

Michigan DOT Transportation Asset Management System (TAMS)

2020 NOCoE TSMO Asset Management Peer Exchange

Virtual

September 18th, 2020



Justin Droste PE
Asset Maintenance Engineer
MDOT Maintenance Services

- Good systems/reporting for Roads and Bridges
- Mid 2000's Statewide Physical Feature Inventory (SPFI)
 - Complex Data dictionaries (too much info to collect)
 - Inventories not easily accessible and not kept up
- Growing Desire for better Asset Management
 - Eliminate Silos
 - Simple collection, universal accepted data
 - Linear referencing (3 systems)
 - Maintenance work order system with asset interactions
 - Asset Condition

- Awarded Contract to Data Transfer Solutions, LLC
July 13, 2015 (DTMB: 071B5500115)



- Contract is for 7 years with options for 5 additional years.
- Key Components:
 - Road Network Management (linear referencing)
 - Asset Inventory Management
 - Maintenance Management
 - Future Integration Capability

Vendor Tools

- **ESRI Roads and Highways tools**
 - Full Editing of Spatial/Attribute
- **Vueworks/Mobilevue**
 - Spatial Viewing
 - Attribute Editing
 - Condition Data
 - Facility Data
- **Road Analyzer**
 - View Only (GIS)

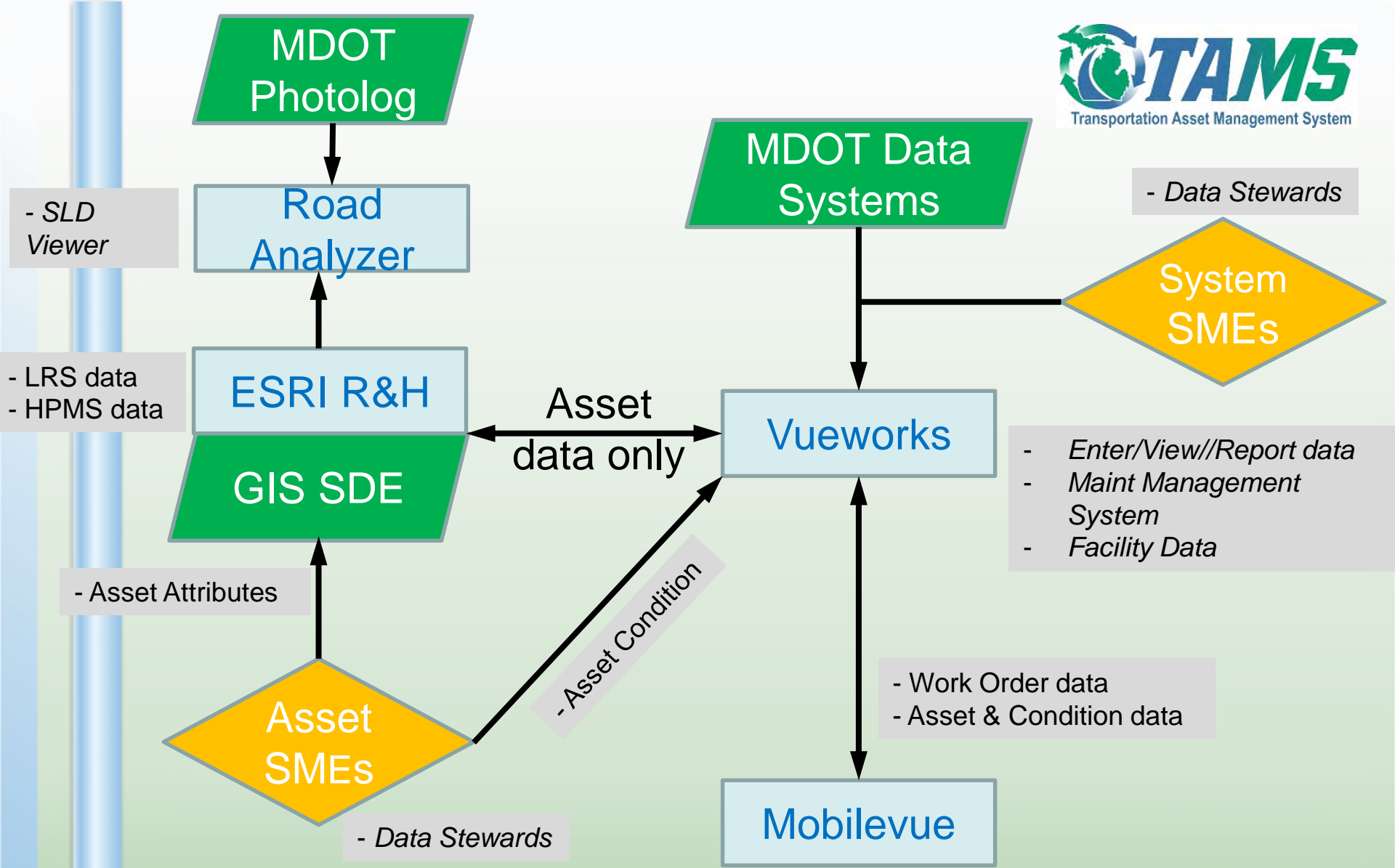
TAMS Assets

- Culverts (1-10')
- Guardrail
- Cable Barrier
- *Pump Stations*
(also facility data)

Other Assets

- Different System for ITS Assets
- New Signs System will share GIS data
- Signals may choose Vueworks for management
- Ancillary Structures and Rail also reviewing Vueworks

Asset Types:

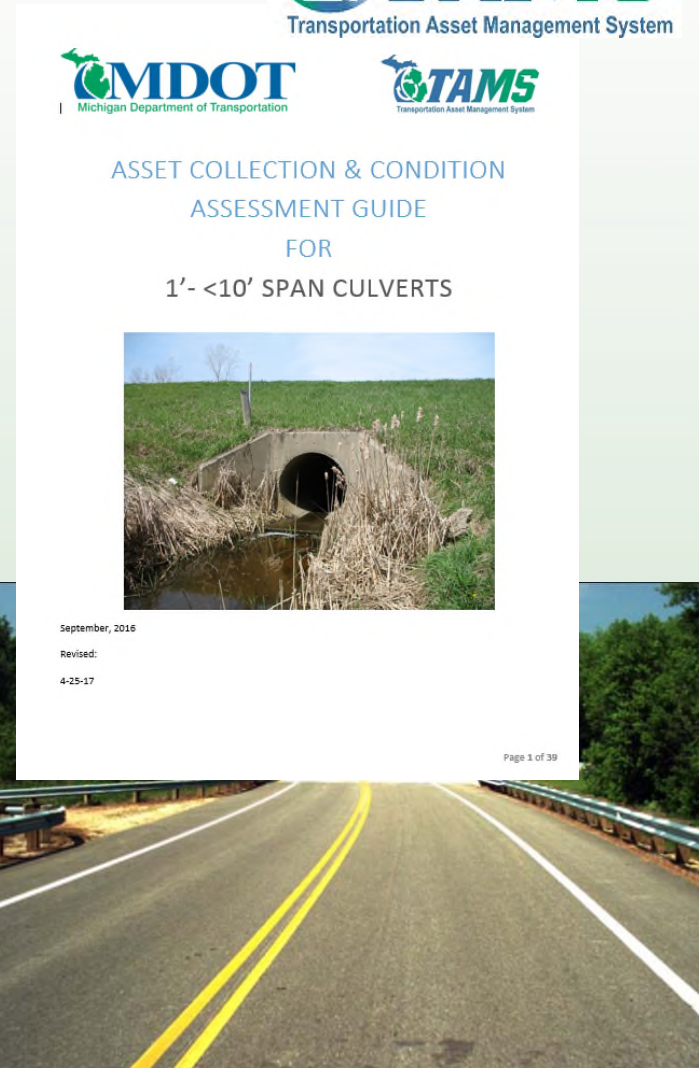


TAMS Data Flow:

- Data Collection and Condition Assessment guide.
- Large scale collection efforts/plans:
 - Initial
 - Extraction of Guardrail and Sign data from photolog imagery
 - Contractor “Boots on the Ground” collection of Culvert (1’-10’) data (5 counties)

Ongoing

- Capture maintenance changes via Viewworks.
- Post construction stop-gap collection with survey contracts
- Looking for self sufficient post construction collection (I-94 collection pilot)



- GIS Assets
- Document Link
- Service Requests
- Work Orders
- Resource Manager
- Culverts
- Guardrail
- Pump Stations

Guardrail: {1F433108-C1FA-4454-B0D9-41296A6D3E77}

A Attributes

Save Cancel

Guardrail ID*	{1F433108-C1FA-4454-B0D9-41296A6D3E77}
PR Begin	0355201
PR BMP	0.972
PR End	0355201
PR EMP	0.909
Route	I-496
Road Type	
Approach Ending	Anchored Terminal
Guardrail Material	Galvanized
Post Type	Steel
Block Type	Wood
Departure Ending	Continuous
Guardrail Type	Type T
Curved Guardrail (150' or less)	
Condition Index	
Comments	

1 of 1 Show All

Asset Data

Guardrail Asset Maintenance Costs					Total:	\$241,539.27
From:	10/1/2019 12:11:00 PM	WO Closed	147	WO w GR Attached:		
To:	5/19/2020 1:06:43 PM	WO Count	181		181	
					Unique GR Assets	158
Region: University						
Total:		\$131,354.24	Unique GR Assets	81	WO Closed	82
				WO Count	94	WO w GR Attached:
						94
Route: I-496						
Total:		\$33,947.34	Unique GR Assets	24	WO Closed	28
				WO Count	30	WO w GR Attached:
						30
Asset ID: {1340FCDA-2D71-4F29-89BE-9D4DD9990AC8}						
Route		I-496	Total Maint:	\$1,538.56	WO Closed	1
TSC		Lansing			WO Count	1
						WO w GR Attached:
						1
Location: I-496: 0355201, 4.87 (PR, BMP)						
Label: Type T, Anchored Terminal, Continuous (Type, App, Dep)						
LayerName: Guardrail						
AssetID {1340FCDA-2D71-4F29-89BE-9D4DD9990AC8}						
WorkOrderID	Route	Activity:	TotalCost	Status	Assigned To:	
031220-002	I-496	1300 Guardrail Repair Steel Beam	\$1,538.56	Closed	MDOT Grand Ledge Garage	
Asset ID: {1D71D984-C93F-498E-BA78-0F189F3011E7}						
Route		I-496	Total Maint:	\$0.00	WO Closed	1
TSC		Lansing			WO Count	1
						WO w GR Attached:
						1
Location: US-127: 0349804, 0.84 (PR, BMP)						
Label: Type T, Continuous, Type T Departing (Type, App, Dep)						
LayerName: Guardrail						
AssetID {1D71D984-C93F-498E-BA78-0F189F3011E7}						
WorkOrderID	Route	Activity:	TotalCost	Status	Assigned To:	
102219-018	I-496	1300 Guardrail Repair Steel Beam	\$0.00	Closed	MDOT Mason Garage	
Asset ID: {1F433108-C1FA-4454-B0D9-41296A6D3E77}						
Route		I-496	Total Maint:	\$1,474.22	WO Closed	2
TSC		Lansing			WO Count	2
						WO w GR Attached:
						2
Location: I-496: 0355201, 0.97 (PR, BMP)						
Label: Type T, Anchored Terminal, Continuous (Type, App, Dep)						
LayerName: Guardrail						
AssetID {1F433108-C1FA-4454-B0D9-41296A6D3E77}						
WorkOrderID	Route	Activity:	TotalCost	Status	Assigned To:	
111919-026	I-496	1300 Guardrail Repair Steel Beam	\$764.72	Closed	MDOT Grand Ledge Garage	
Location: I-496: 0355201, 0.97 (PR, BMP)						
Label: Type T, Anchored Terminal, Continuous (Type, App, Dep)						
LayerName: Guardrail						
AssetID {1F433108-C1FA-4454-B0D9-41296A6D3E77}						
WorkOrderID	Route	Activity:	TotalCost	Status	Assigned To:	
010620-015	I-496	1300 Guardrail Repair	\$709.50	Closed	MDOT Grand Ledge Garage	

MDOT TAMS

Map Scale: 1:2,256

MDOT TAMS

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Manage Condition - Google Chrome

tams.state.mi.us/vueworks/Condition/FindManageReport.aspx?LayerID=108&AssetID=3100&ItemType=1&AssetSelectMode=1&AssetTypeID=23

Current list contains 1 out of 30820 Records

Condition Form

Record Attributes

- Asset Class: Pump Stations
- Asset Type: Pump Stations
- Layer: Pump Stations
- Asset ID: 3100
- Form: Pump Station Condition

By Inspection Assigned Override

Record Date: 3/28/2018 11:05AM

Recorded By: Tim Croze

Notes:

Pump Station Condition 74

Mechanical System	70
Electrical System	82
Structure	83
Roof Hatches	80
Roof Drainage	80
Roof Rails	80
Machine Room	90
Wet Well	70
Conc Surface Coat	80
Doors	80
Ladders/Stairs	100
Site	80

Save Delete New Print... Close

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Show All

- Condition Data is Stored on TAMS Servers.
- Overall Condition rating pushed back to GIS.
- Condition can also be done on mobile devices.

Facility Data and Condition



THANKS!



Justin Droste PE

drostej@michigan.gov

Asset Maintenance Engineer

MDOT TSMO Division

6333 Lansing Rd; Lansing, MI 48917