ADAPT AND OVERCOME: USING IMAGERY TO UPDATE OUR GIS ASSETS AND CREATING PARTNERSHIPS TO EXCEL TOGETHER

10/28/2020 TAMC Fall Conference

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- Information Steward Board Representative
- Michigan Architectural Project (MAP) Schema Business Owner
- Transportation Project Data Team Lead
- **MiSAIL SPR Manager**

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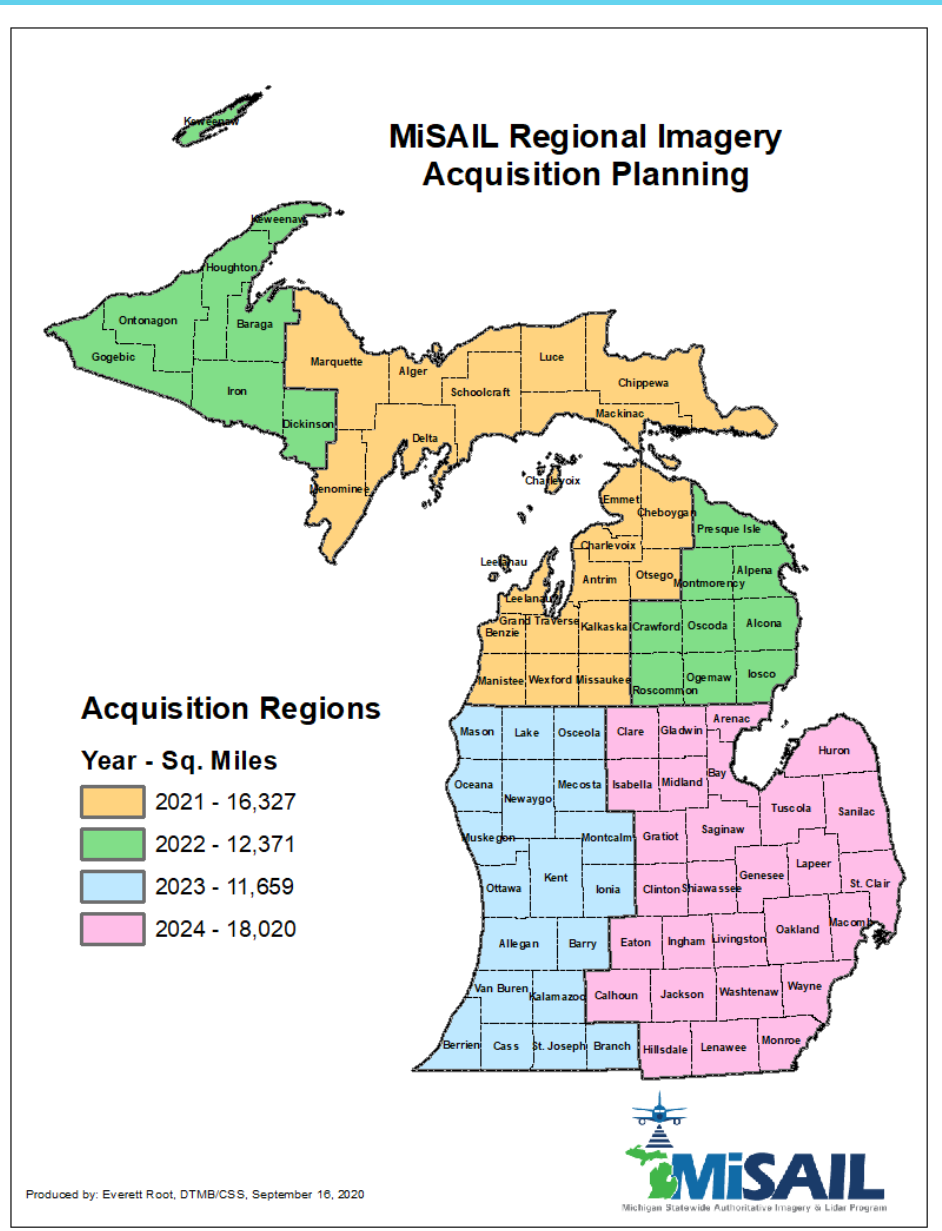
AGENDA

- MiSAIL Overview
- MiSAIL Products
- Updating MDOT's GIS Assets
- Inter-Governmental Partnerships

- What is MiSAIL?
- Imagery acquisition of ~15K square miles per year
- Partnerships available
- 12” base resolution
- 6” and 3” buyups available
- 4-band (Red, Green, Blue, Near-Infrared)

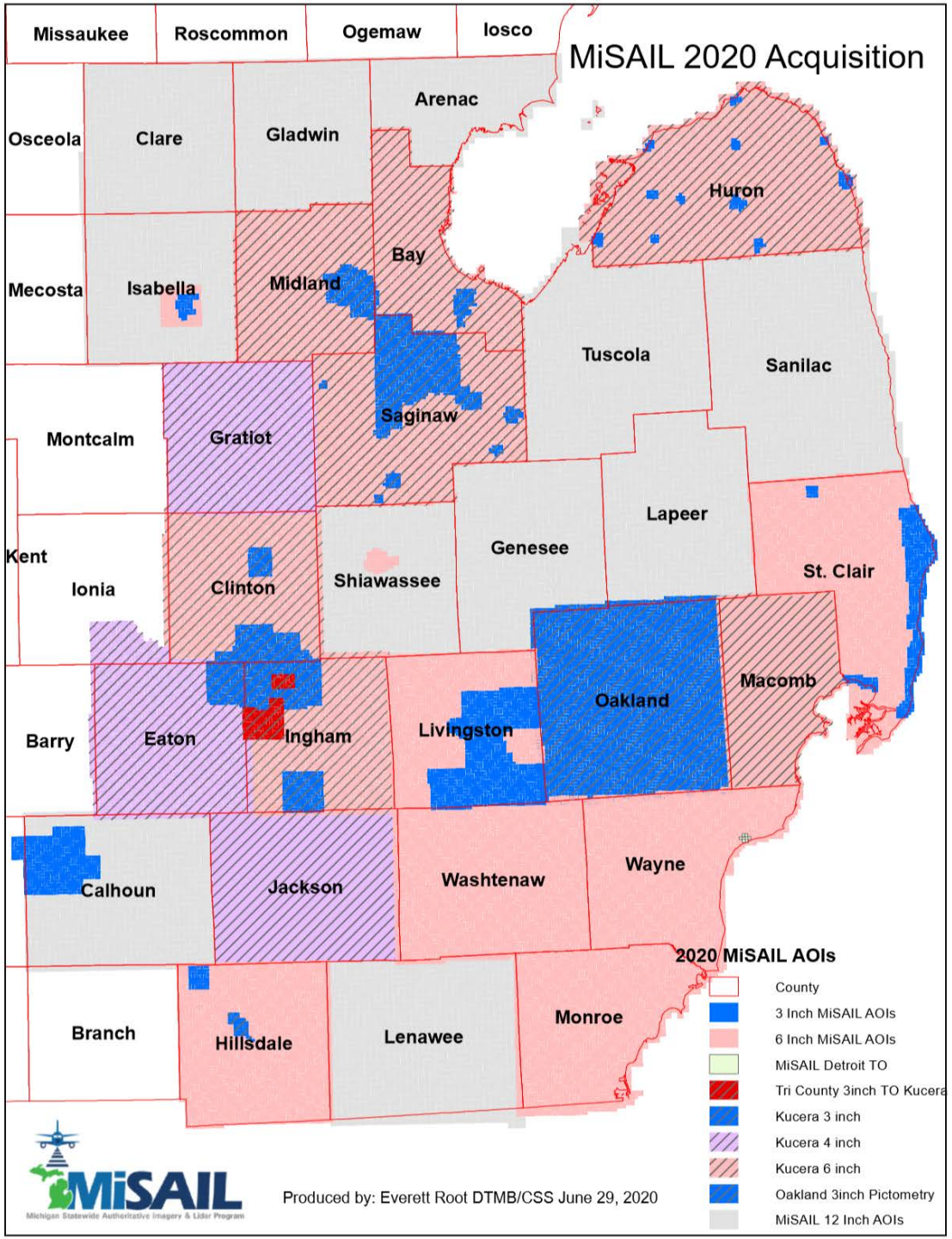


AXIS GEOSPATIAL LLC

AXIS Twin Engine Navajo
N359RX

AXIS GEOSPATIAL LLC

UltraCAM 100



2020 MISAIL AQUISITION

- 11 NON-MiSAIL counties managed on their own
  - SoM will be received imagery and GIS data in exchange for **$23.56 / sq. mile**
- 10 MiSAIL managed - @ 12-INCH, 5 counties @ 3-INCH or 6-INCH
- Many cities and villages throughout the area of interest did 3” and 6” buyups

6-INCH VS. 12-INCH

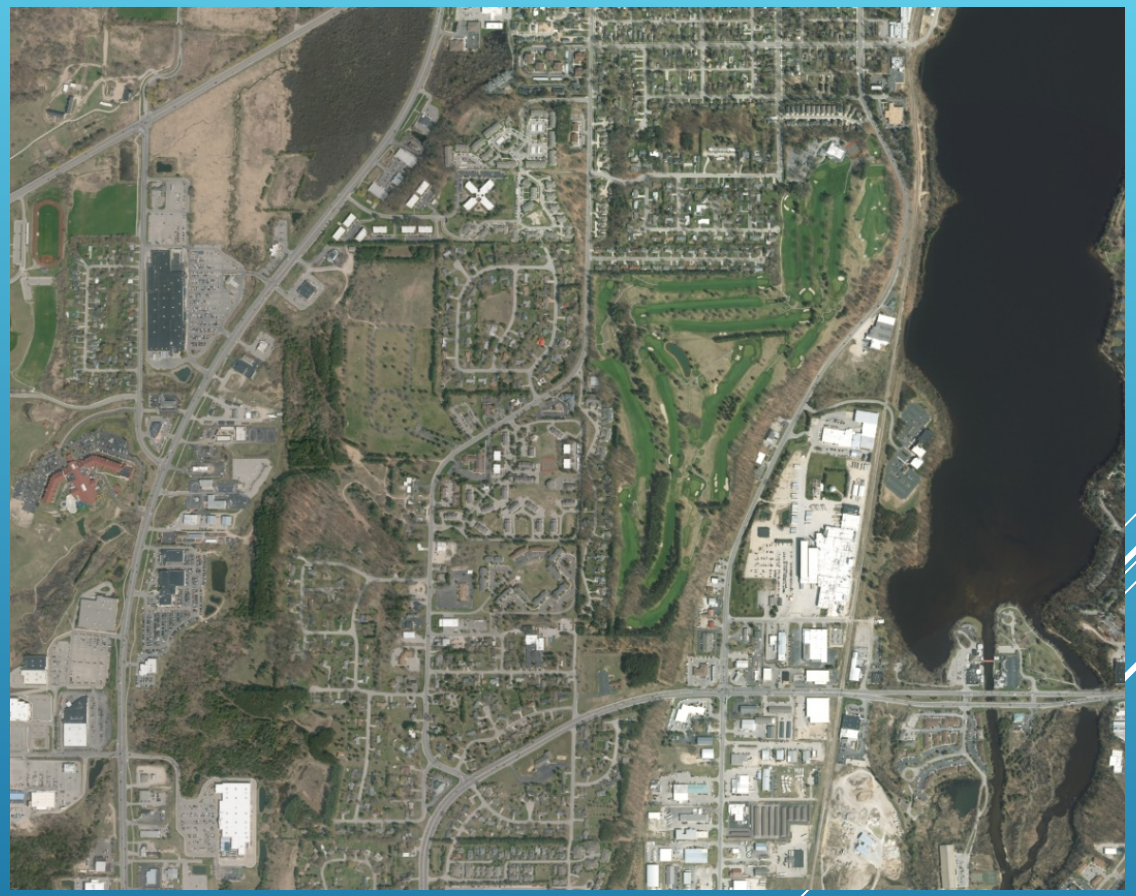
6-inch 2017 Emmet County

12-inch 2017 Emmet County

12-INCH EMMET COUNTY

6-INCH EMMET COUNTY

Infrared Band Imagery Example



Red Green Blue (Natural Color)

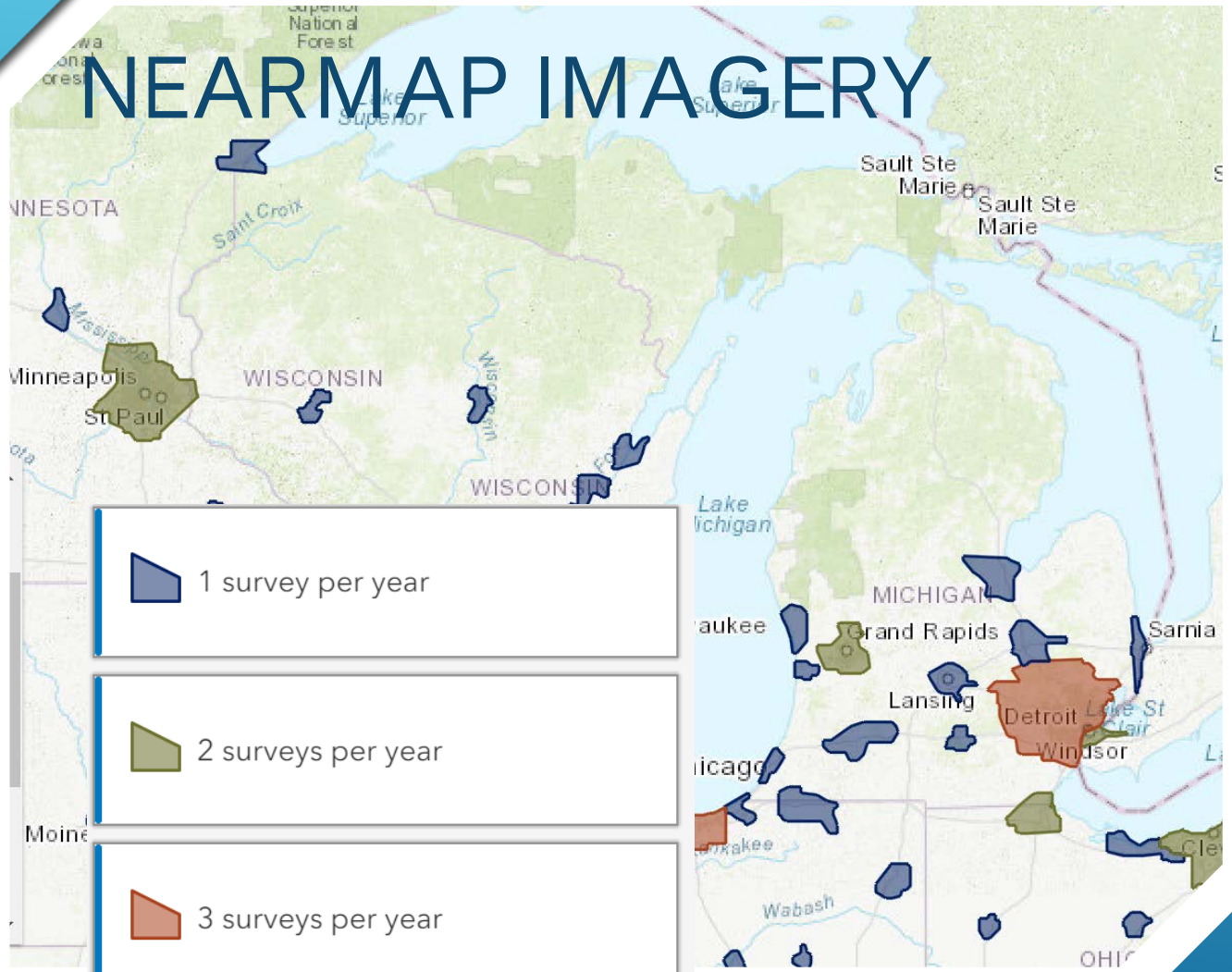
- MiSAIL imagery used to digitize the new roundabouts in Ishpeming.
  - PRs: 6200050 and 6200052
- Identifying segments out of alignment
  - PR: 3520908

MISIAL IMAGE OF NEW ROUNDABOUTS IN ISHPEMING

- MiSAIL Imagery used for digitizing road centerlines and Act51 mileage certifications.
- Leaf-Off imagery is valuable for seeing under the tree canopy
- Common in many areas of the state

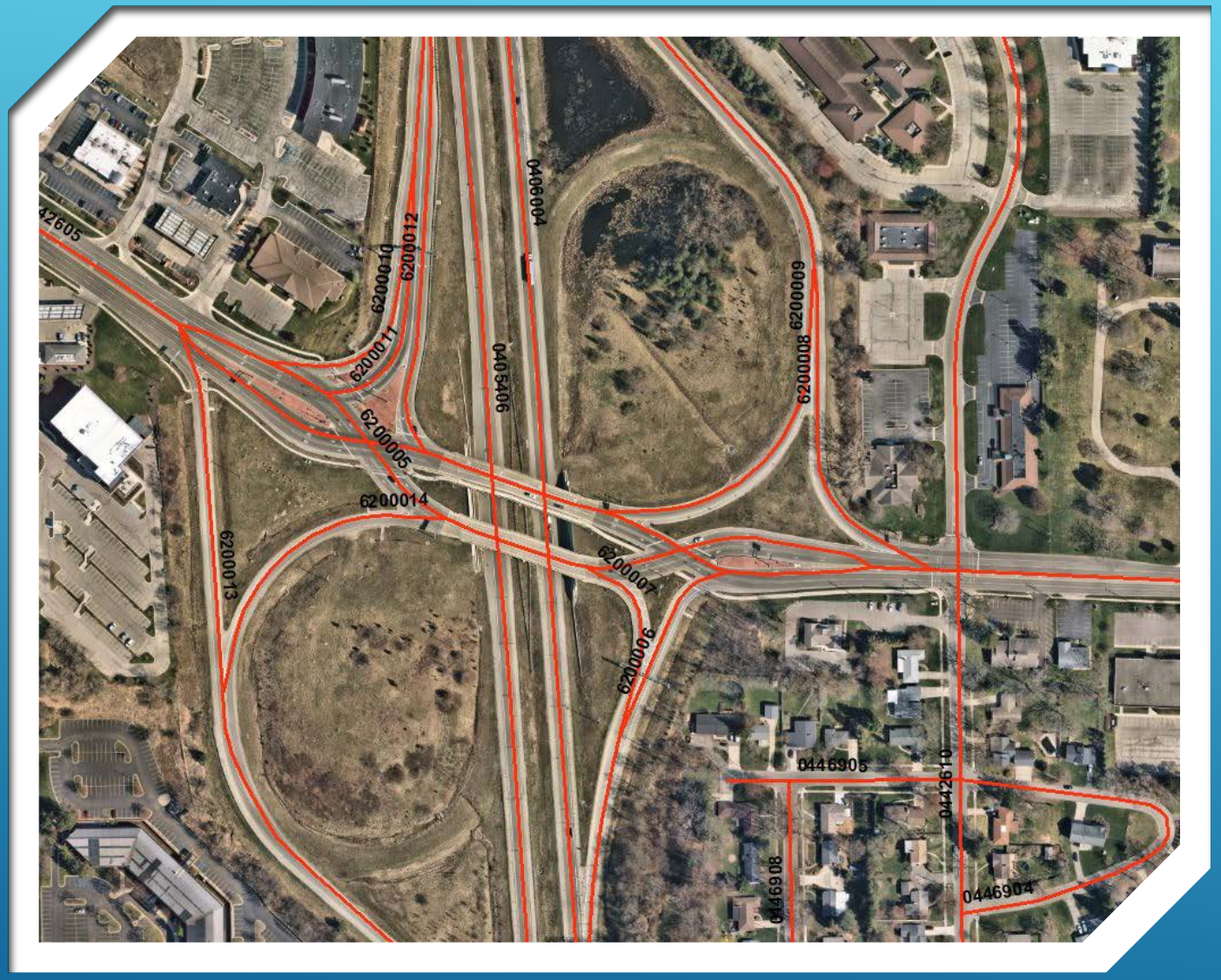
UPDATING GIS ASSETS

NEARMAP IMAGERY



VERTICAL AREA IMAGERY COVERAGE

VERTICAL SPECIFICATIONS	
Ground Sampling Distance (GSD)	3" or 7.5cm
Absolute Horizontal Accuracy	2'6" or 75cm RMSExy
Horizontal Measurement Accuracy	6" or 15cm within one photo (30" or 76cm between photos)
Datum / Projection	WGS84 / Spherical Mercator
Image Export Projection	WGS84 / Spherical Mercator WGS84 / UTM NAD83 / UTM GDA94 / UTM
Image Bands	RGB Natural Color

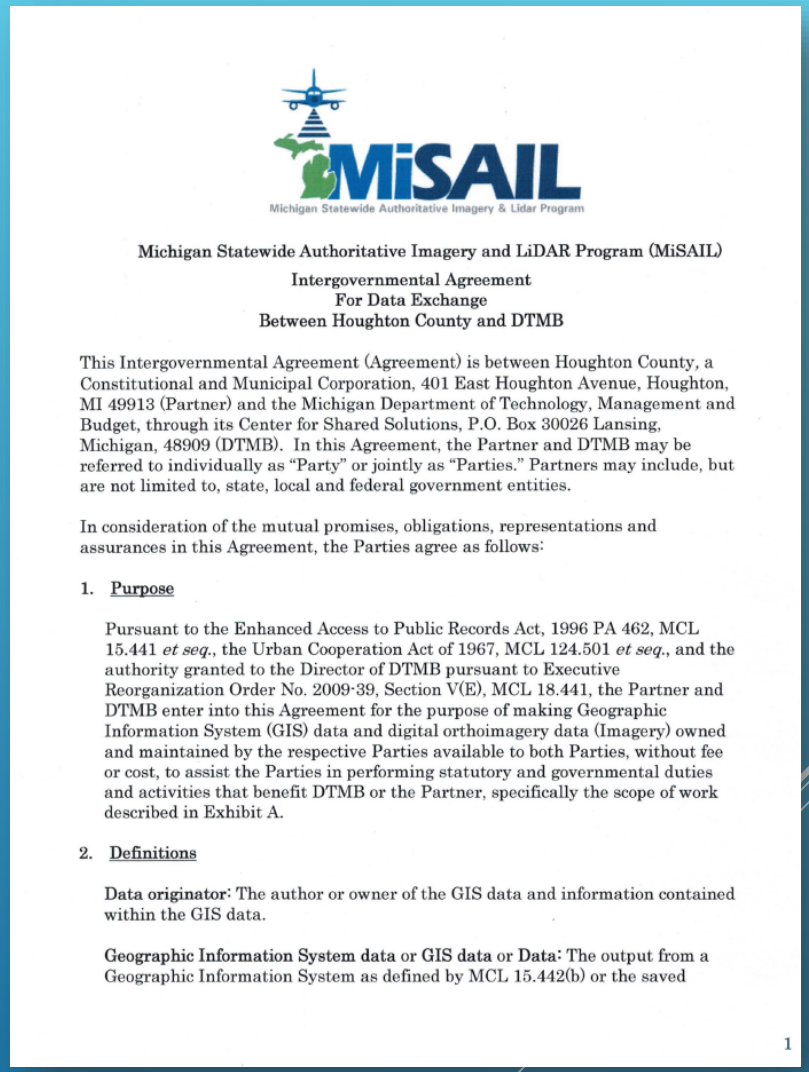


NEARMAP – UPDATING OUR GIS ASSETS

Nearmap image of the I-96 Cascade ramp

PARTNERSHIP OPPORTUNITY

- Intergovernmental Agreement (IGA)
- Local Data
  - Parcels – Geography with BS&A extract
  - Address Points
  - Road Centerlines
- SOM Provides
  - Most recent available 12-inch imagery via portable drive and all future updates
  - Access to the Michigan Imagery Solution (MIS)
  - MIS is a hosted imagery service with secure access to imagery, stored in the cloud and streamed as a service



MiSAIL
Michigan Statewide Authoritative Imagery & Lidar Program

Michigan Statewide Authoritative Imagery and LiDAR Program (MiSAIL)

Intergovernmental Agreement
For Data Exchange
Between Houghton County and DTMB

This Intergovernmental Agreement (Agreement) is between Houghton County, a Constitutional and Municipal Corporation, 401 East Houghton Avenue, Houghton, MI 49913 (Partner) and the Michigan Department of Technology, Management and Budget, through its Center for Shared Solutions, P.O. Box 30026 Lansing, Michigan, 48909 (DTMB). In this Agreement, the Partner and DTMB may be referred to individually as "Party" or jointly as "Parties." Partners may include, but are not limited to, state, local and federal government entities.

In consideration of the mutual promises, obligations, representations and assurances in this Agreement, the Parties agree as follows:

1. Purpose

Pursuant to the Enhanced Access to Public Records Act, 1996 PA 462, MCL 15.441 *et seq.*, the Urban Cooperation Act of 1967, MCL 124.501 *et seq.*, and the authority granted to the Director of DTMB pursuant to Executive Reorganization Order No. 2009-39, Section V(E), MCL 18.441, the Partner and DTMB enter into this Agreement for the purpose of making Geographic Information System (GIS) data and digital orthoimagery data (Imagery) owned and maintained by the respective Parties available to both Parties, without fee or cost, to assist the Parties in performing statutory and governmental duties and activities that benefit DTMB or the Partner, specifically the scope of work described in Exhibit A.

2. Definitions

Data originator: The author or owner of the GIS data and information contained within the GIS data.

Geographic Information System data or GIS data or Data: The output from a Geographic Information System as defined by MCL 15.442(b) or the saved

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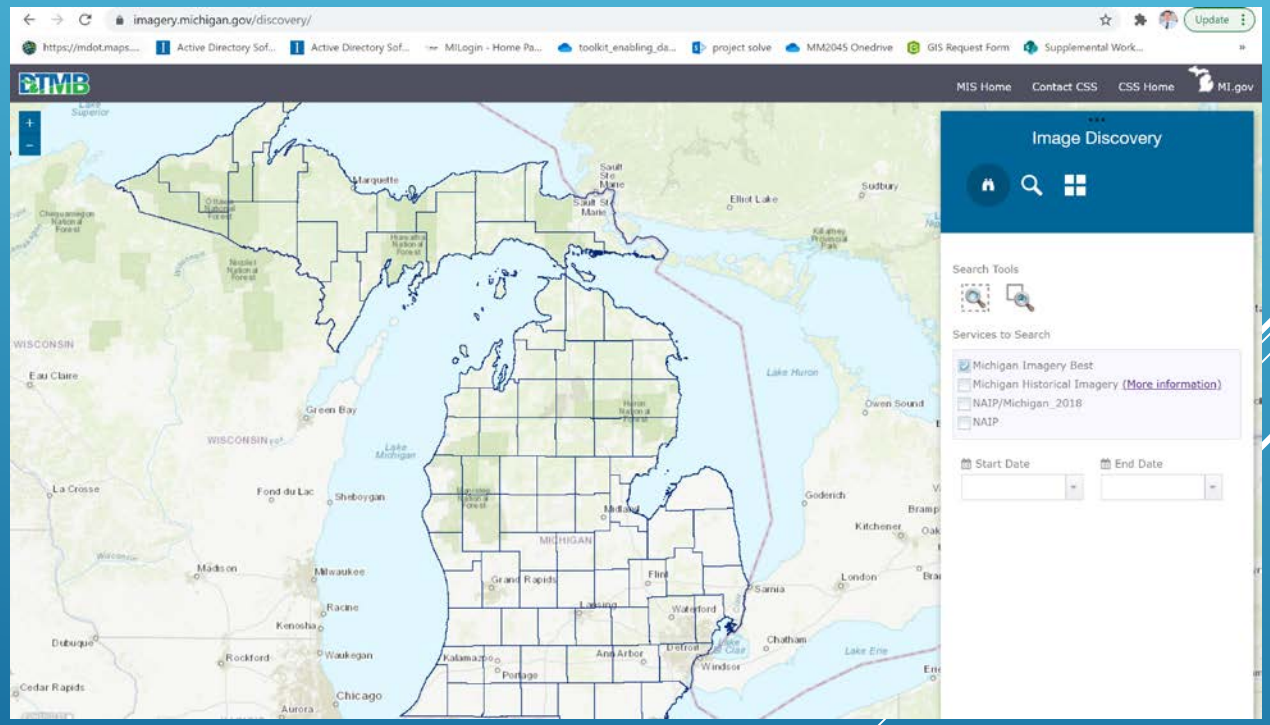
ACCESS TO THE MICHIGAN IMAGERY SOLUTION (MIS)

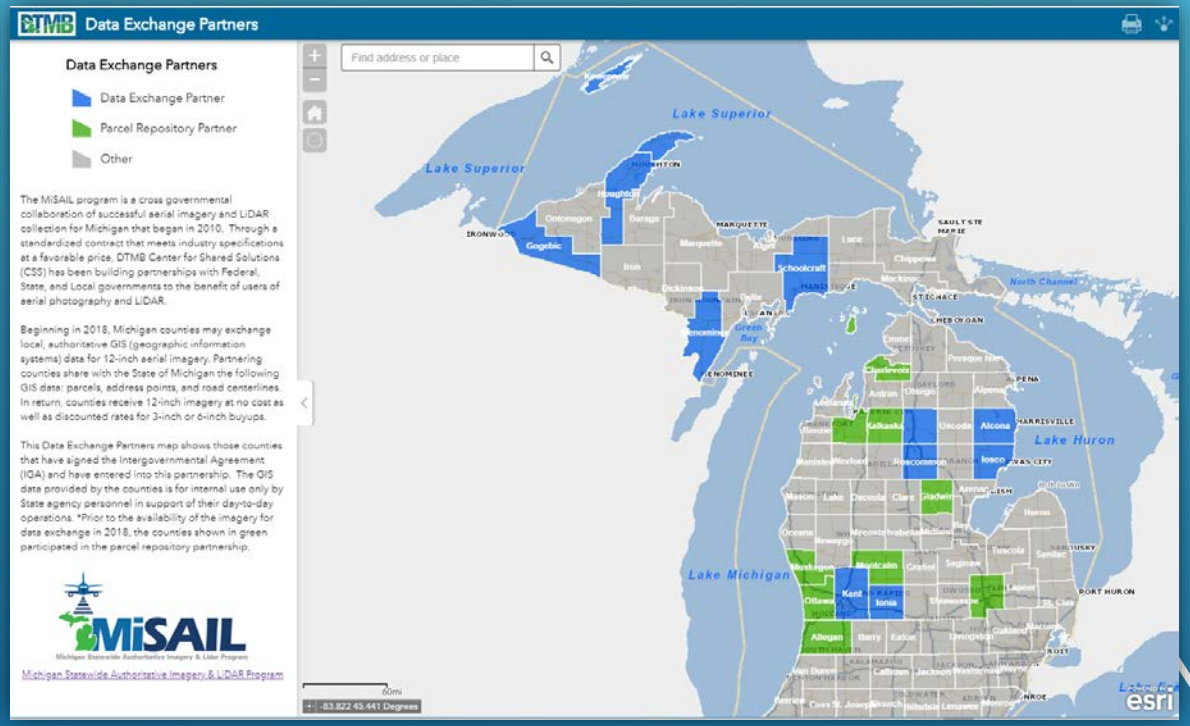
- Imagery service designed to federate large amounts of disparate sources of imagery into a single manageable archive

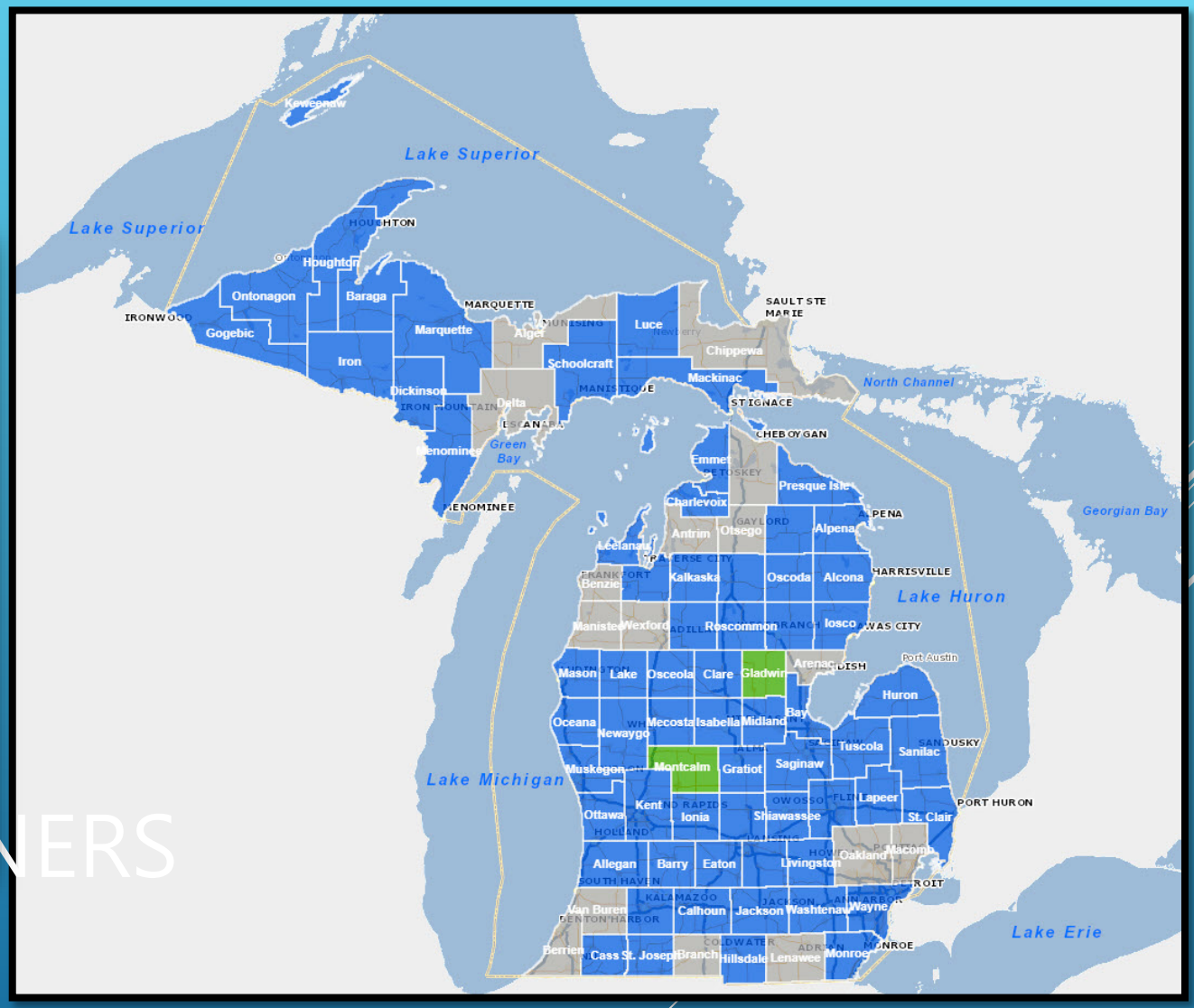


- Easy Access
  - Source Data
  - Seamless Mosaics
  - Basemaps
  - Metadata

- Easy Integrations
  - OGC Web Map Tile Service (WMS/WMTS) or as Esri imagery services for ArcGIS

Progress made since 2018





https://michigan.maps.arcgis.com/apps/MapSeries/index.html?appid=320354f35cc545578768b901c38becc1

FOR MORE INFORMATION ON PARTNERSHIP OPPORTUNITIES CONTACT:

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RootE@michigan.gov

517-335-7180

For general MiSAIL questions:

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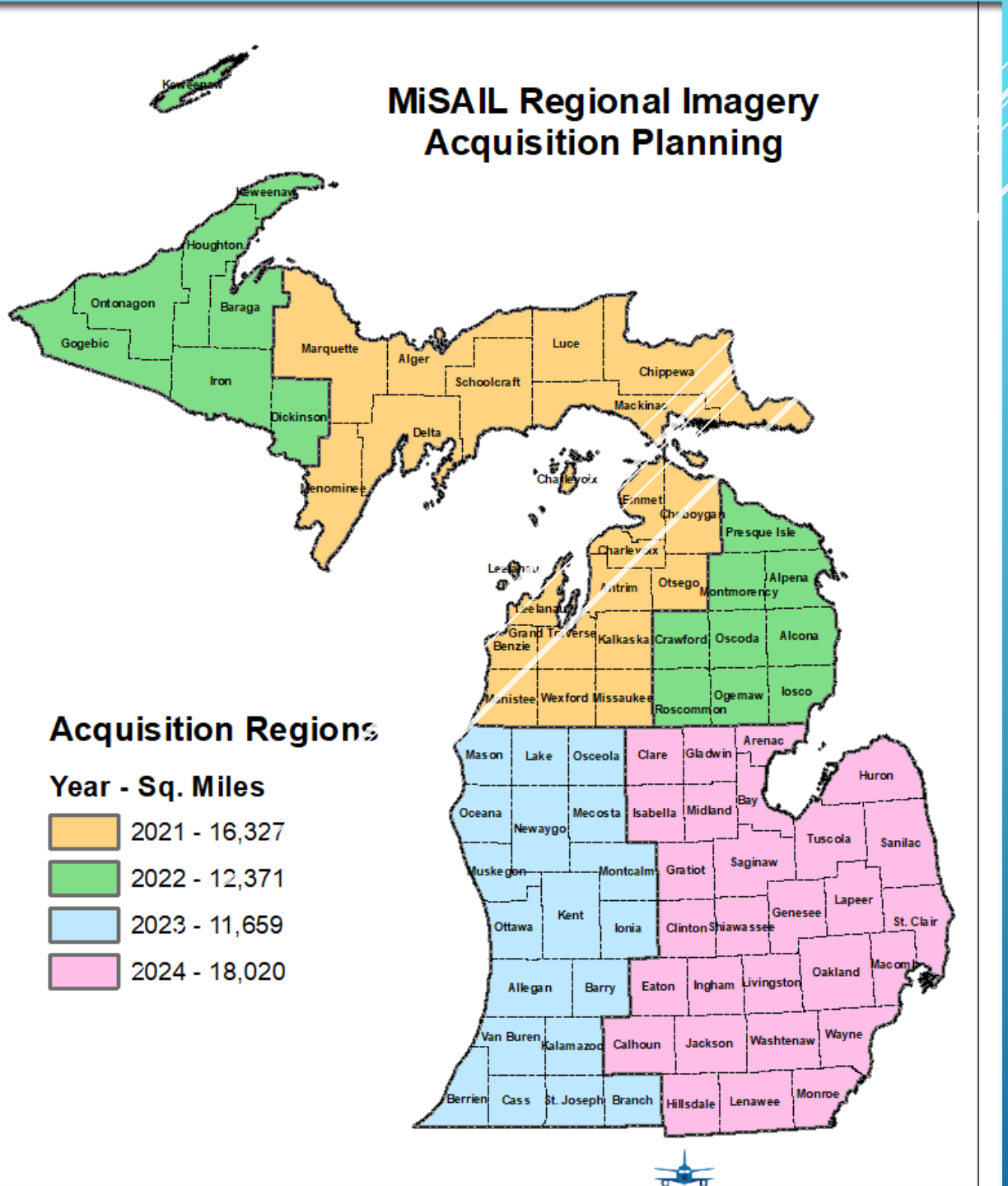
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