



TAMC Update

Michigan Bridge Week 2024

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Kent County Road Commission*

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MDOT - Bureau of Bridges and Structures*



Michigan
Transportation Asset
Management Council

www.michigan.gov/tamc



TAMC's Mission

To develop and support excellence in managing Michigan's transportation assets by:

1. Advising the Legislature, State Transportation Commission (STC), Michigan Infrastructure Council (MIC), and Transportation Committees
2. Promoting asset management principles and innovation
3. Providing tools and practices for road agencies
4. Collaborating and coordinating with Water Asset Management Council (WAMC) and other asset owners



Strategic Work Program

- TAMC 2024-2026 Strategic Work Program Approved by TAMC on May 3, 2023
- Maintains Core Tenants of TAMC's Commitment to Data Collection, Training and Education through Critical Partnerships
- Continue Deployment of Asset Management Plan Administration
- Policy Updates for PASER Data Collection, Bridges, Culverts and Asset Management Plans

Strategic Work Program



Strategic Work Program

The purpose of this work program is to provide guidance on the strategies, financial and tactical tasks associated with carrying out the TAMC program as required under Michigan law. The Michigan Transportation Asset Management Council 2022 – 2024 Strategic Work Program also provides tactical objectives directing the various committees, contractors, support staff and program partners for the timeframe of 2021 - 2023.

[Read more on the TAMC Strategic Work Program >](#)

Subscribe for TAMC Updates

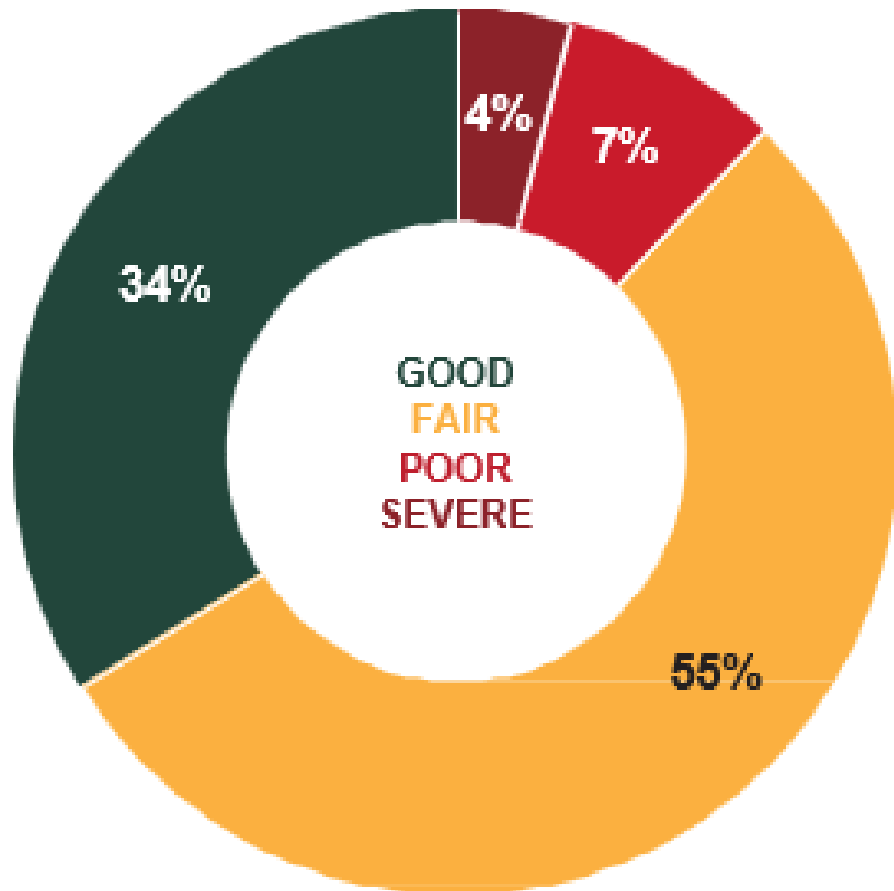
Subscribe to receive the most up to date information and updates on the Transportation Asset Management Council!

[Subscribe for TAMC Updates and Information!](#)

www.Michigan.gov/TAMC

2023 Bridge Condition

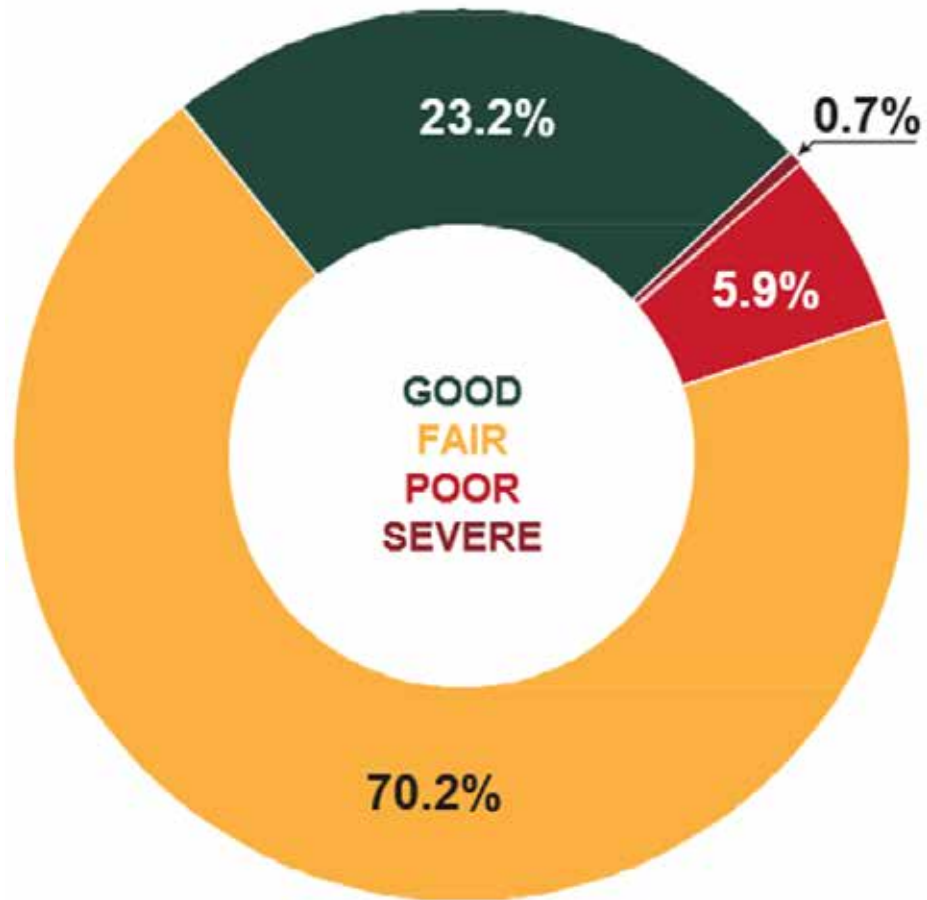
All Roadway Bridges



**Preliminary Data*

Annual Report 2023 Condition

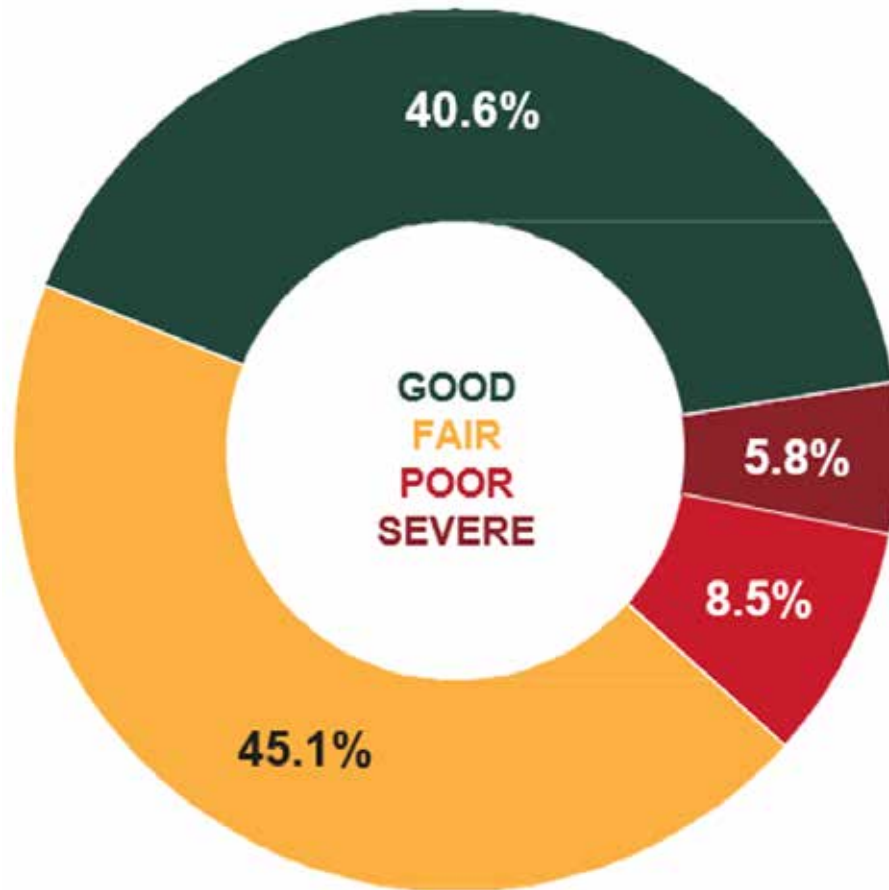
2023 MDOT Bridge Condition



**Preliminary Data*

Annual Report 2023 Condition

2023 Local Road Agency Bridge Condition

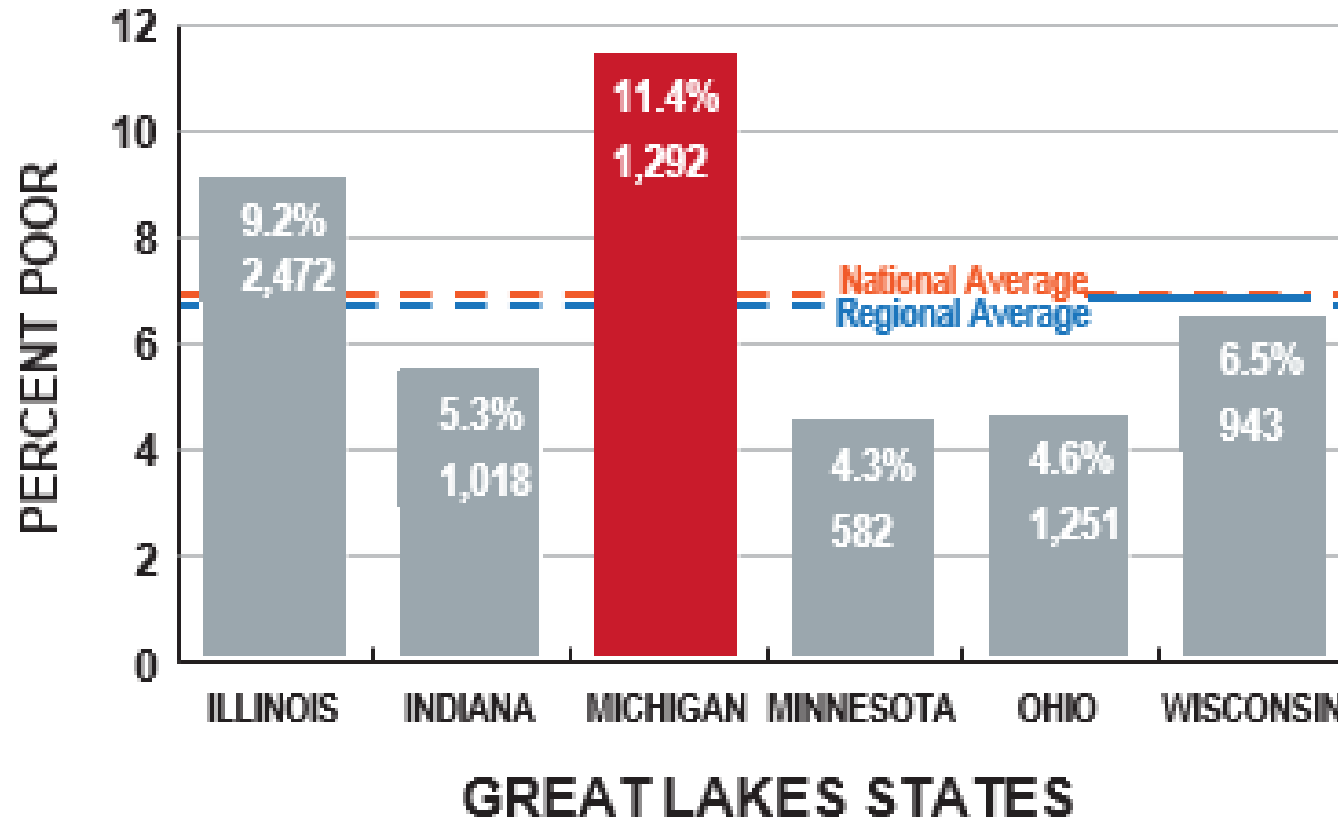


**Preliminary Data*

Annual Report 2023 Condition

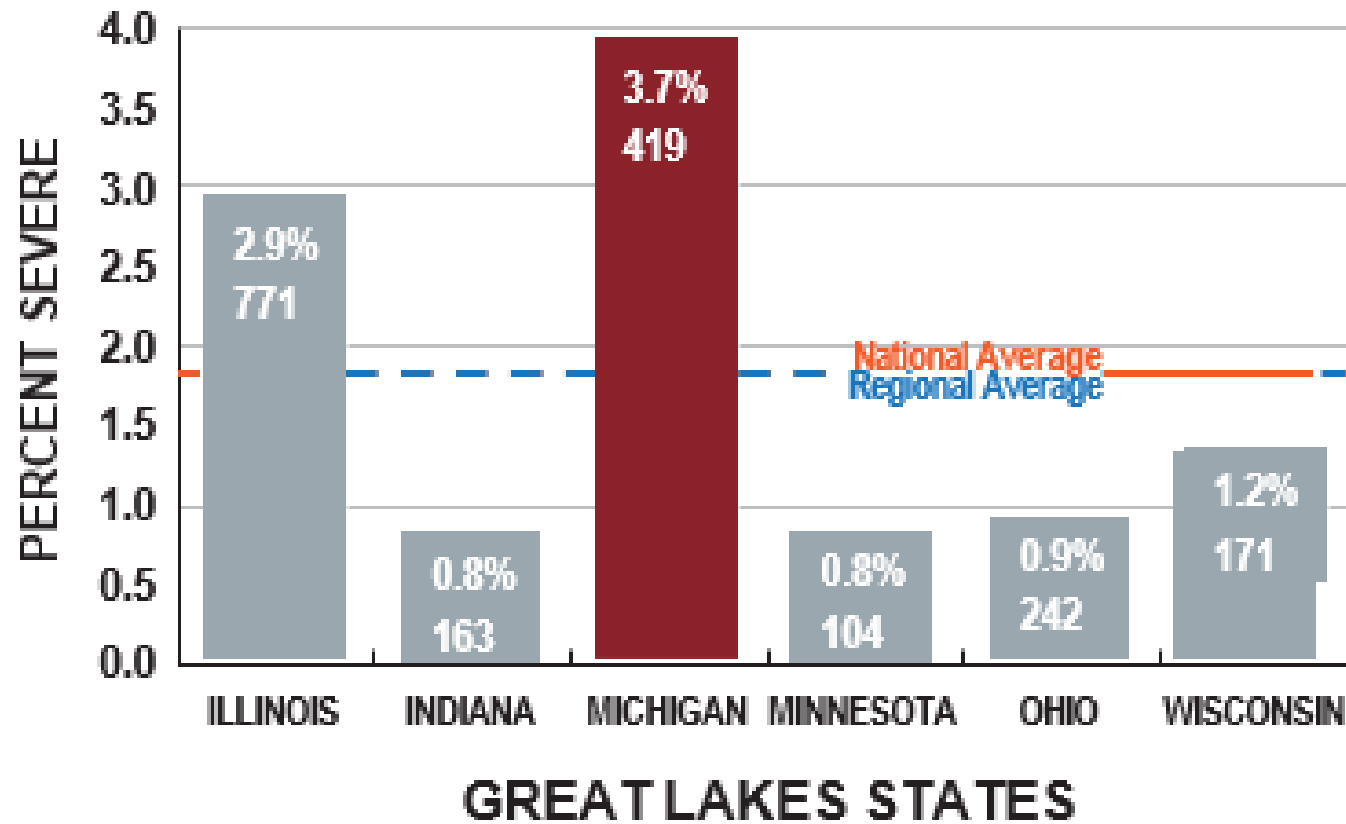
2023 Percent Poor Bridges

NBI 4 or Less



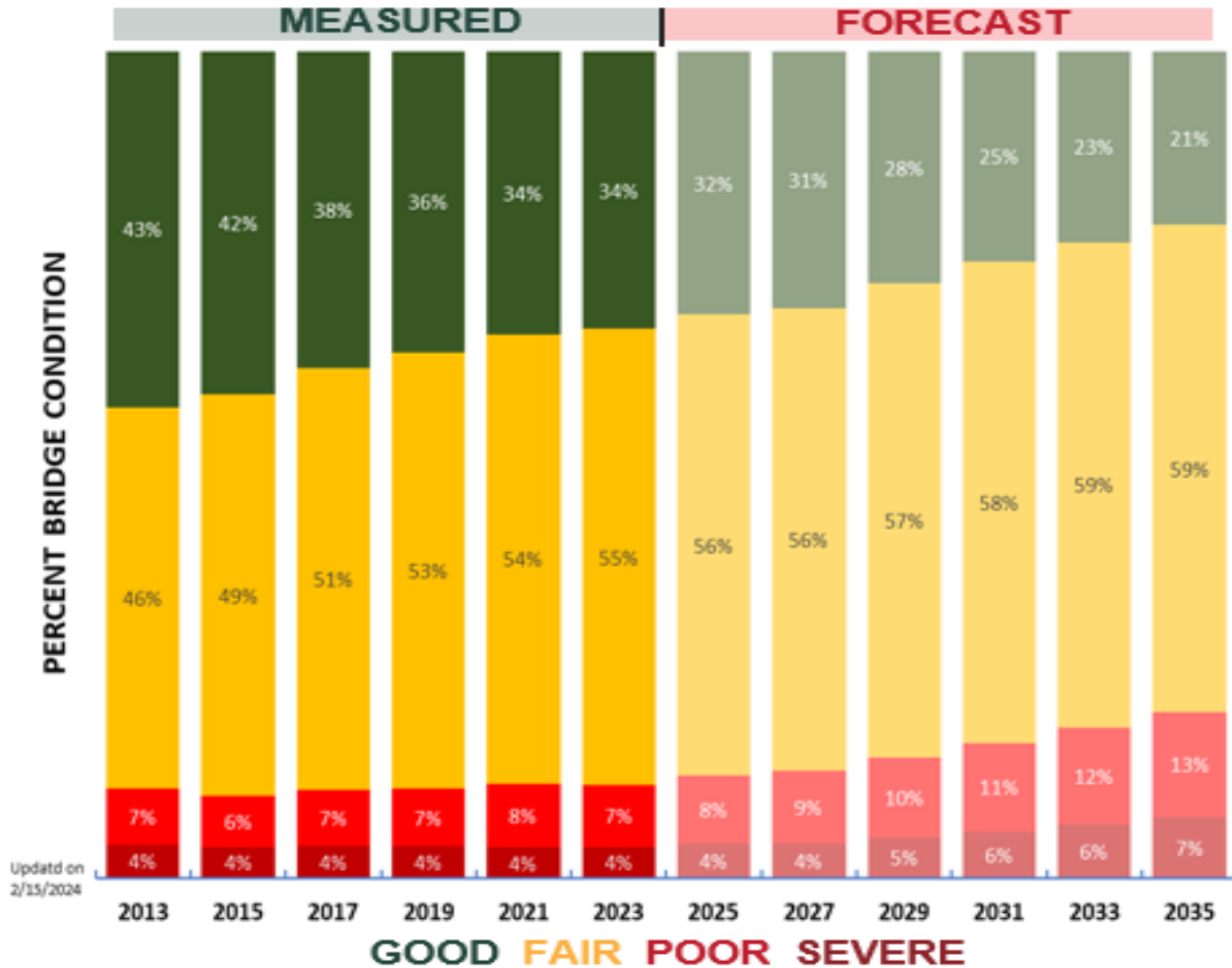
2023 Percent Severe Bridges

NBI 3 or Less



Bridge Condition Forecast

2025-2035



Updated on
2/15/2024

**Preliminary Data*

Annual Report 2023 Condition

TAMC Dashboards

TAMC Dashboards

The dashboards depicted below show the condition, operation, and investment in Michigan's public road system. Pavement condition information is based on paved surface ratings for state highways as well as roads under the jurisdiction of Michigan's counties, cities and villages. Statewide there are over 10,000 public road bridges. Bridge conditions are based on bi-annual inspections of state, county, city and village owned bridges. The number of traffic accidents is a measure of how effectively the road system is performing. Maintenance is required to keep roads and bridges performing as intended. These activities include: snow removal, patching, grading, and mowing. Capital investments are necessary to extend the useful life of any asset including roads and bridges. The financial pie charts illustrate how investments in the road and bridge system are made.



Pavement

Bridge

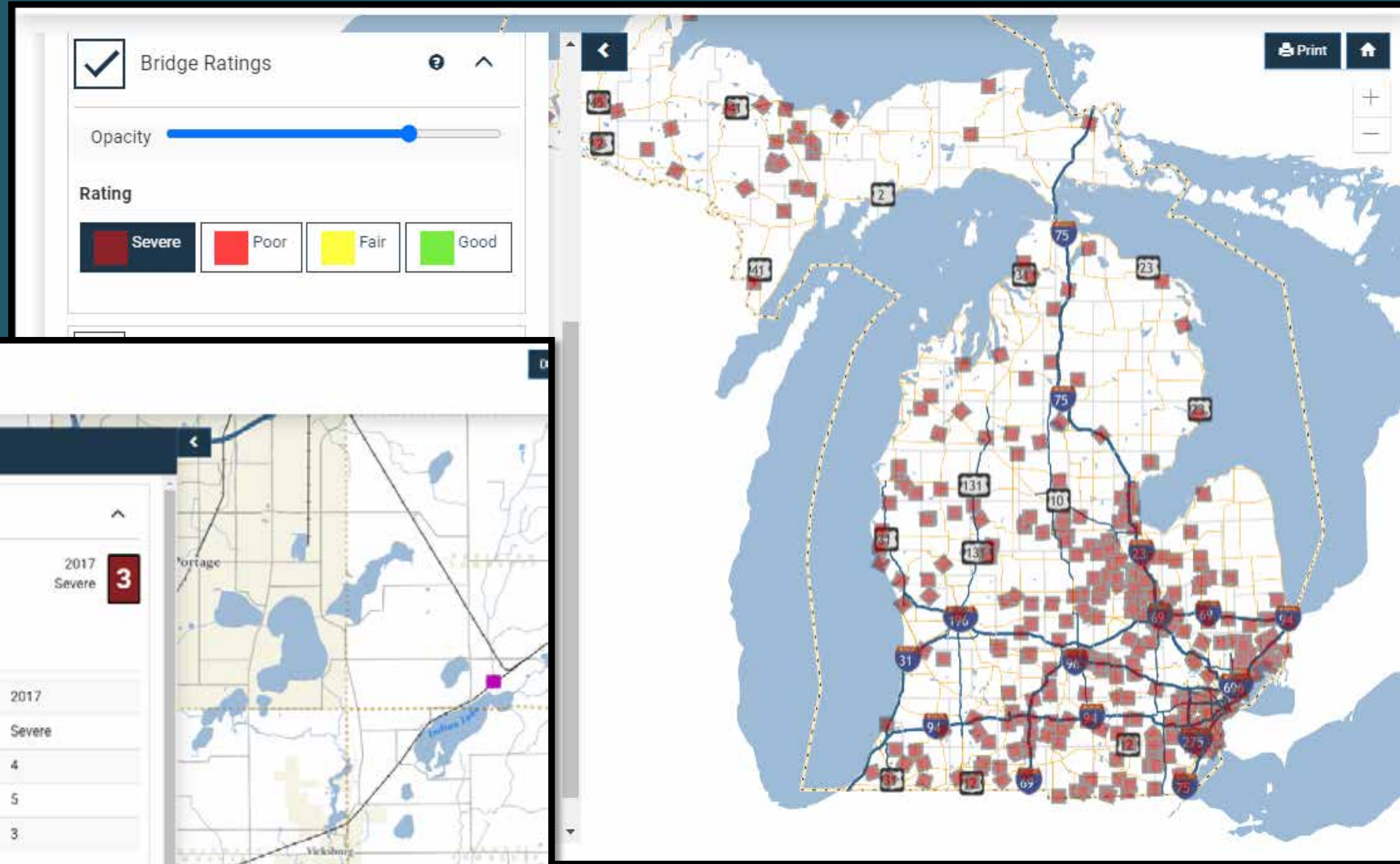
Traffic

Safety

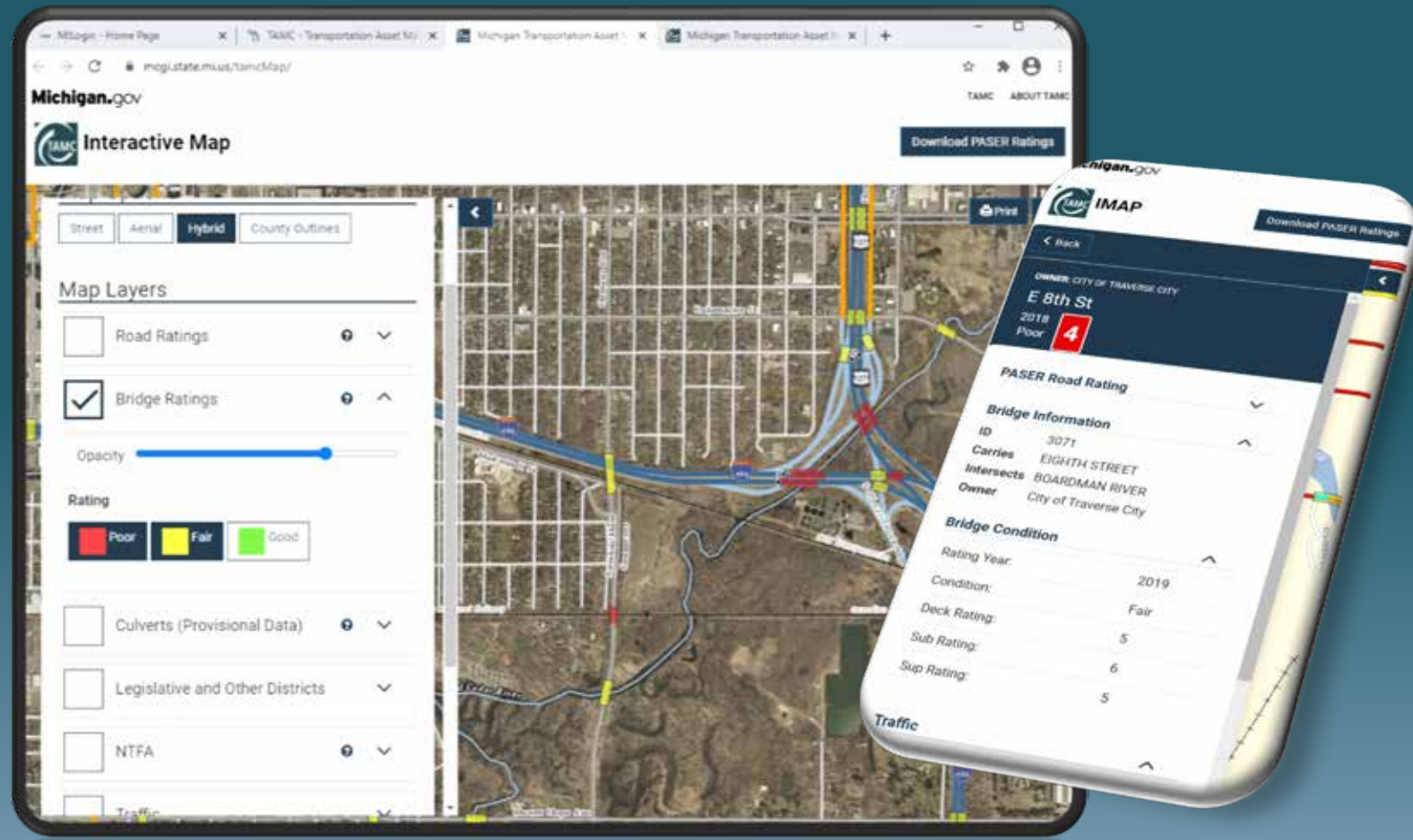
Maintenance



TAMC Interactive Map



TAMC Interactive Map



Transportation Asset Management Council (TAMC)



 > TAMC



Dashboards

Condition, operation, and investment in Michigan's public road system.



Interactive Maps

Create and view an up-to-date road, bridge, and culvert condition map.



Reporting Hub

MiLogin Access for Investment Reporting Tool (IRT), Act 51 Distribution and Reporting System (ADARS), Non-Trunkline Federal Aid (NTFA).



TAMP Reporting

Transportation Asset Management Plans (TAMP) reporting requirements and resources.

TAMC News and Upcoming Events

- [2022 TAMC Roads and Bridges Annual Report](#)
- [Local Road Asset Management State of Practice Report](#)
- [PA 325 Approved TAMPs as of April 2023](#)
- [Policy for Collection of Roadway Surface Condition Data \(2023\)](#)
- [Policy for Collection of Culvert Inventory and Condition Data \(2023\)](#)

Sarah Plumer, TAMC Coordinator

248-392-1385

splumer@hrcengr.com

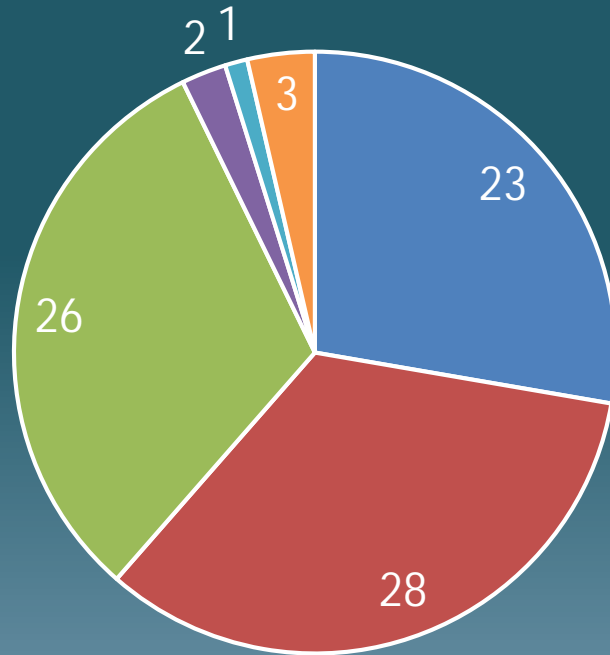
**Additional TAMC Program Support
Contacts**

www.Michigan.gov/TAMC

Culvert Data Collection

Culvert Data Collection Survey

Survey Participants



Villages

County Road Commission/Dept

None Indicated

Cities

MPO

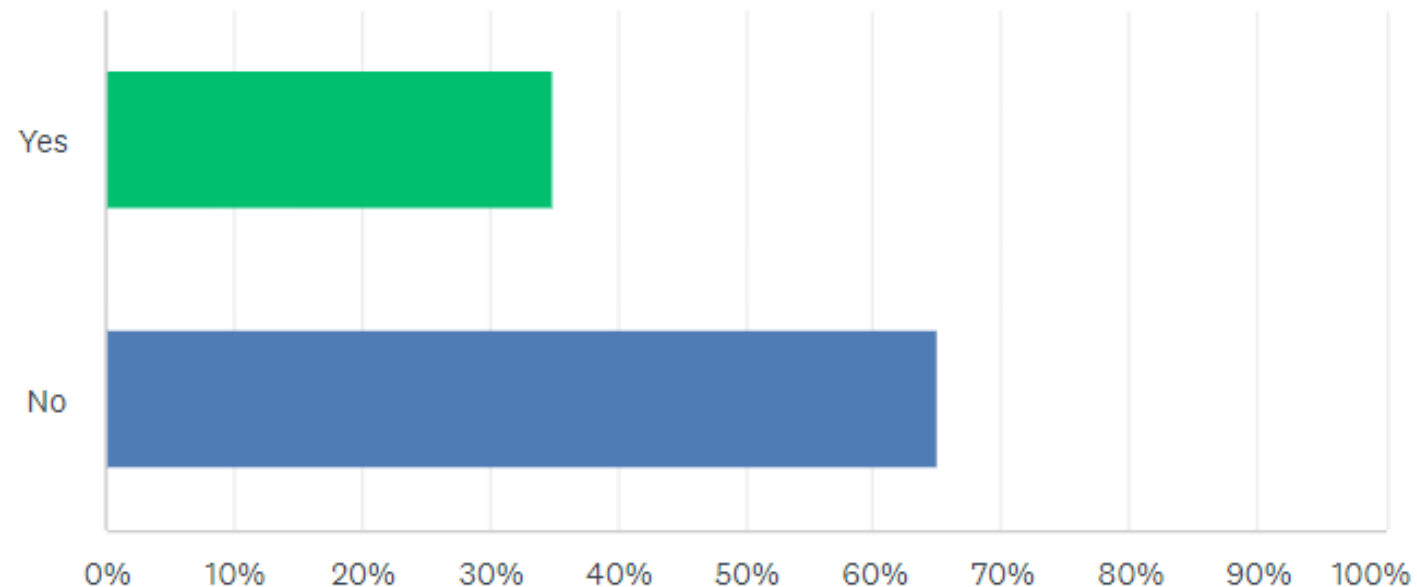
Consultant



Culvert Data Collection Survey

Have any staff from your agency attended the Culvert Condition Assessment Webinar?

Answered: 83 Skipped: 0



Culvert Condition Assessment Webinars

ABOUT THIS TRAINING

- Introduction to the TAMC Michigan Non-NBI Culvert Structure Inspection Guide
- Inventory collection and condition evaluation
- Field evaluation examples
- Instructed by CTT's Chris Gilbertson, PE, PhD, and Ingrid Sandberg, PE

INTENDED AUDIENCE

- Local agency technicians
- Inspectors
- Maintenance workers
- Engineers

REGISTRATION & TRAINING DETAILS

Training Date : [February 20, 2024](#)
Time : 9:00 AM - 12:00 PM (ET)
Cost : \$30 / person
Registration Deadline : February 19, 2024

Training Date : [August 27, 2024](#)
Time : 9:00 AM - 12:00 PM (ET)
Cost : \$30 / person
Registration Deadline : August 26, 2024
Please note these events are virtual only

Registration is required for fulfillment of continuing education. Read the Center for Technology & Training policy [here](#).

No-shows/cancellations within three business days of the event are charged the full registration fee; substitutions accepted.

Michigan Technological University is an Equal Opportunity Educational Institution/Equal Opportunity Employer that provides equal opportunity for all, including protected veterans and individuals with disabilities.

Accommodation requests related to a disability should be made at least ten business days prior to the event by emailing ctt@mtu.edu.

QUESTIONS?



ctt@mtu.edu

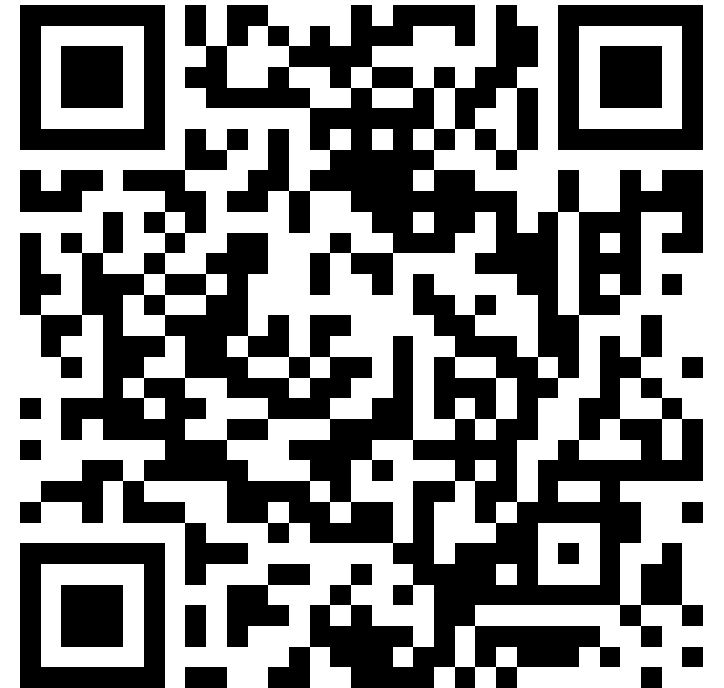


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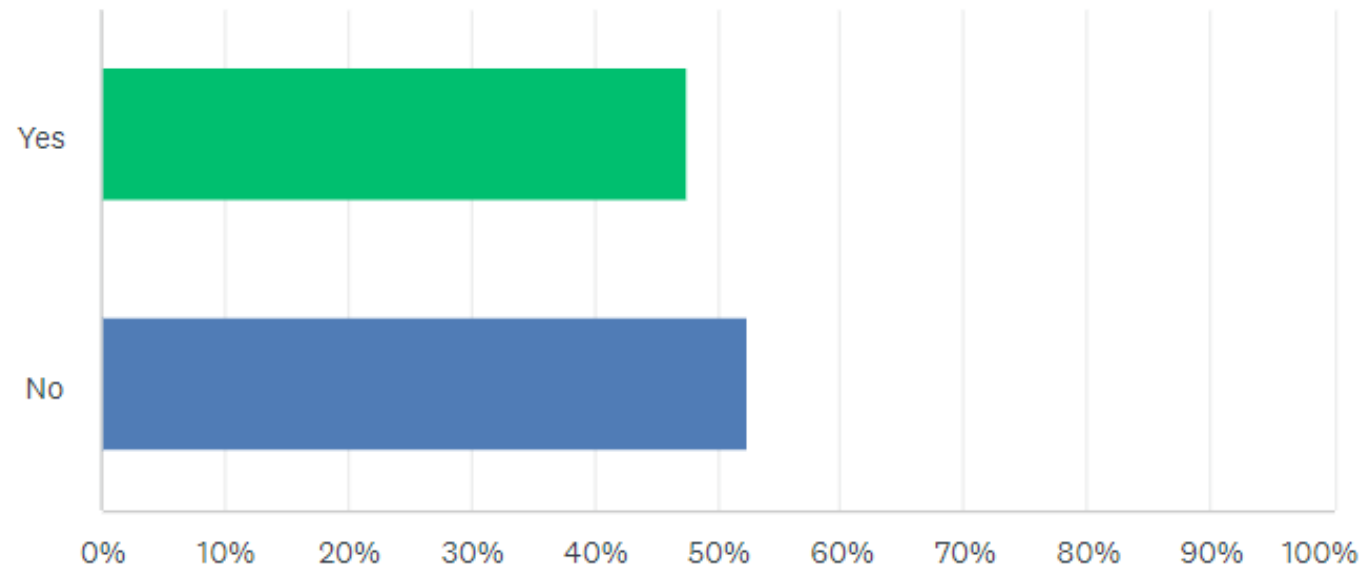
Registration Deadline : August 26, 2024



Culvert Data Collection Survey

Have you collected culvert inventory and condition data in the past?

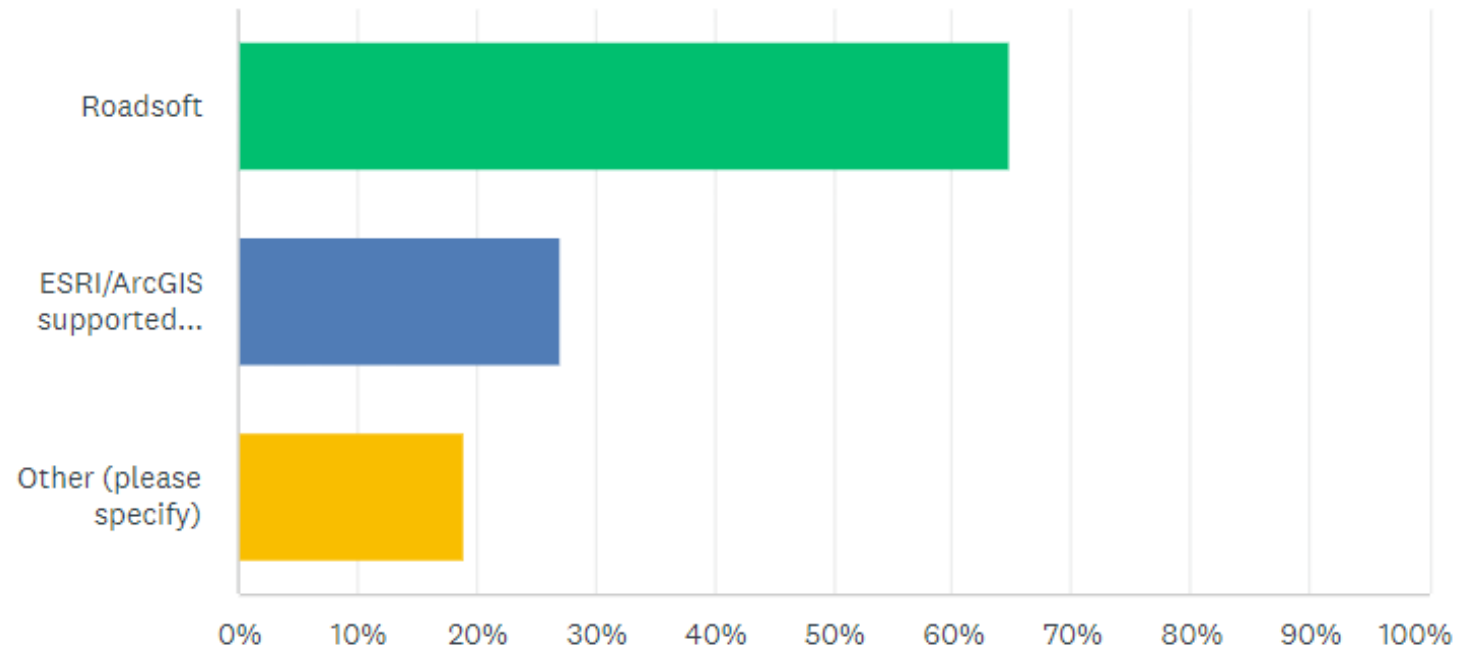
Answered: 82 Skipped: 1



Culvert Data Collection Survey

How do you collect culvert data? (select all that apply)

Answered: 37 Skipped: 46



Culvert Data Collection Survey

How do you utilize the data

Culvert Data Collection Survey

How do you utilize the data

We just had a consultant complete an initial inventory and condition assessment of all our culvert assets. We will then use the information to compile and prioritize a list of locations for replacement. We will then look to develop a program that will address replacement.

Culvert Data Collection Survey

How do you utilize the data

We just had a consultant complete an initial inventory and condition assessment of all our culvert assets. We will then use the information to compile and prioritize a list of locations for replacement. We will then look to develop a program that will address replacement.

It is used for systemic planning of culvert replacements and maintenance. It also is beneficial for our maintenance crews to have locations on hand so they can go replace necessary culverts prior to road projects.

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To determine budgets for Capital Improvement Plans and to develop a Risk Assessment plan

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Asset management to know an idea of how many culverts we have in the county. Working on forming an inspection plan based off of the culvert data collected.

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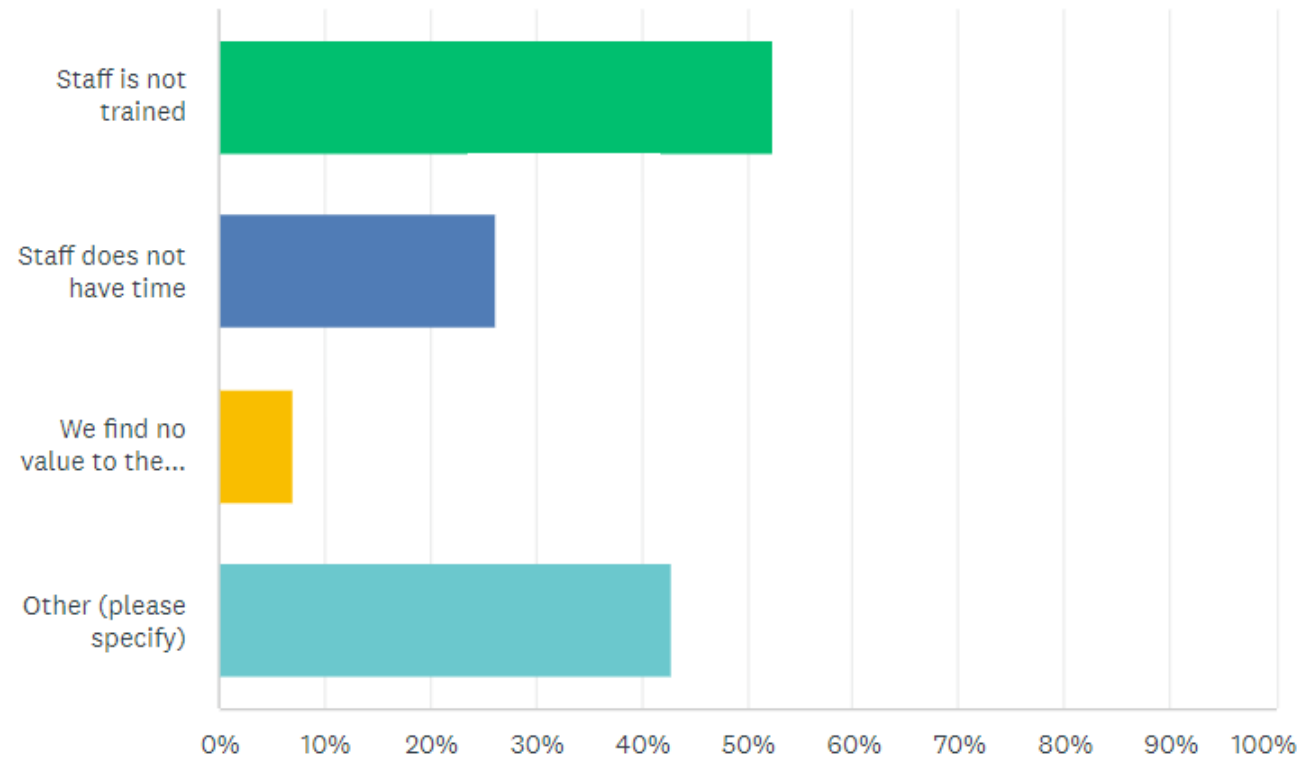
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Attempt to be proactive on replacing culverts before they fail.

Culvert Data Collection Survey

What is keeping you from collecting data? (select all that apply)

Answered: 42 Skipped: 41



Culvert Data Collection Survey

What is keeping you from collecting data?

Culvert Data Collection Survey

What is keeping you from collecting data?

This is the first I am learning about it

Culvert Data Collection Survey

What is keeping you from collecting data?

This is the first I am learning about it

Not sure what to collect

Culvert Data Collection Survey

What is keeping you from collecting data?

This is the first I am learning about it

Not sure what to collect

Staffing & Equipment needs

Culvert Data Collection Survey

What is keeping you from collecting data?

This is the first I am learning about it *We have no culverts*

Not sure what to collect

Staffing & Equipment needs

Culvert Data Collection Survey

What is keeping you from collecting data?

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We have no culverts

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*I have never been asked to
perform Culvert Data Collection*

Staffing & Equipment needs

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Staffing & Equipment needs

Didn't know data collection was needed/wanted

Culvert Data Collection Survey

What is keeping you from collecting data?

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We have no culverts

Not sure what to collect

I have never been asked to perform Culvert Data Collection

Staffing & Equipment needs

Didn't know data collection was needed/wanted

Never really occurred to me. We do outfall inspections per MS4 permit. We have fixed a lot of issues that we have had in the past. Also when we have areas that are not draining properly we asses them at that time and fix them. But I am for preventive maintenance and it's a great idea.

TAMC Strategic Work Program

Goal 2

Continue progress of culvert asset management integration

Culvert Data Collection Metrics

Collect the physical inventory and condition data on culverts in Michigan for at least 20% of the network (measured by roadway miles) annually, until 100% of the network is inventoried.

Culvert Data Collection Metrics

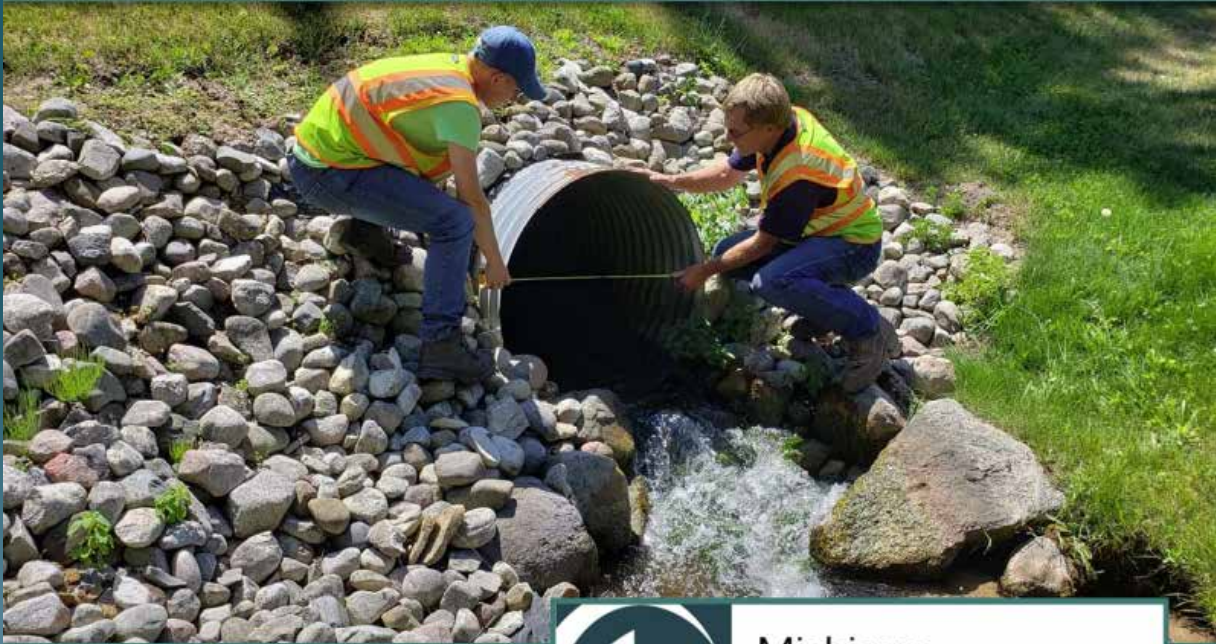
Collect the physical inventory and condition data on culverts in Michigan for at least 20% of the network (measured by roadway miles) annually, until 100% of the network is inventoried.

Once the culvert assets are inventoried, inspect the culverts for condition based on Table 1-1 of the Michigan Non-NBI Culvert Structure Inspection Guide

Culvert Data Collection Metrics

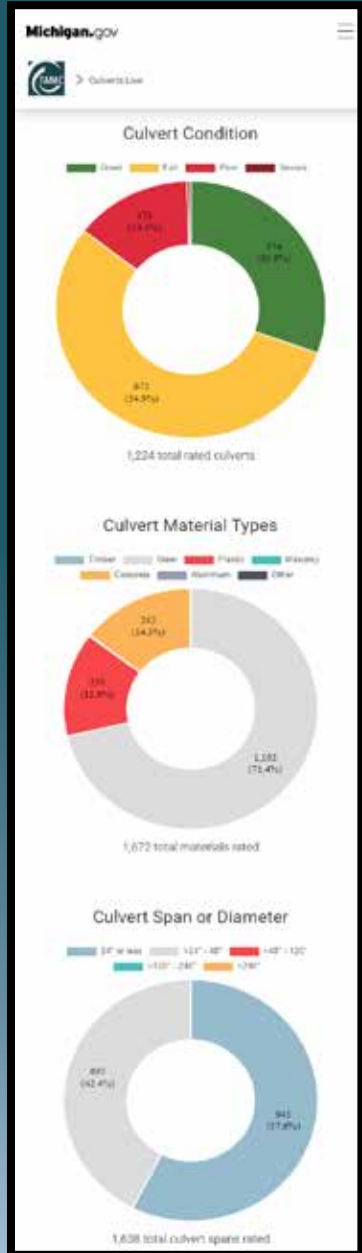
Table 1-1 Recommended Maximum Inspection Intervals				
Non-NBI Culvert Inspection*	Maximum Inspection Interval (In months)			
	≤12	≤24	≤48	≤72
Condition Rating				
Good				X
Fair			X	
Poor		X**		
Severe	X**			
Size (Inches)				
≤24				X
>24 and ≤48				X
>48 and ≤120			X	
>120 (10 feet) and <240 (20 feet)		X		
Material				
No material-specific concerns				X
Material-specific concerns			X	
Age**				
Consider increasing frequency as appropriate				
ADT**				
If limited resources require an agency to exceed the above recommendations for some structures, ADT maybe used to prioritize which culverts pose the least risk to extended frequencies.				
* Culvert structures that meet the National Bridge Inspection Standards (NBIS) definition of a bridge MUST be inspected per the NBIS and the <i>Michigan Structure Inspection Manual (MiSIM)</i>				
** In the case of poor and severe condition in-depth inspections or structural analysis may be required; use engineering judgment to obtain culvert-specific frequencies				

Michigan Non-NBI Culvert Structure Inspection Guide



Michigan
Transportation Asset
Management Council

Submitting Your Culvert Data



Live Culvert Information

Owner	Gogebic County
Road Name	Jackson Rd
Material	Steel Corrugated Metal Pipe (CMP)
Rating	Fair
Inspection Date	7/11/2022
Shape	Round
Length	56 feet
Span	2.3 feet
Lat/Lon	46.470546 / -90.138669

- File
- TAMC
 - 1 - (County/City Does This) Export Network for LDC...
 - 2 - (County/City Does This) Import TAMC Data from LDC...
 - 3 - (County/City Does This) Export TAMC Data to Region...
 - 4 - (Region Does This) Import TAMC Data from County/City...
 - 5 - (Region Does This) Export TAMC File to Council (Individual)
 - Export Road Completed Treatments by Location (Completed)
 - Export Road Planned/Scheduled Treatments by Location (New)
 - Export Bridge Completed and Planned Treatments by Location
 - Submit Culvert Inventory/Inspections to TAMC...**
 - Asset Management Plan Reporting...
- MIRE
- Asset Management
- Pavement Management

Culvert Asset Management Best Practices

Purpose

Identify local agencies that have been collecting culvert data.

Do other agencies have best practices that could improve the existing pavement, bridge, or compliance plans for culverts?

Culvert Asset Management Best Practices

Findings

Reviewed agencies followed similar approach

Some grouped larger culverts with bridge plans
others kept all culverts separate – recommend
allowing agencies to choose

Recommended plan contents similar to existing
TAMC plans

Sample Plan Contents



Introduction

Agency and policy/procedures for culvert AM program



Culvert assets

Summary containing total number, size, material, condition



Level of service/performance target

Set measurable goal to guide resource allocation (less than 10% poor)



Identification of critical assets

Description to help establish priority for maintenance funding (priority to poor or length detours)



Strategies (to guide next 5-10 years)

Life-cycle planning (typical maintenance, unit costs, specific project costs)



Long-term Funding

Existing and potential sources and strategic use of unexpected revenue




Kent County Road Commission

1970 – Bridge/Culvert Information By Township

1994 – TAP Funded Road/Stream Crossing County Wide Inventory

2018 – TAMC Pilot Culvert Inventory Update



ALG	ROAD NAME	TYPE	SPAN	UNCL. LENGTH	STRENGTH
ALG-1	INDIAN LAKES RD. - 0.20 MILE W. OF THE ISLAND DR.	PR	18	24	H-20
ALG-4	1/2 MILE RD. - 0.5 MILE WEST OF ALGOMA AVE.	LO	44	27	H-20
ALG-7	INDIAN LAKES RD. - 0.20 MILE EAST OF ALGOMA AVE.	LO	3	24	H-20
ALG-8	INDIAN LAKES RD. - 0.20 MILE EAST OF ALGOMA AVE.	LO	3	24	H-20
ALG-9	WYOMING CREEK AVE. - 0.50 MILE SOUTH FROM LAMAR RD.	LO	18	30	H-20
ALG-10	INDIAN LAKES RD. - 0.50 MILE WEST OF ALGOMA AVE.	LO	1	24	H-20
ALG-16	1/4 MILE RD. - 100' WEST OF ALGOMA AVE.	LO	3	24	H-20
ALG-18	ALGOMA AVE. - 0.8 MILE SOUTH OF H MILE RD.	PR	18	24	H-20
ALG-20	1/4 MILE RD. - 0.50 MILE EAST OF ALGOMA AVE.	PR	18	24	H-20
ALG-22	HOBKINSON AVE. - 0.80 MILE NORTH OF H MILE RD.	LO	10	41	H-20
ALG-23	EDGEMONTON AVE. - 1/2 MILE S. OF 1/2 MILE RD.	LO	1	24	H-20
ALG-25	BRIDGE AVE. - 0.50 MILE NORTH OF H MILE RD.	LO	16	24	H-20
ALG-28	1/2 MILE RD. - 0.50 MILE EAST OF ALGOMA AVE.	PR	15	34	H-20
ALG-31	PORTER HOLLAND DR. - 0.50 MILE EAST OF HOBKINSON AVE.	LO	15	24	H-20
ALG-33	RECTOR ST. - 0.15 MILE E. OF THE ISLAND DR.	LO	20	24	H-20
ALG-37	1/2 MILE RD. - 0.50 MILE WEST OF FRUITLAND AVE.	LO	18	24	H-20

Bridges ↑

Culverts ↓

CULVERTS Date: _____

DATE BUILT: 1989

TYPE: REIN. CONC. PIPE CORR. METAL PIPE CORR. METAL MULT-PLATE PIPE CONC. BOX CONC. ARCH LAM. WOOD BOX

DIAMETER: 36"

GAGE NO.: -

SPAN: TWIN 36" = 6' RISE

CLEAR HEIGHT: 3' UNCL. LENGTH

TOTAL LENGTH: 44'

HEIGHT - FTG. TO UNCL.: -

ANGLE OF CROSSING: 90°

ALIGNMENT: O.K.

FLOOR: - FLOOR LENGTH: -

TYPE HEADWALLS: DRY STONE

TYPE WINGS: -

ANGLE OF WINGS: -

DESIGN STANDARD NO.: -

FLOWLINE TO SURFACE: 4'

TYPE OF COATING: -

ROAD BED WIDTH: 24'

CONDITION: -

IS SIZE ADEQUATE? IS TYPE SATISFACTORY?

REMARKS: Replaced Twin 36" CMP (originally installed in 1938)

WORK ORDER NO.: - CORRESPONDENCE FILE: Yes - Culvert Files

NOTE FILE NO.: No. PLAN FILE NO.: No.

BRIDGE NO.	LOCATION	ROAD CLASS	SECTION	CL. ROADWAY	STRENGTH
ALG-7	INDIAN LAKES RD. - 0.20 MILE EAST OF ALGOMA AVE.	LO	3	24'	H-20

Culvert Inspection and Reporting



The Good, The Bad and the Ugly

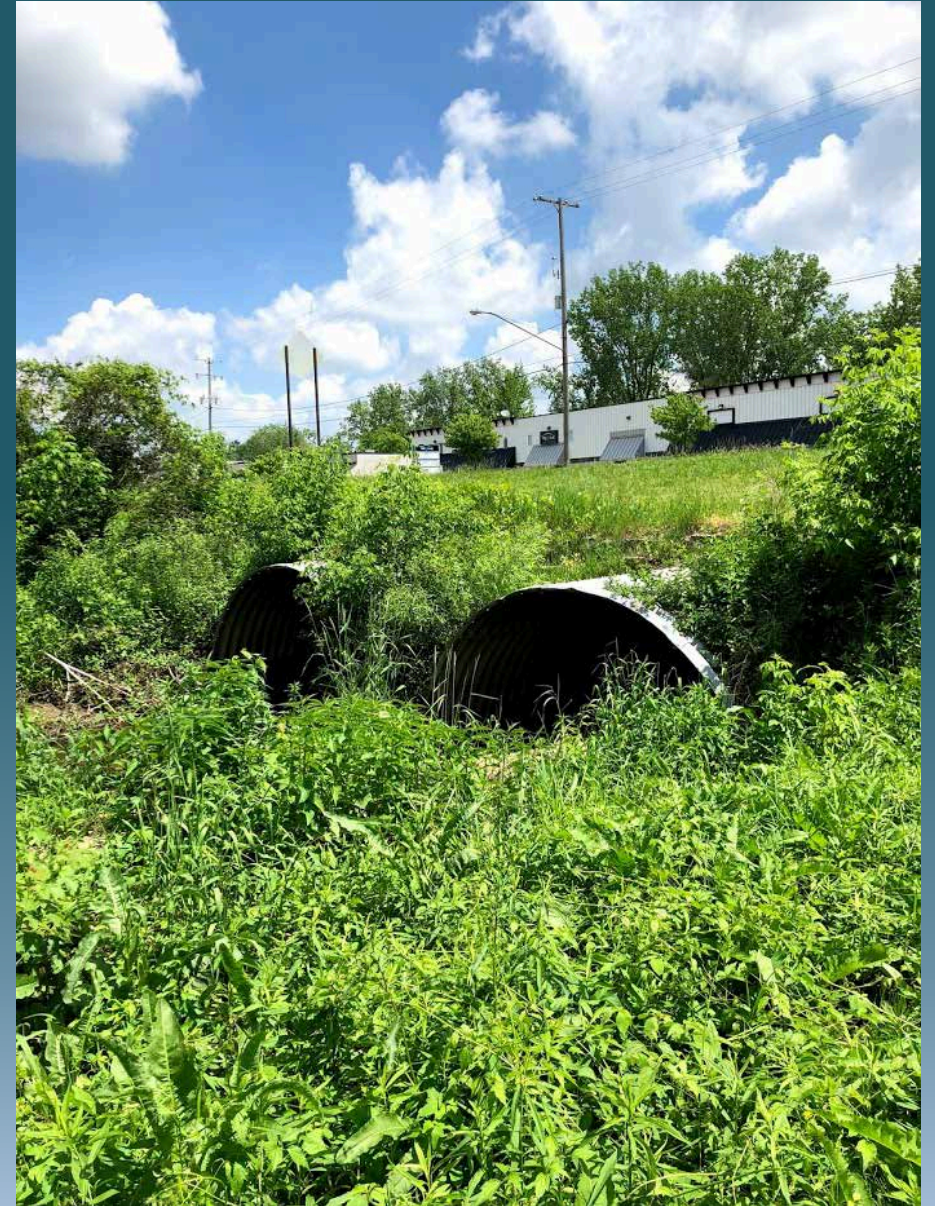
A Tale of Culvert Adventures...





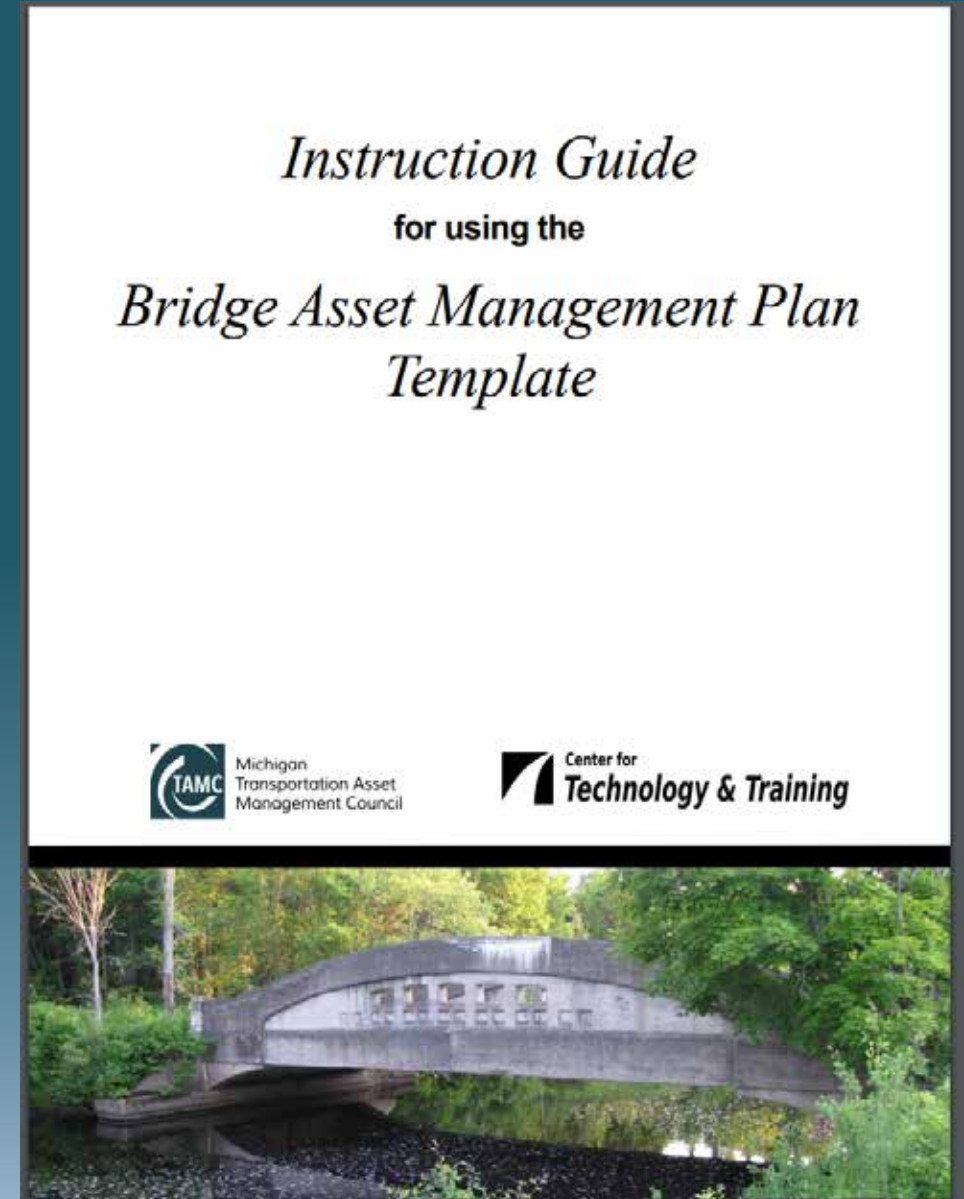


The Best Time to Do Ratings... Interns....



Asset Management Plans (TAMP)

1. Asset Inventory
2. Performance Goals
3. Risk of Failure Analysis - NEW
4. Anticipated Revenue and Expenditures
5. Performance Outcomes
6. Coordination Clause - NEW
7. Proof of Adoption by Governing Agency



Resources



Website:

www.Michigan.gov/TAMC



TAMC Help Desk:

(517) 335-3741



MI Login IRT Password Reset

1-800-968-2644



Email:

MDOT_TAMC@Michigan.gov

Questions?

