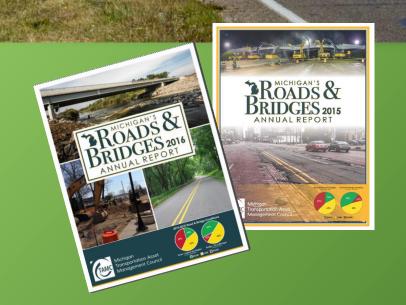
# Bridge Asset Management Michigan Transportation Asset Management Council (TAMC)



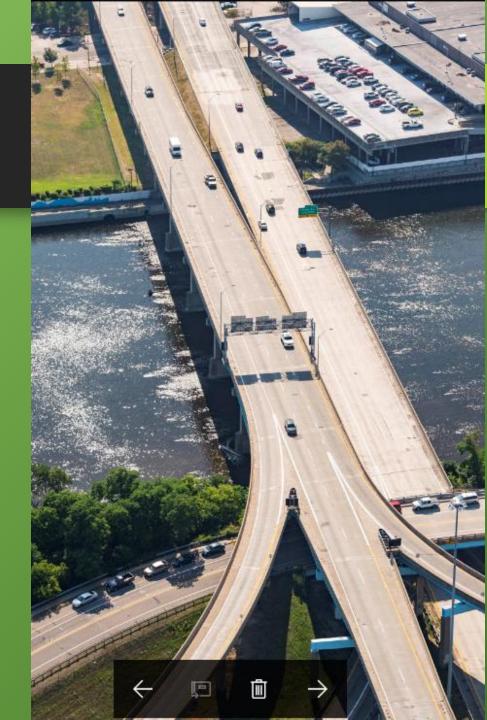
Dave Jennett MDOT / TAMC



Michigan Transportation Asset Management Council

### **Bridge Asset Management / TAMC**

- Brief Background on the Transportation Asset Management Council (TAMC)
- New Technologies / Updates in 2017/2018
  - TAMC Website
  - Investment Reporting Tool (IRT)
  - Annual Report Items
  - Dashboards
  - Interactive Maps
- Culvert Pilot
- Events and Communication





Brad Weiferich MDOT Bill McEntee CRA

Derek Bradshaw MAR

v Dave Wresinski MDOT en Rob Surber CSS



Jon Start MTPA Joanna Johnson CRA

Bob Slattery MML Gary Mekjian MML



MAC

Jennifer Tubbs MTA



Michigan Transportation Asset Management Council

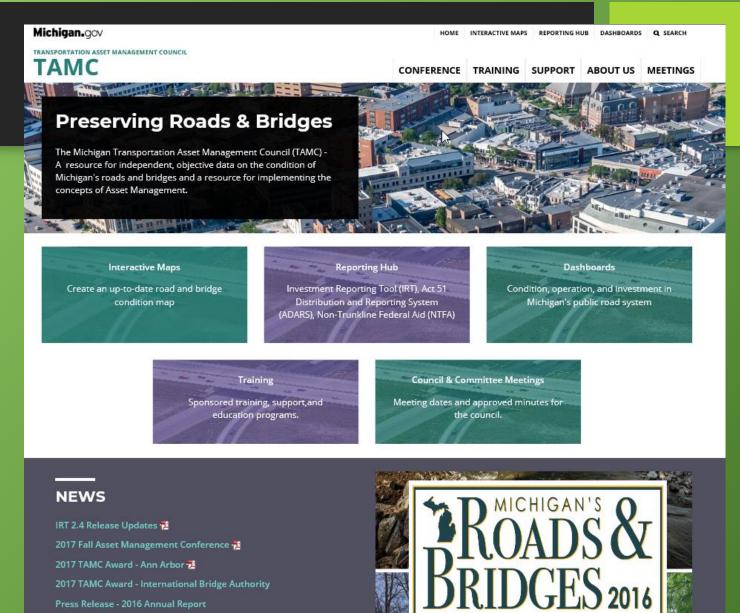
### Support Excellence in Managing Michigan's Transportation Assets

- Advise Michigan Legislature & State Transportation Commission
  - Collect asset data to inform condition & activity reports
  - ✓ Make future condition projections
- Promote asset management principles
  - ✓ Provide data to owners to "seed" activity
  - ✓ Provide training to owners
- Provide tools & practices for road agencies
  - ✓ Roadsoft integration on collection and reporting
  - ✓ Data analysis tools
  - ✓ Best practices conferences
  - ✓ Recognition of performance (awards)



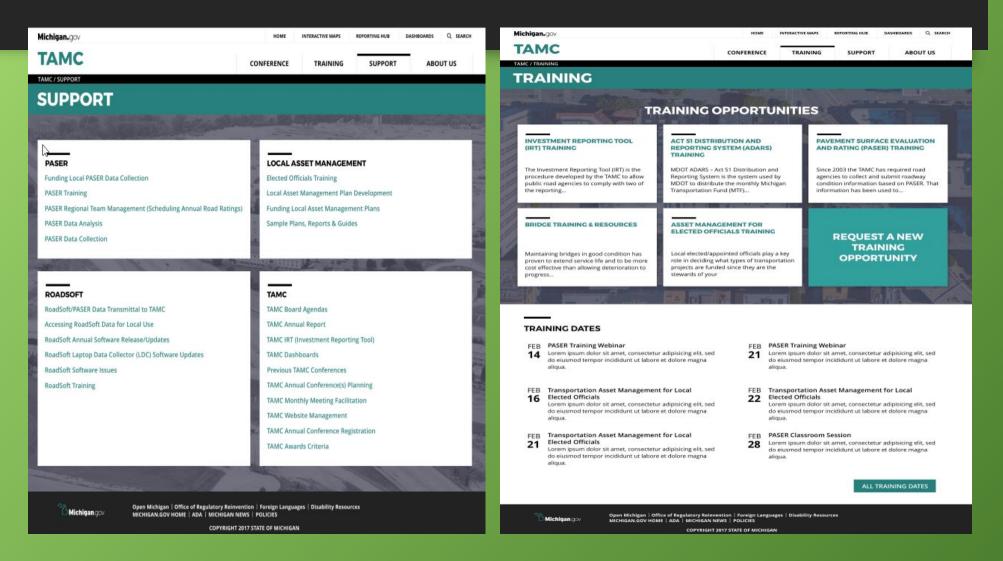
## **TAMC Website**

✓ New Technology for ease of use & stability ✓ Responsive Design ✓ Desktop ✓ Tablet ✓Phone  $\checkmark$  Houses the IRT, **Interactive Map and** Dashboards



#### 5

### **TAMC Website – Support & Training**



### IRT Reporting / Public Act 51 & You

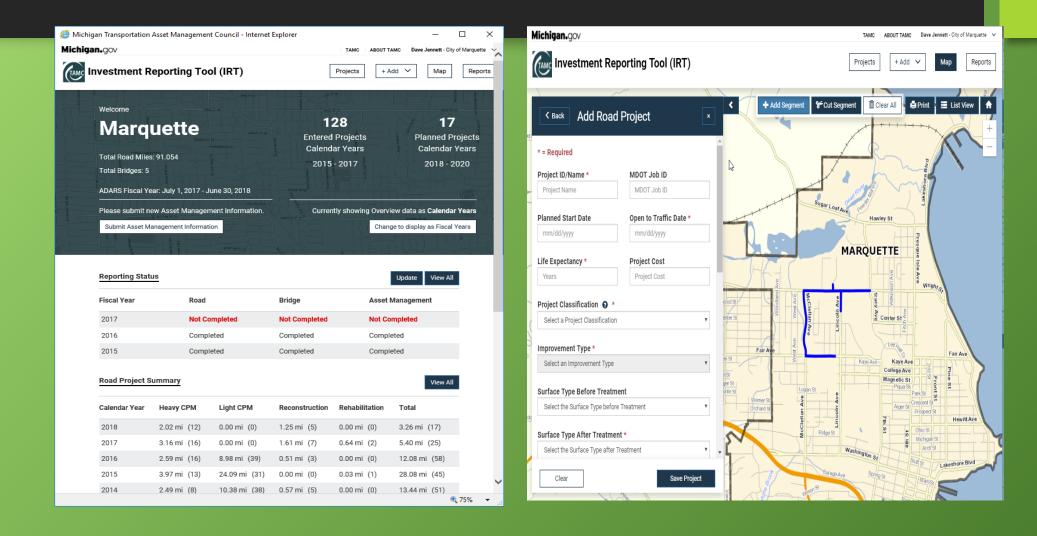
- Each road and bridge owning agency must report any road and bridge projects for the current fiscal year (Project = The what, the where, the when and total cost)
- Also any future projects planned within the next 3 years
- And indicate their status to the TAMC when they have completed their reporting and a survey on their asset management process.
- In 2016 this reporting was tied to the overall Act 51 compliance reporting process

### The Old IRT...

Investment Report	ing * Data Acce	ess * Admin *			Search											
					Enter a	document or meeting name.	Jurisdiction: Se	elect 🔹 1	reatment Year:	Select V Pr	oject Classifica	tion: Select	▼ Impr	ovement Typ	e: Selec	t
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Status					■ <u>New: Click here to vie</u>	w IRT Training Videos	Date Open to Tr Project Classific		11/15/2015 MSI			Multi-Year Life Expect			Yes 15	
							Improvement T		Major Rehabi	litation		спе схрес	ancy in re	drs:	15	
Status for: Oak	land 🗸 🗸	]					Surface Type A		Asphalt			Project ID/	Name:		50181	
Update 🖉 F	inished						Treatment:									
Data Completion Status			Dec diament		Comments: Description:		Clude Road fr	rom part of Ui	ckory Ridge to S							
Data Completion				Road Invest	ments		Road Name	Treatment		# Lanes	PR Ref #	BMP	EMP	Ref. Leng	th	Required HPMS
Reporting Year	Road Data	Bridge Data	HPMS Data	Treatment Ye	ear Project Class	Miles	Clyde Rd	1.821	Lengui	2 2	648706	0.884	2.705	1.821	şui	Yes
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2014	Complete	Complete	Complete	2006	SI	26.281	Improvement T	ype:	Resurf, Mill 8	t Pulver		·				
2013	Complete	Complete	Complete	2007	СРМ	12.48	Surface Type A	fter	Asphalt			Project ID/	Name:		51561	
2012	Complete	Complete	Complete	2007	SI	22.307	Treatment: Comments:									
2011	Complete	Complete	Complete	2008	SI	6.44	Description:		S. Milford Ro	ad from Pontia	c Trail to Villag	ge limits, mi	ll and overl	ay.		
2010	Not Complete	Not Complete	Not Complete	2011	MSI	10.398	Road Name	Treatment	Length	# Lanes	PR Ref #	BMP	EMP	Ref. Leng	gth	Required HPMS
2009	Not Complete	Not Complete	Not Complete	2012	MSI	10.655	S Milford Rd	3.768		2	656804	4.189	7.957	3.768		No
2008	Not Complete	Not Complete	Not Complete	2013	MCPM	4.967	Date Open to Tr		11/15/2015			Multi-Year			Yes	
2007	Complete	Not Complete	Complete	2013	MSI	18.95	Project Classific		MSI Maian Dahahi	14-41		Life Expect	ancy in Ye	ars:	15	
2006	Not Complete	Not Complete	Not Complete	2013	MCPM	13.334	Improvement Ty Surface Type A		Major Rehabi Asphalt	utation		Project ID/	Name:		51682	
2005	Not Complete	Not Complete	Not Complete	2014	MSI	60.142	Treatment:					.,				
2000	Not complete	Not complete	Not complete				Comments:			16 0.01	e ulle	.1				
				2015	MSI	40.445	Description:				to 9 Mile, pave	0		500 0 C L		De audae d UDWC
				2016	MCPM	4.956	Road Name	Treatment	Length	# Lanes	PR Ref #	BMP	EMP	Ref. Leng	gth	Required HPMS
				2016	MSI	10.959	Griswold Rd	0.996		2	634406	0.000	0.996	0.996		Yes

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### **IRT 2.0 – The New...**

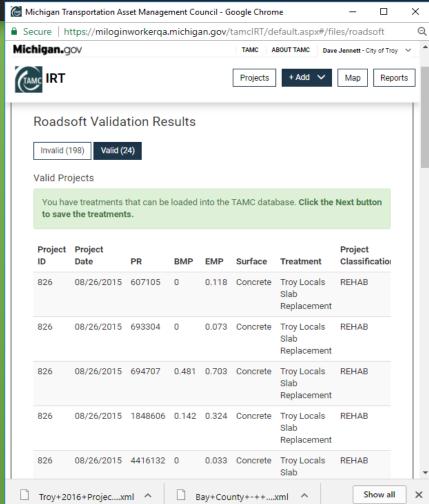


### **IRT 2.0 – Investment Reporting Tool**

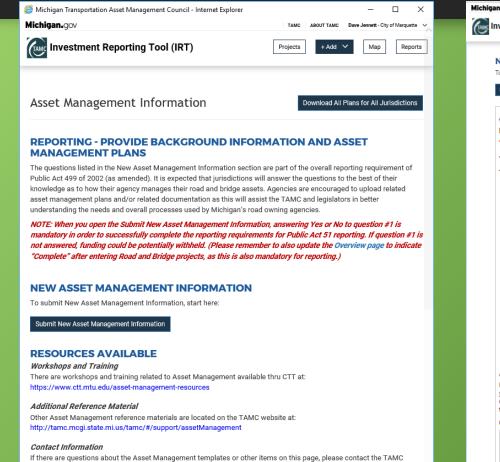
 New Technology & increased stability ✓ Responsive Design – Desktop, Tablet, Phone New Home page and Feedback on Compliance ✓ New Reports ✓ Modernized Intuitive Layout ✓ Map Printing – PDF & light customization ✓ ADA Compliant

### IRT 2.0 – Roadsoft / Shared Services

6	Aichigan Tr	ansportation As	set Manage	ment Co	uncil - G	oogle Chron	ne	-		×
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Mic	<b>:higan.</b> g	IOV				TAMC	ABOUT TAMC (	)ave Jennett - C	ity of Troy	<ul> <li>▲</li> </ul>
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### **IRT 2.0 – Asset Management Information**

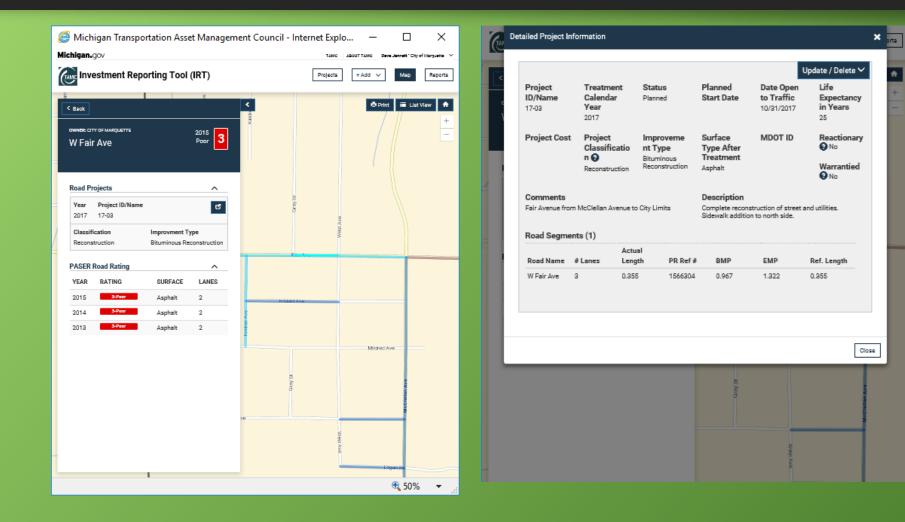


Coordinator:

an.gov	ASSET MANAGEMENT INFORMATION it New Asset Management Information, start here: New Asset Management Information ET MANAGEMENT INFORMATION pround Information pured otion: City of Marquette *Reporting Year: 2017 • DTAMC better understand the approach and tools used by your agency, please answer the followin bes your agency have a written Asset Management Plan? Des your agency use an asset management process? Des your agency use pavement management process? Des your agency use pavement management software or tools to identify and prioritize future road ojects? Des your agency use a variety of preventive maintenance and rehabilitation treatments for roads? Des your agency plan road projects 3 or more years in advance? Management Plans agency has a written asset management plan, please share this with TAMC by uploading it here. If uld like to develop a plan, the additional resources above can answer questions and assist in creats plan the additional resources above can answer questions and assist in creats plan for roads and spancy has a written asset management plan, please share this with TAMC by uploading it here. If uld like to develop a plan, the additional resources above can answer questions and assist in creats plan for roads and plan the additional resources above can answer questions and assist in creats plan for roads and plan the additional resources above can answer avester plan for roads and plan the additional resources above can answer avester plan for roads and plan the additional resources above can answer avestions and assist in creats plan for roads and plan the additional resources above can answer avester plan for roads and plan the additional resources above can answer avester plan for roads and plan the plan the additional resources above can answer avester plan for roads and plan the plan the additional resources above can answer avester plan for roads and plan the plan the additional resources above can answer avester plan for roads and plan the plan the additio		UT TAME Dev	Jennett - City c	of Merguette 🗸 🗸
Investment Reporting Tool (IRT)		Projects	+ Add 🗸	Мар	Reports
NEW ASSET MANAGEMENT INFORMATION To submit New Asset Management Information, start here: Submit New Asset Management Information	N				
ASSET MANAGEMENT INFORMATION				×	
Background Information * = Required					
Jurisdiction: City of Marquette *Reporting Year:	2017 🔻				
To help TAMC better understand the approach and tools used by	your agency, please answer the followin	g questions:			
*1. Does your agency have a written Asset Management Plan?			🗆 Yes	■ No	
2. Does your agency use an asset management process?			□ Yes	■ No	
<ol> <li>Does your agency have separate plans or condition goals for Local Road / Street networks?</li> </ol>	the Primary Road/Major Street versus t	he	□ Yes	■ No	
<ol> <li>Does your agency use pavement management software or to projects?</li> </ol>	cols to identify and prioritize future road		□ Yes	■ No	
5. Does your agency use a variety of preventive maintenance as	nd rehabilitation treatments for roads?		□ Yes	■ No	
6. Does your agency plan road projects 3 or more years in adva	ince?		□ Yes	■ No	
you would like to develop a plan, the additional resources above c	an answer questions and assist in creat			+ Add File	
File 1				×	
File: *Plan Type: [Plan Type Choose File] No file chosen Start Year: [2017 End Year: [2017	Comments:     Comments related to this fil     program to open, please spe     needed here.			<i>"</i> ]	

🔍 75% 🛛 👻

### **IRT 2.0 – User Feedback Matters**



### **IRT 2.0 – User Feedback Matters**

Michigan.gov			ТАМС	ABOUT TAMC	Dave Jennett - City	/ of Marquette 🗸 🗸
Investment Reporting	Reporting Status Reminder		×	+ Add	✓ Мар	Reports
Welcome	In order to be Act 51 compliant, rer IRT home page to being " <i>Complete</i>	ed'			HAIL ST TF	
Marquett	Even if there were no road or bridge completing your status indicate the		-		<b>17</b> Planned Proje Calendar Yea	
Total Road Miles: 91.054 Total Bridges: 5			Close		2018 - 2020	0
ADARS Fiscal Year: July 1, 20	017 - June 30, 2018	B A A A A A A A A A A A A A A A A A A A				
Please submit new Asset Ma	anagement Information.	c	urrently showing	Overview dat	a as <b>Calendar Y</b>	/ears
Submit Asset Management In	formation			Change to dis	splay as Fiscal Ye	ars
Reporting Status				Updat	e View All	
Fiscal Year	Road	Bridge	Asset N	lanagement		
2017	Not Completed	Not Completed	Not Cor	npleted		
2016	Completed	Completed	Comple	ted		
And a second sec						

### IRT 2.0 – Preliminary Annual Report Data

IRT Project Level Information
IRT Project Cost Information
Asset Management Information



### IRT 2.0 – Bridge Projects & Costs Summary

Bridge Projects Details		2016	2017					
Type of Projects	Count	Cost	Count	Cost				
Capital Preventive Maintenance Projects	52	\$8,338,320	33	\$4,092,262				
Scheduled Maintenance Projects	23	\$220,335	17	\$456,803				
Rehabilitation Projects	32	\$16,164,812	15	\$8,149,446				
Replacement Projects	62	\$43,837,384	43	\$27,337,475				
Structural Improvement Projects	6	\$9,860,236	4	\$1,333 <mark>,</mark> 682				
Total Number of Bridge Projects	175	\$78,421,087	112	\$41,369,668				

### IRT 2.0 – Asset Management Summary

IRT Asset Management Survey Responses	2017 (39	3 total)
Question	Yes	No
Does your agency have a written Asset Management Plan?	101	292
Does your agency use an asset management process?	189	109
Does your agency have separate plans or condition goals for the Primary Road/Major Street versus the Local Road / Street networks?	155	144
Does your agency use pavement management software or tools to identify and prioritize future road projects?	145	153
Does your agency use a variety of preventive maintenance and rehabilitation treatments for roads?	273	27
Does your agency plan road projects 3 or more years in advance?	206	90

### Performance Dashboards

### TAMC Dashboards

- ✓ Pavement
- ✓ Bridge
- ✓ Traffic
- ✓ Safety
- ✓ Maintenance
- ✓ Finance
- Updates in May

#### Dashboards

Summary Pavement Pevement Comparison Bridge Bridge Comparison Traffic Safety Maintenance Finance

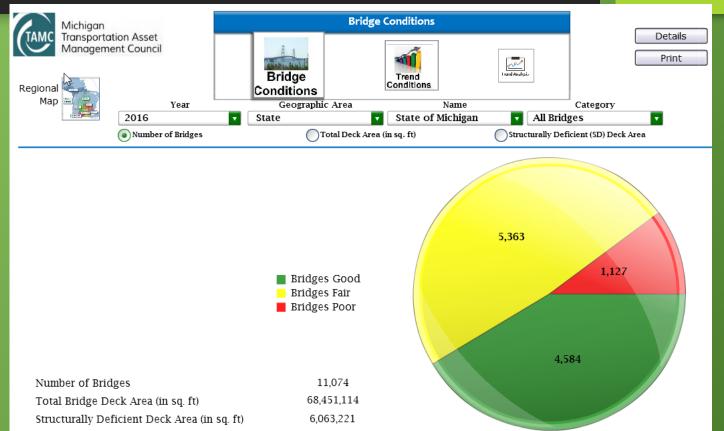
#### TAMC Dashboard Home

The gauges below show the condition, operation, and investment in Michigan's public road system. Pavement condition information is based on peved 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. Tabs at the top of this page lead to performance measures based on asset on asset warehop and geography.



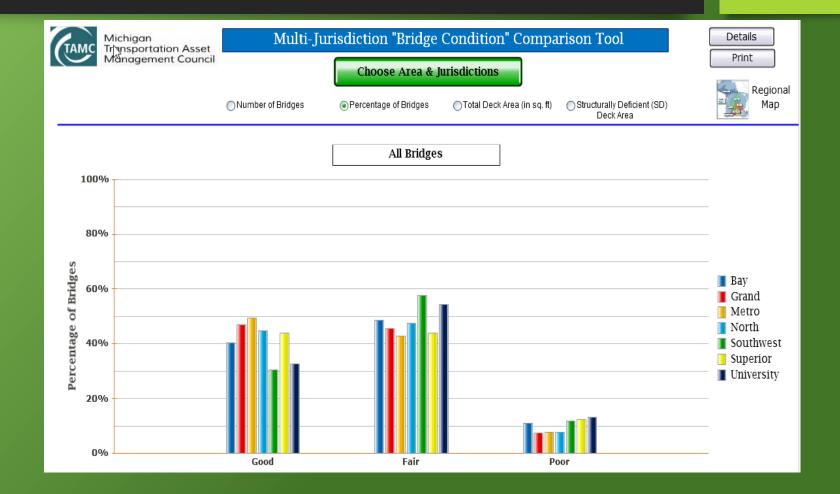
### **Bridge Dashboard Features**

- Conditions By Year
- Trend Conditions
- Trend Analysis Historical vs Forecasted
- Geographic Area
- Number of Bridges
- % of Bridges
- Total Deck Area
- Structurally Deficient
   Deck Area



# **Bridge Comparison Dashboard Features**

- Up to 8 Areas
  - Region
  - County
  - City
  - Village
- All Bridge Types
- Non-Trunkline
- Trunkline



### **Interactive Map 2.0**

New Technology & increased stability
 Responsive Design – Desktop, Tablet, Phone
 Modernized
 Intuitive Layout
 Map Printing – PDF & light customization

### **Interactive Map**

- Road Conditions
- · (2016-2012)
- Bridge Conditions
- · (2016-2015)
- NTFA
- Traffic AADT / CADT
- Planning Organizations
- Prosperity Regions

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	Street Aerial Hybrid			Ann A
	Map Layers		9	0*
	Road and Bridge Ratings		F-# 39	
	Road Ratings - PASER Years	An	r Arbor Twp	
×	2016 2015 2014 2013 2012			
	Download PASER Ratings			Old Dixbo
	Bridge Conditions			
		(turni Ren	Deco Cr Deco	
	Rating Fair Good	+++++++++++++++++++++++++++++++++++++++		
lanc			23	
	NTFA 😜			
-	Traffic V	To make of		
5	il an M		2	7

### **Interactive Map**

< Back

- **Advanced Search**
- Filter by Good Fair Poor Condition
- Street, Hybrid, Aerial
- **Print Options**
- **Export of PASER Data**
- **Updates planned in May**
- 2017 Bridge and Road **Data layers in May**

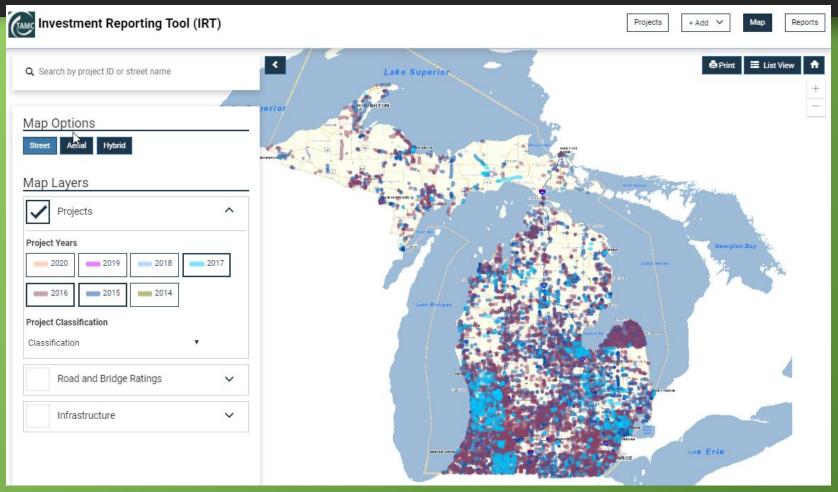
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PASER Road Rating	^			
PR 1431202 BMP 13.081	EMP 13.121			
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2014 <b>7-Fair</b> Co	ncrete 2		A CONTRACTOR	The street
2012 9-Good Co	ncrete 2			Arbor Twp
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Bridge Information	^	A CONTRACTOR		MARCH TO DE
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Owner	ER	$\sim$		
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Bridge Condition	^			Date Of Date of
Condition:	Fair			ALL BUILD
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Sub Rating:	6			1 A A A
Sup Rating:	5	1 2 - 12		A Part Street 1
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### Summer 2018 - IRT Projects and the Interactive Map

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oad Projects	^		17-		12.234 (42.07) (12.43)
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Detailed Project Ir	nformation					
Project ID/Name 17-03	Treatmer Calendar Year 2017			Planned Start Date	Date Open to Traffic 10/31/2017	Update / Delete V Life Expectancy in Years 25
Project Cost	t Project Classific: n 😧 Reconstruc	atio nt Ty Bitum	overne /pe inous nstruction	Surface Type After Treatment Asphalt	MDOT ID	Reactionary PNo Warrantied No
Comments Fair Avenue fro Road Segme	ents (1)	enue to City Lir	nîts	Description Complete recorn Sidewalk addition	struction of street a on to north side.	and utilities.
Road Name	# Lanes	Actual Length	PR Ref #	BMP	EMP	Ref. Length
W Fair Ave	3	0.355	1566304	0.967	1.322	0.355
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### Summer 2018 - IRT Projects and the Interactive Map



# What does the future of TAMC look like?

- Strategic Planning & Work Program 2017 2019
- FY 2018 Revamped Regional-Metropolitan Unified Work Program Language
- Update of Budget Process
  - ✓ FY2018 \$250,000 Budget Increase Request
- Asset Management Plans
- Communication & Outreach Efforts
- 21<sup>st</sup> Century Infrastructure
  - Michigan Infrastructure Commission
     \$2 Million Culvert Pilot Project



# Culvert Pilot Project

- Collaborative Effort Bridge committee doubled in size as a working group
- Initial Steps Develop work plan, survey agencies and begin training for the pilot
- Extremely tight time frame getting through the pilot and providing final report in September

Ŷ	ask .			Mar			A	pr		I	May			Jui	۱ ١		Ju	ıl		A	ug		Sep	
		19 26	5 1	2 19	26	2	9 1	6 23	30	7 1	4 21	28	4	11	18 25	2	9 1	6 23	30	6 13	20 27	3 1	0 17	24
	Contract and Funds Disbursement																							
Task 1	Literature Review of Best Practices																							
Task 2	Local Agency Survey - Data Availability and Extent																							
Task 3	Selection of Data Collection and Storage Methods																							
Task 4	Develop and Conduct Pilot Training																							
	Selection of Particpating Agencies																							
Task 6	Pilot Data Collection - Tier 1																							
	Pilot Data Collection - Tier 2																							
	Pilot Data Collection - Tier 3																							
Task 7	Pilot Centralized Data Storage Solution																							
Task 8	Evaluation of Pilot																							
Task 9	State-wide Collection Cost Estimate																							
Task 10	Final Report																							

# Culvert Pilot Project

- TAMC Culvert Pilot Project Survey Results –
- Agencies willing to participate: 81
  - Tier 1: 39 Have not inventoried or condition evaluated culverts
  - Tier 2: 33 Have a portion of their culverts inventoried but none or very few have had their condition evaluated on a routine basis (at least once every 5 Years).
  - Tier 3: 9 Have most of their culverts inventoried and their condition evaluated on a routine basis (at least once every 5 years)
- Agencies not able to participate: 60
- Local Agency Culvert Inventory and Condition Evaluation Pilot Survey Potential Participant Map (next slide)

# Culvert Pilot Project

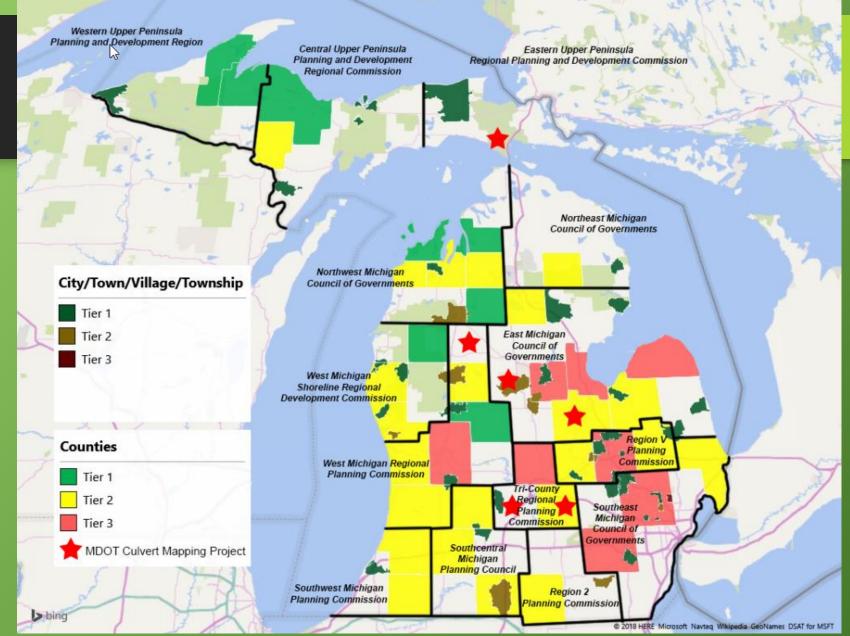
Statewide Representation City/village

- Tier 1 Dark Green
- Tier 2 Tan
- Tier 3 Brown

Counties

- Tier 1 \_ Green
- Tier 2 Yellow

Tier 3 - Red
 Stars- MDOT Culvert
 Mapping Project



# **TAMC** Announcements

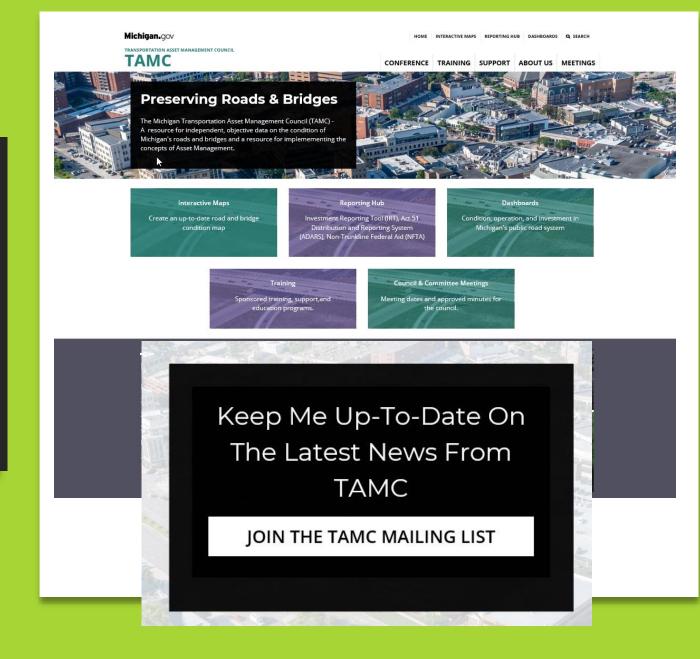
- Save the Date
  - ✓ Spring TAMC Conference May 22<sup>nd</sup> Traverse City
- Nominations for Individual & Organization Awards
- 2018 Training Schedules

   ✓ PASER Training
   ✓ IRT/ADARS Training
   ✓ Local Elected Officials
- 2017 Annual Report May
- Dashboard Updates May
- Interactive Map Updates May



### - TAMC Website www.michigan.gov/tamc

### Join the TAMC Mailing List for the Latest Updates



# Thank you & Questions ?'s

#### **Roger Belknap – TAMC Coordinator**

- <u>belknapr@michigan.gov</u>
- (517) 373-2249

#### Dave Jennett – TAMC, MDOT / AMPD

- jennettD@michigan.gov
- (517) 335-4583

Bill McEntee – TAMC Council Vice-Chair

- <u>bmcentee@rcoc.org</u>
- County Road Association

**TAMC IRT Helpdesk – CSS** 

- <u>CSS-TAMC@mi.gov</u>
- (517) 373-7910