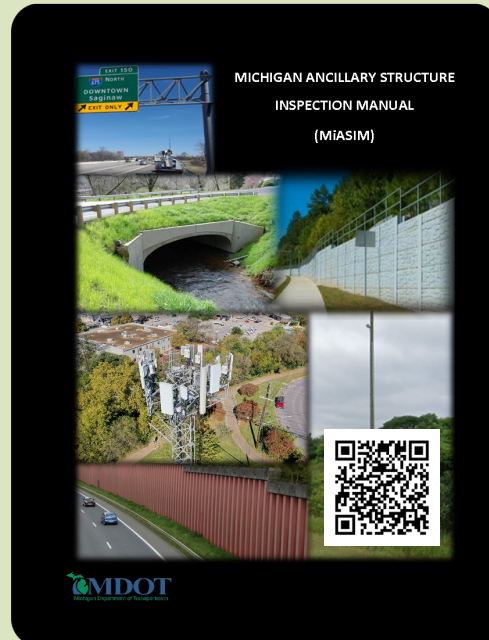


ANCILLARY STRUCTURES PROGRAM

MDOT's Ancillary Structures Program performs comprehensive asset management of ancillary structures, providing real-time data to Region staff regarding ancillary structure inventory, inspection, and maintenance issues. The program began in 2020 and provides MDOT Region Staff ancillary structure maintenance needs and issues support.



Michigan Ancillary Structures Inspection Manual (MiASIM) provides information on inspection requirements and assessment of ancillary structures conditions.

Program Goals

1. To minimize public safety risks due to deterioration of asset conditions
2. To develop an asset management program for ancillary structures
3. To develop and maintain an ancillary structures database framework
4. To develop and maintain an ancillary structures program which results in consistency in managing the various ancillary structure types deployed by MDOT

Ancillary Structure Types

- | | |
|--|---|
| Culvert Less Than 10-Foot Span | Mast Arms |
| Retaining Wall | Dynamic Message Sign (DMS) Support Structure |
| Cantilever Sign Support Structure | Frangible Pole Structure |
| Truss Sign Support Structure | Non-Frangible Pole Structure |
| Embedded Steel Pole | High-Mast Lighting Tower (HMLT) |
| Embedded Wood Pole | Communication Tower |
| Spun Concrete Pole | Environmental Sensor Station (ESS) Tower |
| Steel Strain Pole | |
| Noise Barrier Wall | |

Service Areas

- Data Management, Coordination, Reporting
- Inspections, Inventory, Data Collection
- Design Standard Reviews and Updates
- Scoping and Preliminary Engineering
- Special Inspections and Assessments
- Shop Drawing Reviews and RFI's

- Program established
- Began MiASIM manual development

- Launched training program & RFA process
- Began inspection of priority assets

- MiASIM manual published
- Began design updates to meet LRFD standards

- Inspections begin for all asset types
- MDOT standards updates

Ancillary structures technology integration with AASHTO BRM

**DECEMBER
2020**

2021

2022

2023

FUTURE

Our Partners

Ancillary Program partners are integral in maintaining a state of good repair for all of Michigan's assets. The following partners are improving efficiencies and consistencies across all regions statewide in Michigan.

- MDOT Bureau of Bridges and Structures
- Michigan Transportation Service Centers
- HNTB (Program Management Consultant)
- Ancillary Discipline Leads
- Maintenance Technicians
- MDOT Region Champions
- MDOT Signals Unit
- MDOT Signing Unit
- MDOT Intelligent Transportation Systems (ITS) Program Office
- Michigan Transportation Asset Management Council (TAMC)
- Ancillary Structures Steering Committee and Request for Action (RFA) Committee
- Federal Highway Administration (FHWA)

Priority Assets Inspected To Date

Culverts Less Than 10-Foot



54% Complete

Truss Structures



95% Complete

Cantilever Structures



100% Complete

Retaining Walls



100% Complete

As of Oct. 9, 2023

Program Successes

Training, Inspection, and Technology

- Enhanced mobile inspection process utilizing technology
- Built database of inspection data collected in real time using ArcGIS Online and FieldMaps
- Established and streamlined quality management
- Managing an inventory of more than 70,000 assets
- Created nine custom training courses for asset inspection
- Provided over 500 hours of training in 2022 and over 300 hours of training to date in 2023 with more than 100 people trained.
- Used UAVs for inspection of communication towers and high mast lighting towers (HMLTs) for the first time in Michigan

Engineering

- Issued revised standards for signing and signal poles to comply with new FHWA requirements for Load and Resistance Factor Design (LRFD) compliance
- Created new tools to aid traffic signal structure design
- Updated 27 special details and standards for traffic signals and signs
- Completed eight special inspections on unique structures to assess structural integrity and safety



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Michelle O'Neill is the program manager for the Ancillary Structures Program at the Michigan Department of Transportation and is responsible for developing the rating system, inspection guidelines, an asset management strategy, shop drawing approvals and updated design standards and guides for the 16 ancillary structure types in the state. She has been at MDOT for 23 years and previously was the operations engineer in the Southwest Region. To learn more about this program please reach out to Michelle at: OneillM@michigan.gov

