Michigan Transportation Asset Management Council & Center for Shared Solutions

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RUCUS Outline

- **Transportation Asset Management Council**
  - Brief Overview of TAMC
  - Roles & Responsibilities
  - Data Collection – Management Cycle

- **Department of Technology Management & Budget**
  - Overview of the Michigan Geographic Framework
  - Future technology updates for GIS data management

- **Center for Shared Solutions**
  - Interaction between Roadsoft and Investment Reporting Tool (IRT)
  - Overview of IRT application re-write by CSS for 2017

- **Department of Transportation**
  - Traffic Data Management
  - Update
Michigan – A Home Rule State

- 617 Agencies with Road Ownership
  - 83 Counties
  - 533 Cities and Villages
  - MDOT

- Partners in Management
  - 1,240 Townships
  - 14 Planning Regions
  - 15 Metro Planning Agencies
  - Consultants & Contractors
All public roads in Michigan will be managed using the principles of Asset Management

– Michigan Legislature

- Act Creates Transportation Asset Management Council – TAMC
- Advisory to State Transportation Commission
  - Asset Management Process
  - Tools and Education
  - Statewide Asset Management Strategy
  - Federal Aid System First
- Partnership for Deployment with Metro & Regional Planning Agencies
- Reporting of Conditions & Investments
Workshops, Conferences and Trainings

PASER Data Collection
  • +/- 163,000 lane miles of Federal Aid
  • +/- 33,740 lane miles of Non-federal Aid Paved roads rated

Continued Publication of Michigan’s Roads & Bridges Annual Report

Recognition of Achievement through Carmine Palombo Award & TAMC Organizational Award

Dashboards & Interactive Maps
Integration of Investment Reporting Tool (IRT) and Act 51 Reporting (ADARS)

MDOT performing compliance reviews

Standardizing Asset Management within MDOT communication

- Typically 3 categories of non-compliance
- Customer Support

Roadsoft Compatible
Data Management Cycle

1. Set up a network
2. Export network for LDC
3. Send Copy of Network to CSS
4. Import network to the LDC
5. Collect data
6. Export collected data to Roadsoft
7. Import collected data to Roadsoft
8. Export TARC Data to Region
9. Import TARC Data from Local Agency
10. Export TARC Data to CSS

Back up your Roadsoft data
Traffic Data Management

New Software - TDMS

Access to hourly and AADT data
Michigan Geographic Framework (MGF)

Technology Upgrade Project
MGF Background

• MGF began in the 1990s
  – Produced 16 annual versions to date
  – Framework modeled after national Framework concepts
  – Modeled using Census Tiger topological model
  – Initially used ArcInfo Coverage Data Format
  – Integrated boundary geography, roads, hydrology, rail
  – Integrated Linear Referencing System for all roads
  – Annual versions are made publicly available
  – Seen by federal agencies and other states as a model integrated state framework
Components of Today’s MGF

Michigan Geographic Framework Editing Environment (MGFEE)

- CSS
- MDOT
- MDOS
- Local

MGFEE

Standards
Business Rules
Data
Permissions
Reasons for change

• MGFEE system is end of life
  – Older programming technology
  – No longer being supported through new version releases
  – Delivery generation tools use old technology and data formats

• Newer technology to improve data management

• Develop new federated model using distributed architecture

• Data stewards use their own editing tools to manage their authoritative data then provide changes back to MGF master GIS repository – State Spatial Data Infrastructure model
  – MDOT implementing ESRI Roads and Highways
  – State agencies use their own editing software

• Leverage services to provide access to MGF data more frequently
New Technology

- DNR
- MDOT
- Local
- CSS

Diagram showing interconnections between DNR, MDOT, Local, and CSS.
MGF Federated System

MGF GIS Repository

MDOT
- Roads, Parcels, Bridges
- BU Data
- Enterprise Data

Local
- BU Data
- Enterprise Data

Federal
- Geodetic, Census, Roads
- BU Data
- Enterprise Data

Utilities
- Broadband, Energy, Water/Sewer
- BU Data
- Enterprise Data

DNR
- Park & Forest Roads, Parcels, Trails
- BU Data
- Enterprise Data

MSP
- BU Data
- Enterprise Data

MDOS
- Election Geography
- BU Data
- Enterprise Data

DEQ
- Environmental
- BU Data
- Enterprise Data
What to expect

• Version 17 to be delivered in current MGF format
• Version 18 will be a transitional delivery, LRS will be produced from ESRI Roads and Highways
• Anticipate some changes to current deliverables
  – No .e00 export
  – Files as shapefiles or feature classes
  – Some fields that are no longer used may be removed
• Migration table is planned to be produced from ESRI Roads and Highways
• More outreach and communication as project begins
• Survey in progress
## Today and Tomorrow

<table>
<thead>
<tr>
<th>MGF Today</th>
<th>MGF Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>One editing environment</td>
<td>Distributed editing</td>
</tr>
<tr>
<td>Annual versions</td>
<td>More frequent versions</td>
</tr>
<tr>
<td>Cannot load bulk features</td>
<td>Can integrate bulk uploads</td>
</tr>
<tr>
<td>Data products are produced as exported files</td>
<td>Service oriented architecture – connect to a service to get updates</td>
</tr>
<tr>
<td>Highly customized</td>
<td>More COTS than customized (expected)</td>
</tr>
<tr>
<td>MGF data layers publicly available</td>
<td>Geospatial repository to manage publication version of data based on data classification, open and internal</td>
</tr>
</tbody>
</table>
Center for Shared Solutions

Interaction Between Roadsoft & Investment Reporting Tool (IRT)

Overview of IRT Application
Re-write by CSS for 2017
Both the IRT and Roadsoft are free to local agencies.

IRT can have multiple users and is a website where Roadsoft is software loaded on a single computer.

Jurisdictions can use either tool for managing their investment data. The IRT is suited directly for investment reporting whereas Roadsoft offers more advanced features and additional tools.

REMINDER: Roadsoft Users must still use portions of the IRT to meet their reporting requirements. (Specifically they must upload or export their investment data to the IRT so it can sync to ADARS and update their annual reporting Status to being complete.)
Overview of Investment Reporting Process

PROJECTS

- “The what, the where and the when”
- Current year Road & Bridge work
- 3yr Plan - Planned Projects

PROJECT ID / PROJECT NAME

- Unique for each project
- Common ground - links all systems.
- Can be street names or ID numbers

Step 1
IRT (CSS)
- Enter PROJECTS
ROADSOFT (CTT)
- Enter PROJECTS
- PASER Ratings

Step 2
IRT (CSS)
- TAMC Statewide Database

Step 3
ADARS/ACT51 (MDOT)
- Verify PROJECTS pulled from IRT
- Enter Project Costs
- Requires Total Costs for Each Project (Not annual cost)
Investment Reporting Tool (IRT)

Data
- Road Data
- Bridge Data
- Send / Get Data
- HPMS Data

Map
- Enter Road & Bridge data
- View Road (TAMC) data

Reports
- Road and Bridge projects
- Includes ADARS Report that matches Asset Management page in ADARS

Status
- Indicate TAMC compliance
- Review summary
IRT Training Page - Resources

**MATERIAL**

- 2016 TAMC-IRT Training Schedule  
  (234 KB)
- 2016 TAMC-IRT Training PowerPoint Slides  
  (4.6 MB)
- Investment Reporting 101 & Key Points on ADARS Integration  
  (133 KB)
- Investment Reporting Process Overview Diagram  
  (317 KB)

**VIDEOS**

- Entering Road Projects Using a Map
- Updating Your Completion Status
- Entering Bridge Projects Using a Map
Lessons Learned so far...

- Make sure to update to latest version of Roadsoft
- Interaction with IRT and ADARS depend on keeping consistent file formats, work types, MGF versions etc.
- Talk to your accounting areas so on the same page with Project ID / Project Naming convention
- “Project Builder” option in Roadsoft was designed to fit the investment reporting process more efficiently.
- If the file export from Roadsoft has issues try uploading directly into the IRT.
IRT Data Page / Send (Upload File)

Internet Explorer 11 users may have issues logging in and will need to use a different web browser such as Chrome or Firefox.

Data

Upload File

Select the location and RoadSoft text file on your machine to process to load your Treatment data into the Asset Management Council database. TXT file type expected.

Browse... & Upload

Michigan Transportation Reporting Portal - Internet Explorer
IRT Data Page / Send / Roadsoft

Internet Explorer 11 Users may have issues logging in and will need to use a different web browser such as Chrome or Firefox.

**Data**

- Road
- Bridge
- Send
- Get
- HPMS

Check Road Segments:
- Roadsoft
- PASER
- Other File

- Not Valid Ownership(0)
- Valid Ownership(s)

Valid:

You have treatments that can be loaded into the TAMC database. Click the Next button to load these treatments.

<table>
<thead>
<tr>
<th>Project Date</th>
<th>PR</th>
<th>BAP</th>
<th>EMP</th>
<th>Surface</th>
<th>Treatment</th>
<th>Class</th>
<th>Life Exp</th>
<th>Num. Lanes</th>
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<td>Single Course Chip Seal</td>
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<td>Reconstruct Non Freeway</td>
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</tr>
</tbody>
</table>
IRT Data Page / Send / Roadsoft

Internet Explorer 11 Users may have issues logging in and will need to use a different web browser such as Chrome or Firefox.

Data

- Road
- Bridge
- Send
- Get
- HPAS

Update Status

Entries loaded into the system. You must still update your Reporting Status after your file upload is complete!

What would you like to do next?

- Update Status
- Upload Another File
IRT Data Page / Get (File Library)

Internet Explorer 11 users may have issues logging in and will need to use a different web browser such as Chrome or Firefox.

**Data**

<table>
<thead>
<tr>
<th>File</th>
<th>Loaded By</th>
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<td>10/30/2016</td>
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<td>Jennettd</td>
<td>06/09/2016</td>
<td></td>
</tr>
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</table>
Known issues...

- Files not uploaded properly or timed out – sometimes due to outdated Roadsoft version
- Problems with matching treatment types
- No Custom treatments allowed
- Misleading confirmation emails – PASER file was uploaded but no feedback to what the file contained – problem with local PASER data last year.

.....The good news.....
2017 IRT Changes Overview

- Grant awarded by MDOT to rewrite existing IRT which has existed for over 10 years
- Improvements planned to keep ease of use but reduce known problem areas and offer newer features
- Rewrite to include change of Project Classifications and Treatment Types
  - 4 Classifications – SI, Rehabilitation, Heavy and Light CPM
  - Customized treatments accepted
Direction of the New IRT:

Michigan BeachGuard System, a public resource provided by Michigan DEQ for information on Michigan beach water quality sampling results and beach advisories and closures.
IRT Changes Overview (cont.)

- Ability to upload Asset Management Plans
- Provide feedback to TAMC on agencies investment planning processes
- Better means to manage past data sets
- Work flow to identify action items
- Mass deletes for previous planned data
- Validation and feedback on PASER file upload
Preview of New PASER Upload
Questions
Feedback
Requests
Contacts & Resources

- Rog Belknap  
  BelknapR@michigan.gov

- Melissa Carswell  
  CarswellM@michigan.gov

- Mark Holmes  
  HolmesM3@michigan.gov

- Dave Jennett  
  JennettD@Michigan.gov

- TAMC IRT Helpdesk/ CSS (Center for Shared Solutions)  
  - CSS-TAMC@mi.gov  (517) 373-7910

- Resources also can be found under Training and Support on the TAMC website: www.michigan.gov/tamc

Thank You