MINNESOTA
GEOSPATIAL ADVISORY COUNCIL

Imagery Committee Meeting Minutes

Date: September 23, 2026

Time: 2:00 PM (1 hr)

Location: Virtual Meeting

Attendees

- Heather Albrecht (Hennepin Co./ Co chair)
- Tanya Mayer (Met Council / Co chair)
- Christian Sovak (MnDOT)
- Ryan Mattke (UMN)
- Joe Sapletal (Dakota Co.)
- Jacob Haferman (MNIT-MnGeo)
- Jennifer Murphy (MnDNR)
- Adam Smith (MnDOT)
- Kory Thurnau (MNIT-MnGeo)

Guests:

- Ulrika Zay (MI-DTMB)
- Hafeez Lalani (Planet)

Welcome and Introductions

The committee welcomed **Ulrika Zay**, Program Manager for Michigan's statewide imagery and LiDAR program. Ulrika provided an overview of Michigan's enterprise approach to acquiring, managing, and distributing authoritative aerial imagery and LiDAR.

The Michigan program is administered through the Michigan Department of Technology, Management & Budget (DTMB) and is intended to serve state agencies as well as local government partners. The program evolved from individual state agencies independently acquiring imagery to an enterprise approach beginning in approximately 2010. The enterprise model was established to reduce duplication and provide a more efficient approach to acquiring and managing expensive statewide imagery resources.

Michigan Statewide Imagery Program Overview

Purpose

The primary goal of Michigan's program is to maintain access to current, authoritative, aerial imagery, and LiDAR for state agencies and government partners, including counties, townships, and cities.

Michigan's primary state-funded imagery is **12-inch orthophotography**, with local governments able to purchase higher-resolution imagery through a "buy-up" model. Typical buy-up products include 6-inch and 3-inch imagery.

The program emphasizes authoritative imagery, including documented acquisition dates, specifications, metadata, and state ownership of the imagery. The imagery has also been used in legal proceedings, making authoritative metadata and acquisition information particularly important.

Acquisition Cycle

Michigan currently operates on a **five-year statewide imagery cycle**. The state is divided into regions, with one region generally acquired each year.

The program previously experimented with a four-year cycle but determined that a five-year cycle was more practical given Michigan's geographic size, weather conditions, and the requirement for leaf-off acquisition. Michigan's primary acquisition window generally runs from March through May, with March and April preferred and earlier acquisition required in southern portions of the state.

The committee discussed the challenges of balancing acquisition frequency, resolution, cost, weather, leaf-off conditions, and available flight windows.

Key Takeaways/ Summary

1. **Enterprise acquisition** can reduce duplication and distribute costs across multiple state agencies and government partners.
2. **A state-funded baseline product** provides a foundation upon which local governments can purchase higher-resolution imagery.
3. **Local government buy-ups** can leverage statewide contracts and substantially reduce the cost and administrative burden of individual procurements.
4. **Data exchange** can provide an additional incentive for counties to participate in statewide GIS data programs.
5. **Existing LiDAR tile schemes** may provide a useful foundation for a consistent statewide imagery framework.
6. **Satellite imagery can complement aerial imagery**, particularly for monitoring conditions and providing higher temporal frequency.

7. **Archiving should be incorporated into the program from the beginning.** Long-term storage on removable hard drives creates significant preservation risks.
8. **Federal imagery can be enhanced by state-level management**, including historical archiving, statewide mosaicking, and centralized distribution.
9. **Sustainable funding remains a challenge**, even in a mature statewide program. Michigan continues to rely on agency contributions and is pursuing legislation to establish a more stable funding model.
10. **ROI and stakeholder engagement are ongoing activities**, particularly when seeking continued or increased agency or legislative funding.

Considerations for Minnesota

- Consider how Michigan's enterprise funding model could inform Minnesota's statewide imagery program alternatives.
- Further examine the potential for a Minnesota **baseline statewide imagery product with local government buy-up options**.
- Consider whether Minnesota's existing LiDAR tile scheme could serve as the basis for a statewide imagery tile framework.
- Evaluate the potential role of satellite imagery as a complementary source for higher temporal frequency.
- Incorporate **long-term archival and records management** into the statewide imagery assessment.
- Consider Michigan's data-exchange approach as a potential model for increasing county participation and obtaining statewide GIS datasets.
- Further investigate approaches for documenting and demonstrating **ROI** to participating agencies and legislative decision-makers.
- Continue monitoring Michigan's legislative funding initiative for lessons applicable to Minnesota.

Action Items & Follow-ups

All:

- Please review and provide input on the most current Needs Assessment Working Document by our next meeting in October.
- Reminder that we rescheduled the October Imagery Committee meeting to Tuesday, October 27, at 3:00pm to avoid conflict with MN GIS/LIS

- Provide Kory with any follow up or additional questions for Ulrika Zay and the MiSAIL program

Kory

- Follow up with Ulrika to get copies of her slides for reference
- Forward any additional questions for Ulrika
- Document and distribute responses as needed

Detailed Notes:

Use of Satellite Imagery

Michigan supplements its aerial imagery program with **Planet satellite imagery**.

Planet imagery provides more frequent observations and is particularly useful for monitoring environmental conditions and determining whether areas are ready for aerial acquisition. Michigan uses the imagery to monitor snow cover, ice, and other conditions when making flight "go/no-go" decisions.

The committee noted the potential relevance of this model to Minnesota, particularly the relationship between frequently collected satellite imagery and less-frequent, higher-accuracy aerial imagery.

Local Government Buy-Up Model

One of the significant features of Michigan's program is the ability for local governments to purchase higher-resolution imagery through the state's existing contracts.

The state pays for the baseline 12-inch imagery, while local governments pay the additional cost required to acquire higher-resolution imagery. This allows local governments to obtain imagery at a lower cost than conducting an independent procurement.

Michigan uses a standardized **buy-up agreement** for each acquisition. The agreement identifies the area of interest, imagery resolution, number of tiles, total cost, payment schedule, and contacts. DTMB works with the local government using GIS and the state's tile grid to identify the area to be acquired.

The committee discussed the potential value of this type of model for Minnesota's statewide imagery approach.

Payment Structure

Michigan invoices local governments in two stages:

- **25%** after successful acquisition of the imagery.
- **75%** after the imagery has been delivered and accepted.

Because acquisition and delivery may span fiscal years, Michigan's program manages expenditures and revenues across fiscal years and regularly coordinates with its financial officer. The typical period from acquisition to delivery of the state's final deliverables is approximately nine months.

Data Exchange Model

A particularly notable aspect of the Michigan program is its use of imagery as an exchange for local government GIS data.

Beginning in 2018, Michigan had sufficient state agency funding to fully cover its baseline 12-inch imagery. This allowed the state to offer imagery to counties in exchange for **parcel data, address data, and road centerline data**.

Michigan established intergovernmental agreements with all 83 counties. The agreements allow the state to obtain statewide data coverage while providing counties with imagery without requiring each county to independently acquire the imagery.

The initiative took approximately seven years to establish statewide agreements. The resulting data is used by numerous state agencies and is considered a fundamental component of many government services.

The committee discussed similarities with Minnesota's current parcel data situation, including the fact that Minnesota has statewide parcel data but does not currently have unrestricted public access to all county-provided data.

Tile Grid and Regional Acquisition

Michigan maintains a statewide tile grid used for both imagery and LiDAR acquisition.

The tile grid helps ensure that imagery is acquired continuously across county boundaries and prevents gaps between adjacent acquisition areas. The grid also provides a consistent framework for defining local government buy-up areas.

Minnesota committee members noted that Minnesota already has a tile scheme developed through its LiDAR program. The existing scheme is based on USGS-related standards, with some Minnesota-specific considerations related to coordinate systems and UTM zones.

The committee discussed whether Minnesota's existing LiDAR tile scheme could provide a foundation for a statewide imagery tile framework.

Imagery Deliverables and Quality Assurance

Michigan's standard imagery contract includes a broad set of deliverables, including:

- Digital elevation model (DEM) files
- Photo center information
- Orthophoto GeoTIFFs
- Ground control information

- Metadata
- Countywide mosaics
- Seam lines
- Tile grid information
- County-level delivery and accounting information

Michigan also maintains a formal quality assurance and quality control process. Flight information is monitored through flight tracking, and imagery is uploaded by contractors shortly after acquisition so that the contractor's photogrammetric team can evaluate the collection and identify potential reflights while aircraft remain in the area.

Data Management and Archiving

The committee discussed the importance of long-term preservation of imagery.

Michigan historically received imagery on hard drives. Recognizing the limitations and potential failure of long-term hard-drive storage, DTMB developed a records management and archival plan.

Michigan has begun transferring imagery to the state archives, where it will be preserved in a controlled environment using **Preservica** for digital preservation.

Minnesota participants noted similar challenges with historical imagery stored on aging hard drives, including instances where drives could no longer be accessed and data may have been lost.

Michigan's experience reinforces the importance of incorporating **long-term preservation, records management, and sustainable storage** into the design of a statewide imagery program rather than treating these as separate issues after acquisition.

NAIP and Leaf-On Imagery

Michigan uses federally acquired **NAIP imagery** as its primary source for leaf-on imagery.

Michigan receives and maintains copies of NAIP imagery because the publicly available federal service generally provides the most recent imagery rather than maintaining an easily accessible historical archive.

DTMB loads the imagery into its own imagery service so state agencies and other authorized users can access multiple years of NAIP imagery.

The committee discussed this as an example of how a state program can add value to federally provided imagery through centralized storage, historical archiving, and consistent distribution.

Program Funding Model

Michigan's baseline 12-inch imagery program is funded through contributions from several state agencies.

Current annual contributions total approximately **$370,000**, primarily from DNR, EGLE, MDOT, and DTMB. These contributions are sufficient to support the baseline 12-inch imagery acquisition on the current five-year cycle, assuming favorable contract pricing.

Additional funding opportunities support other imagery products and acquisitions. For example:

- Planet satellite imagery is supported when funding remains available after the primary imagery acquisition.
- Higher-resolution imagery is supported through local government buy-ups.
- Certain high-resolution Nearmap collections are supported through federal grant funding in coordination with MDOT.

The committee discussed the challenges of maintaining a funding model based on individual agency contributions. Michigan periodically must demonstrate the value and return on investment of the imagery program to participating agencies, particularly when there is a change in state administration.

Potential Legislative Funding Model

Michigan is currently pursuing a legislative funding initiative, **Senate Bill 999**, that could significantly change the program's funding structure.

If successful, the proposed model would provide a more consistent funding mechanism and support higher-resolution statewide acquisition. The proposed approach would divide Michigan into three regions, with portions of the Lower Peninsula acquired at 3-inch resolution and the Upper Peninsula acquired primarily at 6-inch resolution, with selected 3-inch areas around larger communities.

At the time of the meeting, the legislation remained pending and its future was uncertain.
The committee expressed interest in following the initiative and potentially inviting Ulrika back for a future presentation if the legislation advances.

Return on Investment and Stakeholder Engagement

The committee asked about how Michigan demonstrates the value and return on investment of its imagery program.

Michigan has periodically conducted statewide and national surveys to understand imagery and GIS needs. A significant survey was conducted prior to the 2020 RFP, with additional imagery and remote sensing questions incorporated into a later strategic planning effort around 2022 or 2023.

Michigan also established a **GIS Advisory Group** and a **Remote Sensing Work Group**. The Remote Sensing Work Group has been involved in discussions surrounding the legislative funding initiative.

Michigan maintains a GIS users' listserv with more than 1,600 members and uses professional associations and other stakeholder networks to obtain feedback.

The committee identified Michigan's approach to stakeholder engagement, funding justification, and ROI as particularly relevant to Minnesota's ongoing statewide imagery assessment.

Contracting and Procurement

Michigan's current imagery contracts originated from an RFP conducted around 2019–2020. The contracts were structured as three-year contracts with five one-year options.

The favorable pricing established through the earlier procurement has allowed Michigan to maintain relatively stable costs, despite significant increases in costs for equipment, fuel, and services following the pandemic.

Most of the current contracts expire in approximately **2029**, and Michigan expects to begin preparing for the next RFP well in advance.

Ulrika anticipates that the next procurement will result in increased pricing and may require renegotiation of the participating agencies' funding contributions.

Prepared by: Kory Thurnau