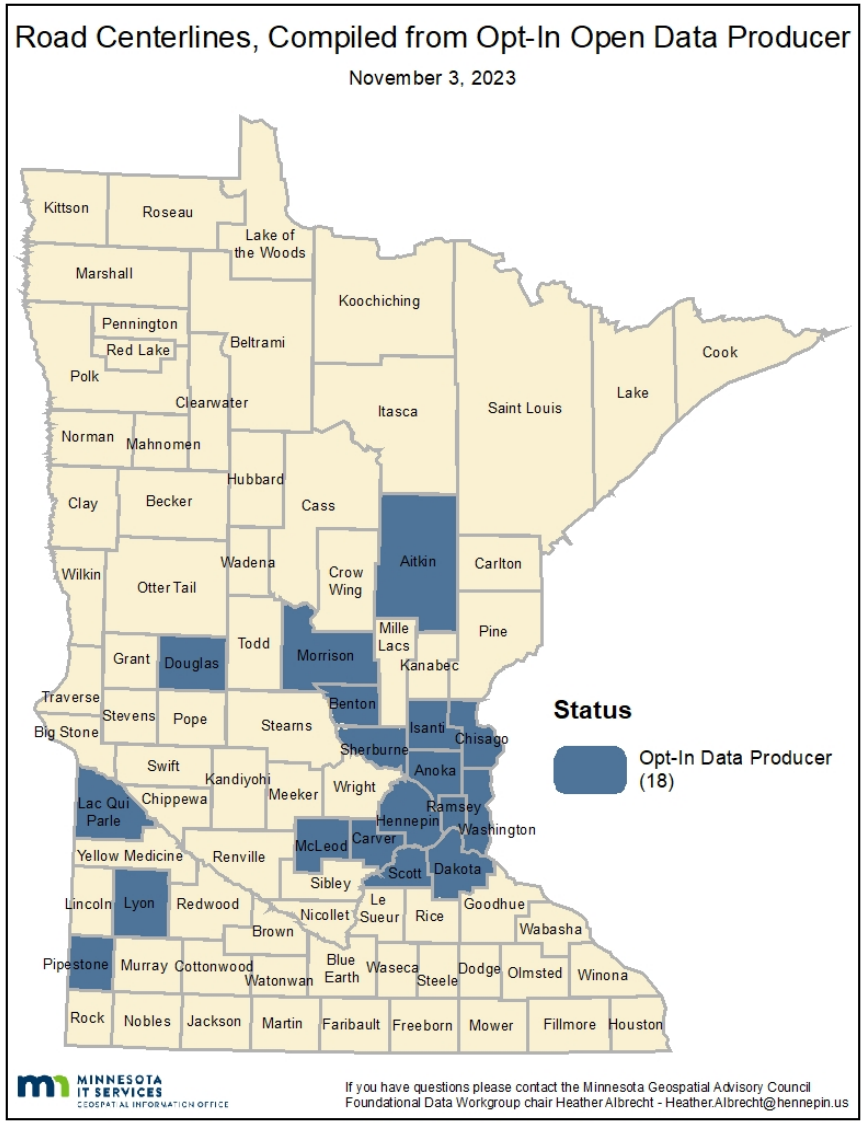
Road Centerline Dataset Published!

1st Road Centerline dataset published!

- Compiled from Opt-In Open Data Counties November 30th (soft launch)
- https://gisdata.mn.gov/dataset/trans-road-centerlines-open

Coming soon:

- Broadcast announcement for road centerlines



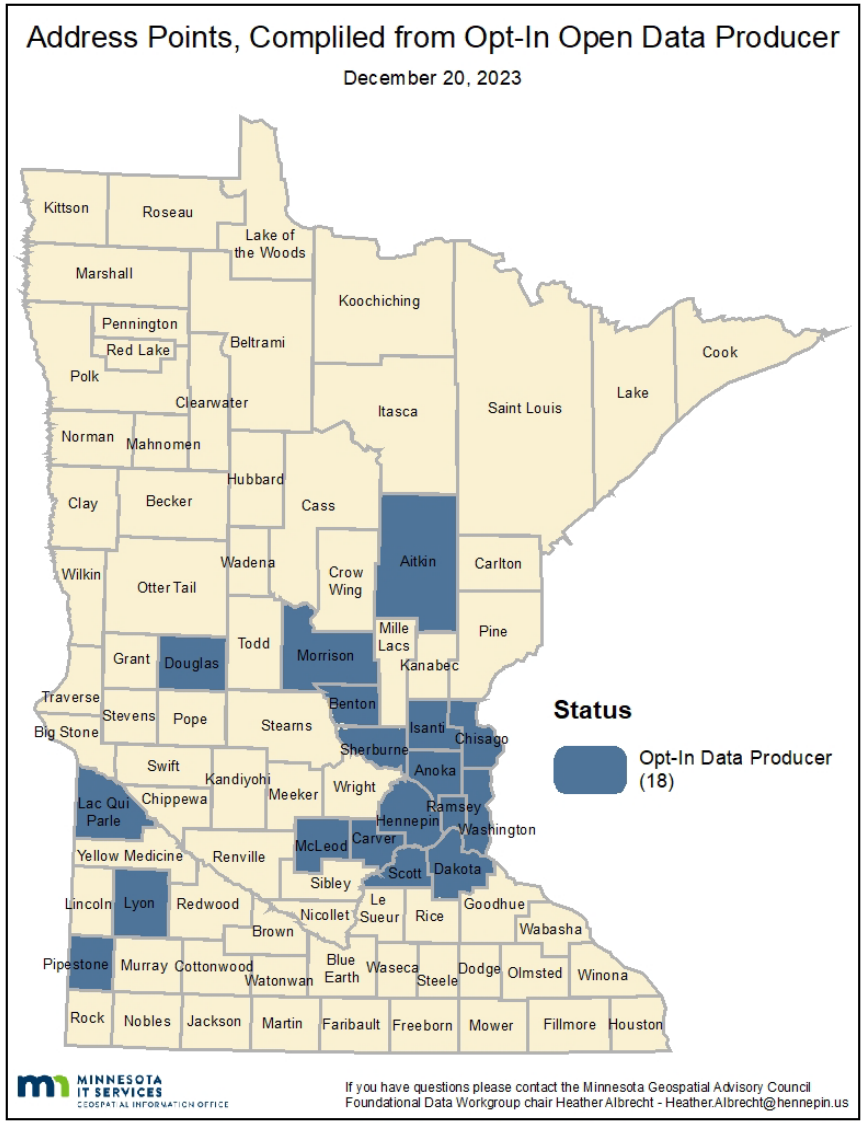
Address Points Dataset Published!

1st Address Points dataset published!

- Compiled from Opt-In Open Data Counties December 20, 2023 (soft launch)
- https://gisdata.mn.gov/dataset/loc-addresses-open

Coming soon:

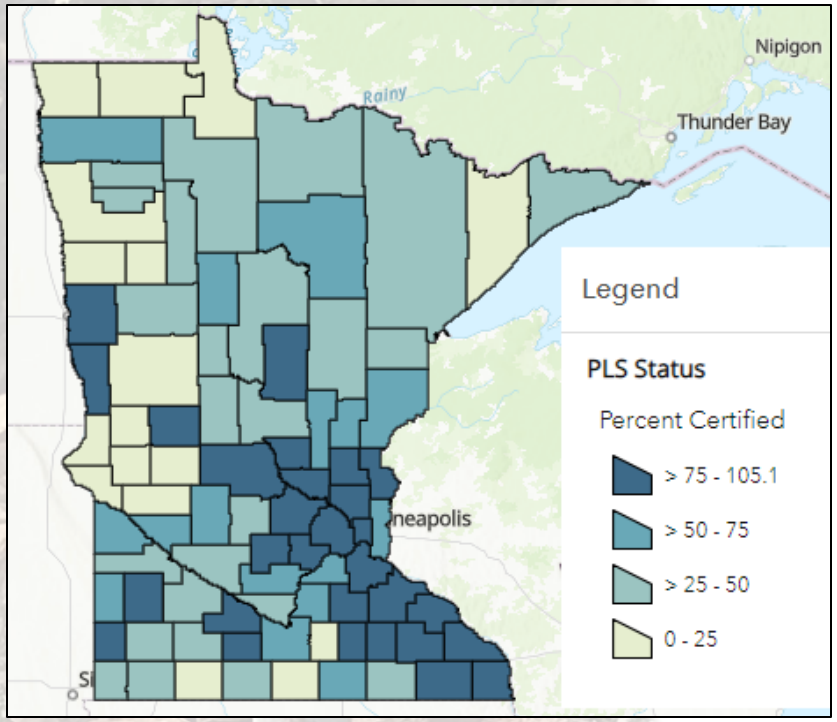
- Broadcast announcement for address points



PLSS Monument Grant Development

- MnGeo Survey Coordinator Onboarded October 25th
- Meetings with: Finance, Procurement, OGM, MNIT Legislative Director, General Counsel
- Office of Grants Management (OGM) Training
- Request for Proposal (RFP) converted to new OGM template
- PLSS Preservation Committee has met weekly since Nov. 6th
- Developed application exhibits & FAQs
- Grant overview presentation at MSPS Winter Meeting
- Outreach & discussions with counties & land surveyors
- Submitted RFP & application to MNIT General Counsel for review
- Research & review of Grant Management Solutions

PLSS Monument Grant Next Steps



- Acquire & Develop Grant Management Solution. (6-8 weeks)
- Consider & Incorporate General Counsel comments.
- Outline & Finalize Financial & Procurement Grant Process'
- Outline Pre-award Risk Assessment Process
- Final reviews of RFP and application exhibits
- Implement & test grant management system
- Open application period end of January or beginning of February
- Award & execute first grant award contracts March-April 2024
- PLSS Legislation will be considered in the next legislative session.

Preserving the PLSS (arcgis.com)
https://plss-minnesota.hub.arcgis.com

Annual Priority Projects Survey

Summary of Survey Results

- Foundational datasets
  - Parcels
  - Street Centerlines
  - Address Points
- Publication of open foundational datasets to commercial sources
- Lidar Data
- Hydro-DEMs
- Culvert Data Standard
- Re-monumentation of all Section Corners
- Updated and Aligned Boundary Data
- Underground Utilities Data Sharing Team
- …and more

Annual Priority Projects Survey

Next Steps for the GAC

- Complete the preliminary rank and prioritization
- Assign to a Champion, Priority Owner and Committee
- Determine Committee or Workgroup to own Priority
- Present to the GAC in March to finalize list of priorities to focus on in 2024

Next MN GAC Meeting

March 20, 2024

10 am – Noon, online only

Minnesota Geospatial Advisory Council (state.mn.us)

https://www.mngeo.state.mn.us/councils/statewide/index.html

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Agenda Item 7

Food Resources Mapping

Food Resources Mapping

Virtual meeting on Tuesday, February 20, 2024

Led by Public Health/Food Security/Nutrition from Counties around the Metro Region

Explore potential for metro-wide food resources web mapping application

ramseygis.maps.arcgis.com/apps/webappviewer/index.html?id=afe8d7067726472da336deaecb957c9d

RAMSEY COUNTY **Food Access Locations** Customer Contact Center 651-266-8500

En Es So Hm

Kamps Food Market

1059 Western Avenue North
Saint Paul, MN 55117

Monday - Saturday: 8 a.m. - 9 p.m.
Sunday: 8:30 a.m. - 9 p.m.

Grocery Store

SNAP: Accepted
Market Bucks: Not applicable
WIC: Accepted
WIC FNMP: Not applicable
POP Club: Not applicable
Restrictions: None

For More Information

Zoom to

MetroGIS℠

Food Resources Mapping

- Purpose and Need
- Data Schema - Must Haves vs. Nice-To-Haves
- Data Sources/Data Management
- Data Maintenance Responsibilities
- Options for a regional web map

Agenda Item 8: Lightning Round

Agenda Item 9: Adjourn