

ASSET MANAGEMENT PLANS: PLANNING TO OVERCOME CHALLENGES

*Fall Transportation Asset Management Conference
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*Presented By:
Alex Elsenheimer, Marquette CRC Engineer*



Outline

- General Information
- The “Backbone”
- Creating Your Story
- Road and Bridge Asset Management Goals
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- Questions



Marquette County Road Commission's Bridge Asset Management Plan

A plan describing the Marquette County Road Commission's bridge assets and conditions

Prepared by:
MCRC Engineering Department
906-486-4491
1610 N Second St
Ishpeming, MI 49849

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General Information

- Asset Management plans now required for 100 certified miles or more under PA 325 (2018).
- Marquette CRC landed on October 1st, 2021 for the reporting schedule.
- The Marquette CRC uses the data collected in its process to decide on road and bridge construction projects, but now the process needs to be transferred to asset management plans for the general public.
- How do we get started with creating these asset management plans that show the story of assets and why we make the decisions we do?
 - What resources can help us get a head start in creating our asset management documents?
 - What data do we have or need?



The “Backbone”

- Center for Technology and Training templates were key to creating the “backbone” of our asset management plans.
- Roadsoft program and MiBRIDGE experience allowed for smooth transfer of existing data that we have been collecting for years from bridge inspections and PASER ratings. The ArcGIS program allowed us to show more detail in our road network figures using Roadsoft data.
- Using the templates and our existing data, we were able to create a general layouts for our asset management plans.

ctt.mtu.edu/asset management resources

The screenshot displays the website for the Center for Technology & Training. The header includes the center's logo and a search bar. The main content area is divided into several sections: Training, Events, Project Pages, Publications & Resources, and Asset Management Resources. The Asset Management Resources section is highlighted, showing links to templates and tools for compliance plans.

Center for Technology & Training

Search this site

Training

- Upcoming Training
- Past Training
- Training By Request
- Continuing Education Policy

Events

- County Engineers' Workshop
- Contract Management Conference
- Michigan Bridge Conference
- Highway Maintenance Conference
- Winter Operations Conference
- RUCUS
- Webinars & Workshops

Project Pages

- Michigan LTAP
- Roadsoft
- MPRL
- Bridge Load Rating
- Great Lakes Environmental Infrastructure Center

Publications & Resources

- The Bridge Newsletter

Asset Management Resources

Asset Management Plan Templates - NEW!!

The templates are flattened Microsoft Word documents that can be simply edited in Word to create a personalized compliance plan or asset management plan.

- PA 325 Compliance Plan Template
- Pavement Asset Management Plan Template
- Bridge Asset Management Plan Template

Asset Management Plan Tools - NEW!!

The tools are zipped folders consisting of interactive Word documents, macro enabled Microsoft Excel workbooks, and/or comma-separate-value files that can be used in conjunction with data outputs from Roadsoft and MiBRIDGE (supplied by user) or with manual data entry (by user) into a .csv file to produce a final, flattened Word document. The tools currently available for download are version 2019; **we will be updating the tools to version 2020 soon so check back here regularly to get the latest version of the tools** if you are doing asset management plans for 2021. **Also note:** If you downloaded the pavement, bridge, and compliance plan tools at different times, they might not work together due to updates made to each of the tools. Download the 09/08 version of the PA 325 Compliance Plan Tools and use the Run Patch button to sync your data for the compliance plan.

IMPORTANT! If your computer system is running with Sharepoint, you will need to copy the tools to a USB and run the tools off of the USB.

- PA 325 Compliance Plan Tools - version 09/08
- Instruction Guide for the Compliance Plan Template
- Pavement Asset Management Plan Tools
- Instruction Guide for the Pavement Asset Management Plan Template
- Bridge Asset Management Plan Tools
- Instruction Guide for the Bridge Asset Management Plan Template

Creating Your Story

- Using the generated asset management plans, we began to add Marquette CRC experiences, processes, and additional information to create the story of our infrastructure assets.
- This portion of creating your own asset management plans will take time, which will vary depending on the amount of additional detail added to the asset management plans.
- We wanted our asset management plans to show why we make the decisions we do with our limited budget and understand that items (budget & projects) in these plans are subject to change due to it being a “living” document.



average bridge rating of 5.5 in 2008-2009 to a 6.1 in 2016-2017 for the local bridges. In Figure 2 below, the number of local bridges in good/fair, poor, and serious/critical conditions from 2008 to 2017 is displayed. Figure 2 shows the progress of the Marquette CRC local bridges from these years reaching 77% in good/fair condition and 23% structurally deficient in 2017.



Figure 1: Average Bridge Overall Rating from 2008 to 2017

Creating Your Story (Continued)



Figure 44: Forecast of average PASER rating changes to the MCRC paved County Primary road network.

Asset Management Goals

- Road Asset Management Plan:

Our goal was to maintain or improve our system. We did include average PASER rating targets for our County Primary roads as indicator gauge for the overall goal (Three ADT groups).

- Bridge Asset Management Plan:

90 percent of Marquette CRC bridges in good/fair condition with 10 percent or less structurally deficient or functionally obsolete in the next 15 years.



IDENTIFY FUNDING SOURCES

Projects for replacement are programmed and funded for the following bridge(s): 6525 (CR 557 at Big West River), 6543 (CR 478 at Black River), 6569 (CR BAA at Chocolay River), 6584 (CR FX at Middle Branch Escanaba River), 6610 (CR NP at Carp River).

The Marquette CRC applied for MDOT local-aid funding in 2018 for the purpose of replacement and rehabilitation for the following bridge(s): 6536 (CR 565 at Schweitzer Creek), 6544 (CR 478 at Greenwood Reservoir), 6554 (CR 607 at Peshekee River), 6598 (CR KE at Big Garlic River), 6612 (CR OC at Nelson Creek). The funding for these bridge projects is intended for the following funding year(s): 2021

Other replacement, rehabilitation, and preventive maintenance projects will be submitted for state and/or local funding in subsequent years. Projects submitted to the local aid program that are not selected for funding will be added to the agency's program as determined from engineering judgement. The scheduled maintenance and minor repairs will be performed by the agency's board approved in-house maintenance forces and funded through the agency's annual operating budget.

CONCLUSION

The Marquette CRC's bridge asset management plan involves a "worst-first" strategy with replacement and rehabilitation for addressing its local bridge network due to the higher than statewide average of structurally deficient bridges. This asset management plan is a living document and will be updated every two years with analysis of future bridge inspection reports and further engineering judgement of other contributing factors. The Marquette CRC's goal is to have 90% or higher of its bridges in good/fair condition with 10% percent or less structurally deficient or functionally obsolete within 15 years using the limited funding available. If this goal is met, the Marquette CRC will then focus on preventative maintenance projects to preserve the county bridge network, which will be reflected in future bridge asset management plans.

What We Learned

- Budgets and construction projects are always subject to change, so notes were added on this.
- Building an asset management plan takes time, data, research, and review. Use the resources around you to help as much as possible.
- Using the templates provided by the Michigan Tech Center for Technology & Training, we have “living” documents unique to the Marquette CRC that can be updated on its selected rotation with reloading new data collected.



Questions?



Contact Information:

Email: aelsenheimer@marqroad.org

Phone: 906-486-4491 ext. 207