Approved by TAMC September 4, 2019

Michigan Transportation Asset Management Council

2020-2021-2022

Strategic Work Program

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Michigan Transportation Asset Management Council
2020 – 2022 Strategic Work Program

Overview

The Transportation Asset Management Council (TAMC) is expanding the practice of asset management statewide to enhance the productivity of investing in Michigan's roads and bridges through coordination and collaboration among state and local transportation agencies. TAMC's activities include surveying and reporting the condition of roads, bridges, and surface transportation system by functional classification categories and assessing completed and planned investments in roads and bridges. TAMC also supports the development of appropriate asset management methodologies and provides education and training on the benefits of developing road improvement programs using asset management principles and procedures. A key component for the TAMC is providing value for the transportation agencies in the training/education, data that is collected and analysis.

TAMC is comprised of professionals from county road agencies, cities, township officials, regional and metropolitan planning organizations, and state transportation department personnel. The Transportation Asset Management Council reports directly to the Michigan Infrastructure Council (MIC) and is a resource for the State Transportation Commission (STP) and the Michigan Legislature. Members of the Transportation Asset Management Council are appointed to 3-year terms. The Center for Shared Solutions (CSS) is the Central Data Storage Agency (CDSA) of TAMC and serves as a non-voting member. The activities of TAMC are supported by the TAMC Coordinator and Michigan Department of Transportation (MDOT).

Vision: A national leader, promoting asset management principles and practices, to guide investment decisions among Michigan's transportation agencies

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

1. Advising the legislature, the State Transportation Commission, the Michigan Infrastructure Council, transportation committees, and others
2. Promoting asset management principles
3. Providing tools and practices for road agencies
4. Collaborate and coordinate with Water Asset Management Council and other asset owners

Purpose

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 work program also provides tactical objectives directing the various committees, contractors, support staff and program partners for the timeframe of 2020 - 2022.

TAMC Legislation and Public Act 51

TAMC was formed under Public Act (PA) 499 of 2002 followed by several amendments, including PA 338 of 2006, PA 199 of 2007, PA 257 of 2010, PA 298 of 2012, PA 506 of 2012, PA 323 and PA 325 of 2018. PA 499 of 2002 established TAMC as an organization with membership and staffing within MDOT and created the responsibility to prepare an annual report detailing its activities during the previous year and plans for upcoming years. Initially, under PA 499 TAMC was accountable to the State Transportation Commission; in 2018 this changed under PA 323, where the Michigan Infrastructure Council would have oversight responsibility of TAMC as well as the Water Asset Management Council (WAMC).

The TAMC's current list of statutory responsibilities includes:

- Advising the Michigan Infrastructure Council on a statewide asset management strategy (Michigan Compiled Law (MCL) 247.659a(3));
- Advising the Michigan Infrastructure Council on the processes and necessary tools needed to implement asset management strategies on a statewide basis, beginning with the federal-aid eligible highway system and infrastructure assets that impact system performance, safety, or risk management, including signals and culverts. (MCL 247.659a(3));
- TAMC, in conjunction with the department, counties, and municipalities, shall develop and implement a pavement management system for each mile of roadway on the Federal-Aid eligible highway system in Michigan. This pavement management system shall attempt to ensure that a disproportionate share of pavement shall not become due for replacement or major repair at the same time. TAMC shall provide local road agencies with the training needed to utilize the pavement management system in accordance with this section. (MCL 247.651g);
- Allowing road agencies in the state to link to the TAMC dashboards to improve government transparency as it relates to transportation infrastructure (MCL 247.668j(3c));
- TAMC is also permitted, under the act, to appoint technical advisory committee whose members shall serve as needed to provide research on issues and projects as determined by TAMC (MCL 247.659a(7));
- TAMC shall promote and oversee the implementation of recommendations from the regional infrastructure asset management pilot program on a statewide level as the program relates to roads, bridges, and related transportation infrastructure (MCL 247.659a(9));
- TAMC shall develop a template for an asset management plan for use by local road agencies responsible for 100 or more certified miles of road and require its submission to the TAMC (MCL 247.659a(10));
- TAMC shall establish a schedule for the submission of asset management plans by local road agencies (MCL 247.659a(10));
- TAMC shall review asset management plans submitted no later than 6 months after receipt of the asset management plan and compare the asset management plan to

the minimum requirements and the template created by TAMC and determine whether the asset management plan is in compliance with those standards. If the asset management plan does not meet those standards, TAMC shall seek concurrence from MDOT that the asset management plan does not meet the TAMC standard. If MDOT concurs, TAMC shall require the local road agency to revise its asset management plan to conform to the standards within 6 months after notifying the local road agency that the asset management plan does not meet the TAMC standard. TAMC shall provide an opportunity for a noncompliant local road agency to discuss the reasons the local road agency's plan is not in compliance and ways for the local road agency to become compliant (MCL 247.659a(13));

- Beginning October 1, 2025, if TAMC, and MDOT concurs, that a local road agency has not demonstrated progress toward achieving the condition goals described in its asset management plan for its Federal-Aid eligible County Primary Road System or City Major Street System, TAMC shall provide notice to the local road agency of the reasons that it has determined progress is not being made and recommendations on how to make progress toward the local road agency's condition goals. The local road agency shall become compliant within 6 months after receiving the notification required by this subsection. TAMC shall provide an opportunity for the noncompliant local road agency to appear before TAMC to discuss the reasons the local road agency is not compliant and ways for the local road agency to become compliant. If the local road agency is not compliant within 6 months after receiving required notification, the local road agency shall not shift funds distributed to it under this act from a County Primary Road System to a County Local Road System or from a City Major Street System to a City Local Street System, as applicable. Upon demonstration of progress toward achieving its condition goals, a local road agency may shift funds distributed to it under this act from a County Primary Road System to a County Local Road System or from a City Major Street System to a City Local Street System, as applicable. A local road agency may submit a revised asset management plan to TAMC (MCL 247.659a(14));
- TAMC shall submit this report to the Michigan Infrastructure Council, the State Transportation Commission, the legislature, and the transportation committees of the Michigan House and Michigan Senate by May 2 of each year. (MCL 247.659a(15));

TAMC also plays a variety of roles that support and promote the asset management process. These roles include:

- Communication conduits to and from the constituent organizations, ensuring that the needs and concerns of the various stakeholder organizations are aired during TAMC deliberations, and that TAMC decisions and policies are then shared with, and when necessary, discussed with those same organizations.

- Ensuring that certain activities prescribed in the authorizing legislation are completed in accordance with that legislation (MCL 247.659a).
- Ensuring that any additional activities undertaken by the TAMC are completed within the timeframe and budget established by the TAMC, and accordance with the overall intent of the authorizing legislation.

Appendix B contains legislation related to TAMC as amended into Michigan Compiled Law.

Appropriation & Budget

Once established in Michigan Compiled Law in 2002, TAMC was provided an appropriation of $1,626,400 from the Michigan Transportation Fund (MTF). This amount remained consistent until 2017 when TAMC made a request for an additional $250,000. The State of Michigan's Fiscal Year (FY) budget of 2018 provided $1,876,400 to TAMC. At this time, it is anticipated that the FY2020 TAMC budget will be based upon $1,876,400 for revenues.

In January of 2018, an additional appropriation of $2,000,000 was provided to TAMC out of the State of Michigan's Infrastructure Fund. Under House Bill 4320 (S-3), a supplemental appropriation was given to TAMC for the purpose creating a pilot project for the collection of inventory data and the evaluation of culverts owned by local transportation agencies within Michigan. Although this appropriation was a one-time grant for TAMC and has not been renewed in subsequent budgets, a fund balance remains from this initial allocation.

Appendix D contains the TAMC financial and budget report. This report also includes the expenditures and fund balance from the 2018 supplemental appropriation for the culvert pilot project.

Organizational Structure

The TAMC was created to promote asset management principles and the asset management process, and the legislation designates that TAMC members are appointed by various public stakeholder organizations within the transportation community. This requires a series of well-orchestrated and coordinated efforts, carried out by a multitude of actors and organizations in both a formal and informal manner. What follows is a high-level description of the formal entities that have roles and responsibilities for administration of the TAMC, the TAMC Work Program, the various technical and contractual assistance provision and ongoing operational support staff required to perform TAMC's statutory reporting and various defined and undefined roles. These descriptions are intended to be summaries and are not an exhaustive reporting of all aspects of TAMC coordination.

TAMC - Council

From the formal legislation that created TAMC and responsibilities it charged TAMC with completing, it can be inferred that TAMC members are expected to attend and participate in meetings of the organization, to chair and/or serve on at least one committee and/or subcommittees of the organization, and such other responsibilities as are assigned and necessary for the organization to achieve its goals (by-laws). TAMC and committee chairs are expected to work with the TAMC support staff to prepare agendas for their meetings and to arrange for speakers, exhibits, and/or presentations on topics of interest to the committee or TAMC.

Michigan Compiled Law defines the council representation and partner organizational membership. Currently, TAMC shall consist of 10 voting members approved by the MIC. The council shall include 2 members from the County Road Association, 2 members from the Michigan Municipal League, 2 members from the state planning and development regions, 1 member from the Michigan Townships Association, 1 member from the Michigan Association of Counties, and 2 members from MDOT. Nonvoting members shall include 1 person from the Central Data Storage Agency (CDSA), or office selected as the location for central data storage.

It is the responsibility of each member organization to seek out qualified individuals for nomination to the TAMC. Once the nomination is received, it must be acted upon by the MIC. The position of the CDSA shall be nonvoting and shall be for as long as the agency continues to serve as the data storage repository. All terms for TAMC members shall be for 3 years, except for the MDOT and central data storage agency representatives.

The chairperson shall be selected from among the voting members of the council. All voting members of the TAMC are eligible to be Chairperson or Vice- chairperson of the TAMC. The Chairperson and Vice-chairperson's Terms of Office shall be three years. Officers may be reelected to additional terms by the TAMC. Terms may be consecutive. Elections for Chairperson and Vice-chairperson of the TAMC shall be held during the September TAMC meeting in the last year of the 3-year term or as needed to fill a vacant officer position. Election shall be by a majority vote of the attending voting TAMC members during a regular TAMC meeting where a quorum is present. It is the responsibility of the Chairperson to chair monthly meetings, publicly represent the TAMC and speak on its behalf. It is the responsibility of the Vice-chairperson to perform these duties in the absence of the Chairperson. If the Chairperson or Vice-chairperson fails to meet this responsibility, the voting membership of TAMC may dismiss the Chairperson or Vice-chairperson by majority vote.

TAMC- Committees

At a minimum, each voting member shall serve on one TAMC Committee. The TAMC Chairperson shall select TAMC members for each committee. Member assignments may be reviewed and changed by the TAMC Chairperson as necessary during the Chairperson's term of office. Each committee of the TAMC shall have a Chairperson and a Vice-chairperson selected

by majority vote of the voting membership of each Committee. Each committee Chairperson and Vice-chairperson shall serve a 3-year term. In the absence of the committee Chairperson, the committee Vice-chairperson shall manage the committee meetings. Any committee may include for support, technical, or other reasons; non-TAMC members as non-voting advisory participants in the committees.

The TAMC has three permanent committees as follows:

1. Administrative, Communications and Education (ACE Committee): Committee comprised of 3 to 5 TAMC members that advises the TAMC on matters pertaining to training, communications, education and budget.
2. Data Committee: Committee comprised of 3 to 5 TAMC members that advises the TAMC on matters pertaining to data collection, quality, and analysis.
3. Bridge Committee: Committee comprised of 3 to 5 TAMC members that advises the TAMC on matters pertaining to application of asset management principles to bridges and the creation of guidance materials and training program.

The TAMC or the TAMC Chairperson may establish other 'ad hoc' committees as necessary for the operation of the TAMC. Such committees shall operate until the TAMC or TAMC Chairperson disbands them.

Appendix C contains the TAMC Bylaws; Appendix E includes the TAMC Member Roster, representative organizations, terms of service and committee assignments.

Support Staff

In addition to having two seats on TAMC, MDOT is also directed to provide qualified administrative staff to support the TAMC's functioning. There are a multitude of tasks that are included in the coordination of the TAMC program. At a high level, this includes managing the TAMC work program, providing TAMC with regular updates on progress of the program and assisting in the periodic creation of new work programs and ensuring that TAMC is fulfilling statutory obligations as defined in legislation and compiled law.

Operationally, support also includes preparations with TAMC Chairperson and Committee Chairpersons for preparations for meeting agendas, scheduling, ensuring compliance with the Open Meetings Act, budgetary, contracting and accounting functions and coordinating TAMC communications with partner agencies, contracting entities as well as the general public. TAMC support staff also coordinate and manage the logistics and facility contracts for conferences, meetings and various other ad-hoc and routine activities. Support staff also ensure adherence to State of Michigan requirements and regulations pertaining to lodging, meals and travel reimbursements for TAMC members, partner organizations and local agency participants.

MDOT also participates in the annual Federal-Aid data collection effort by providing trained staff members for the rating teams. This effort also includes provision of vehicles and

coordination with the respective Regional Planning Agency and Metropolitan Planning Organization (RPA/MPO) and local agencies to schedule and collect data.

Lastly, TAMC policy, MDOT contractual guidelines and Act 51 regulation establishes a series of compliance requirements that TAMC contractors and local agencies are subject to follow. Support staff at MDOT have the responsibility to ensure compliance with these Act 51 requirements. This includes reporting of the status of compliance for reporting requirements on an ongoing basis as well as act Program Manager with oversight of technical assistance, training and work program contracts with the CDSA, RPA/MPO contracts and the contracts for training, technical assistance and TAMC-sponsored conferences, meetings and workshops.

Central Data Storage Agency (CDSA)

In addition to having one non-voting seat on TAMC, the CDSA is also responsible for providing a secure data storage facility, ensuring that the data is accessible to the TAMC, the 617 transportation agencies in the state, the 14 regional planning agencies, metropolitan planning organizations and to the greater public. The CDSA is also responsible for the coordination of any activities contracted for with TAMC such as the development, operation and maintenance of TAMC's Investment Reporting Tool (IRT), TAMC's interactive performance dashboards, interactive maps and website. Currently, the CDSA designation for TAMC is the Michigan Department of Technology, Management and Budget's (DTMB) Center for Shared Solutions (CSS).

Appendix F contains the FY2020 TAMC Work Plan for CSS and guidance document on roles and responsibilities for CSS and MDOT.

Technical Assistance – Regional and Metropolitan Planning (RPA/MPO)

In addition to MDOT support staff, the TAMC annually contracts with Michigan's Regional Planning Agencies and Metropolitan Planning Organizations (RPA/MPO) to provide technical assistance related to the promotion of asset management principles, roadway inventory and condition data collection and other activities within each regional boundary. The TAMC Budget contains annual allocations to the RPA/MPO, and MDOT support staff coordinates and administers the Unified Work Program for asset management. At a high level, RPA/MPO allocations provide funding for training, equipment and data collection expenses incurred by planning staff as well as local agencies that participate in TAMC program activities. RPA/MPO work programs also include provision of technical support to local agencies for asset management plan development, data sharing and assistance with compliance with TAMC and Public Act 51 reporting requirements.

Appendix J contains the Unified Work Program for RPA/MPO; Appendix D is the TAMC Budget which includes allocations to each of the RPA/MPO contracts involved with TAMC's program.

Technical Assistance – Michigan Technological University (MTU) Center for Technology & Training (CTT)

As part of its function to provide staff support for TAMC, MDOT has contracted with Michigan Technological University's Center for Technology and Training (CTT) to develop and administer a training program that has the principle components to meet the needs of TAMC's audience as well as prepare participants and certify their competence to perform annual data collection activities. Due to its expertise in managing registrations for the variety of training programs hosted by CTT, MTU also has the roles of registering participants in the TAMC spring and fall conferences, managing the audio/visual tech for the conferences, and collecting and analyzing the feedback from conference participants.

MTU is the creator of the Roadsoft software that was selected by TAMC as the preferred data collection tool for PASER ratings. As the owner of the software, MTU is also responsible for training in the use of Roadsoft, tech support for any issues associated with Roadsoft, coordinating with CSS for the efficient and accurate collection and transfer of TAMC data from Roadsoft to CSS's database, developing new tools that speed and simplify the collection of TAMC data or other data of use by transportation agencies, as well as perform annual updates of the Roadsoft software.

CTT also functions as a technical advisor to TAMC providing insights into current research practices in the field of asset management, and providing explorative, applied research activities to meet the needs of TAMC programs. This includes providing technical briefings, pilot studies or professional opinion when requested.

Appendix G contains the 2020 Education Work Plan, Appendix H contains the 2020 Technical Assistance Activities Work Plan and Appendix I contains the 2020 Culvert Condition Assessment Work Plan from CTT.

TAMC Goals & Objectives 2020-2022

Strategic Sessions

On June 6, 2018 TAMC held a Strategic Planning Session to guide TAMC's future work programs and provide direction to the various partner and contractual entities that assist TAMC in the deployment of asset management. After a thorough review of pending legislation, TAMC members revised the Mission Statement and Vision Statement (as found on page 2) as well as debated the potential impacts of the legislation on partner agencies and TAMC. TAMC also reviewed elements identified from both the Regional Asset Management Pilots project and the 21st Century Infrastructure Council Report. Lastly, TAMC also discussed assignments of action items to various TAMC Committees and partners. Outcomes of the June 6, 2018 Strategic Session included a commitment to continue and maintain the program tenants that have been deployed since 2002.

On June 5, 2019 TAMC held another Strategic Planning Session to review TAMC's goals and priorities in light of recent amendments to Public Act 51, including PA 323, PA 324 and PA 325 of 2018. Again, outcomes of the June 5, 2019 Strategic Session included a commitment to maintain the foundation of the program as well as pursuit of tasks that align TAMC's program with legislative requirements.

TAMC is committed to reviewing priorities, relevant changes in legislation and changes in the transportation landscape. To this end, TAMC will review and update the Work Program on an annual basis. TAMC has targeted the month of June as an appropriate timeframe to hold strategy meetings to ensure budgetary and contractual considerations and schedules.

TAMC Priorities

PA 499 of 2002 created TAMC and established the structure and organizational membership. Additional legislation thereafter increased reporting requirements for local agencies as well as TAMC. TAMC has monitored these changes and has responded with Strategic Work Program updates and priorities to continue progress of the statewide asset management strategy, incorporating updates in technology, industry standards, and changes in public policy and demands for service. The following goals and objectives are the result of TAMC's engagement in these areas during 2018 and 2019.

TAMC Council

Goal 1: Promote the principles of asset management statewide to enhance the productivity of investment in Michigan's roads and bridges through coordination and collaboration among state and local transportation agencies; TAMC will promote and communicate

this statewide strategy with the legislature, Michigan Infrastructure Council, State Transportation Commission and other transportation committees.

Objectives

1. Surveying and reporting the condition of roads and bridges by functional classification and legal system ownership categories.
2. Analyzing completed and planned investments in roads and bridges.
3. Supporting the development of appropriate asset management methodologies.
4. Providing education and training on the benefits of asset management principles and procedures.
5. Additional forecasting to create a statewide strategy built on the basis of a mix of fixes.
6. Coordinate/education and communication activities with the Michigan Infrastructure Council and Water Asset Management Council.
7. Share information around the world on asset management practices.

Goal 2: Provide fiscal and budgetary accountability for TAMC's budget appropriation as well as all other supplemental appropriations, funding grants and financial resources.

Objectives

1. Develop an annual budget categorized by work program activity, regional allocations for technical assistance and data collection, Central Data Storage Agency operations, contractual funding for technical assistance and activity support as well as TAMC-specific activities.
2. Include TAMC budget as part of annual reporting to the Michigan Infrastructure Council, State Transportation Commission and the Michigan legislature.
3. Report financial status of contracts and TAMC budget status on a monthly basis.
4. Create a consistent timeline for TAMC budget submissions and needs to the Michigan Department of Transportation.
5. Create a draft three-year budget plan to match the work program goals.
6. Review and define allocation to our regional partners across the State of Michigan.

Goal 3: Coordination of asset management with Michigan Infrastructure Council and Water Asset Management Council and other partner organizations such as Michigan Department of Transportation, County Road Association, Michigan Municipal League, Michigan Association of Regions, Michigan Transportation Planning Association, Michigan Association of Counties and the Michigan Township Association.

Objectives

1. Develop coordinated approach to condition assessment and other areas when applicable.
2. Communicate with Michigan Infrastructure Council and Water Asset Management Council on transparency and what needs to be coordinated.
3. Attend and monitor Michigan Infrastructure Council meetings.
4. Attend and monitor Water Asset Management Council meetings.
5. Participate on MIC/WAMC/TAMC X-Council (cross council).
6. Support TAMC partner agencies at various trainings, conferences and workshops.
7. Define the process to seek procurement of TAMC assistance from outside vendors or consultants for coordinated activities.

Goal 4: Evaluate asset management plan submissions and make recommendations regarding compliance.

Objectives

1. Update TAMC asset management plan template accounting for all required elements per PA 325.
2. Provide training and workshops for use of the asset management plan template.
3. Establish TAMC policy for the submittal and review of asset management plans for PA 325 requirements as well as PA 338 of 2006.
4. Report monthly on the number and compliance status of local agency submittal of asset management plans.
5. Identify technology that may expedite data collection for PA 325 requirements, including the TAMC Investment Reporting Tool application.

TAMC Committee Priorities

The following goals and objectives are the result of TAMC's engagement of current and ongoing activities at the committee level during 2018 and 2019. Many of these objectives have been directed to the appropriate committee by TAMC.

ACE Committee

Goal 1: Evaluate asset management plan submissions and make recommendations regarding compliance for agencies with a minimum of 100 certified miles.

Objectives

1. Recommend TAMC asset management plan template accounting for all required elements per PA 325 and make assessible to public.
2. Provide training and workshops for use of the asset management plan template.

3. Recommend TAMC policy for the submittal and review of asset management plans for PA 325 requirements as well as PA 338 of 2006.
5. Review monthly on the number and compliance status of local agency submittal of asset management plans.
6. Recommend technology that may expedite data collection for PA 325 requirements, including the TAMC Investment Reporting Tool application.
7. Discuss how other infrastructure assets will be considered for future data collection and asset management plan inclusion.

Goal 2: Increase awareness and improve familiarity with TAMC annual report.

Objectives

1. Coordinate press releases and report cover letters in well-orchestrated manner to ensure maximum exposure and accessibility of TAMC members and support staff.
2. Provide summary reports of Michigan's road and bridge conditions by legislative district with distribution of annual report; each legislator receives both conditions for local district as well as statewide summaries found in report.

Goal 3: Raise awareness of asset management principles; promote outstanding agency performance in the area of asset management.

Objectives

1. Establish an annual schedule and develop 4 articles each year for the Local Technical Assistance Program's *The Bridge* Newsletter.
2. Seek nominations and highlight best practices of organizations and individuals through the TAMC Awards program; develop scoring matrices evaluate and update selection process of award recipients.
3. Coordinate 2 educational conferences per year; incorporate "best practice case-studies" into educational sessions for high-performing agencies to advocate their learning and methods; provide formal presentation of TAMC Award recipients at conferences and in conference materials.
4. Distribute press releases outlining TAMC Awards program recipients.
5. Explore social media platforms.
6. Pilot two 90-second videos.

Goal 4: Ensure TAMC's training programs and policies are appropriate and optimized for ongoing support of TAMC's data collection and reporting requirements; ensure these programs and policies are well-communicated among partnering agencies and participants.

Objectives

1. Continue review and update of TAMC Policy for the Collection of Roadway Surface Condition Data to accommodate technological updates, appropriateness of training certification for qualifying participants and in response to changing or challenging trends in technology or industry needs.
2. Provide monthly Regional Coordinator conference calls from April through December each year for communicating TAMC policies, announcements, training opportunities and provide forum for participants to raise issues and respond to inquiries.
3. Update and maintain TAMC website, TAMC brochure and TAMC training resources as appropriate to incorporate changes in legislation, reporting requirements, TAMC policy and procedures as well as technological advancements.
4. Create a decision-tree/policy which can be utilized to determine when a request for work from the Central Data Storage Agency or other technical supporting staff can be approved at the committee level.
5. Create a training program for culverts and traffic signals, and/or other infrastructure assets.

Bridge Committee

Goal 1: Ensure TAMC's transportation asset management plan template, policies and training programs are appropriate and optimized for ongoing support of TAMC's bridge data collection and reporting requirements; ensure these programs and policies are well-communicated among partnering agencies and participants.

Objectives

1. Continue review and update of TAMC Policy for the Collection of Bridge Condition Data to accommodate technological updates and in response to changing trends in technology or changes in Federal and State industry reporting standards.
2. Work with TAMC to ensure TAMC Dashboards and Interactive Map applications are compatible with data structure and reporting standards of the Michigan Bridge Inventory System.
3. Compare and analyze bridge condition data and TAMC Investment Reporting Tool data for planned bridge project data; incorporate TAMC Investment Reporting Tool data into Michigan Department of Transportation's Bridge Forecasting System.
4. Review potential for bridge cost information to be included in the Act 51 Distribution and Reporting System and other applications.
5. Continue to review submitted transportation asset management plans and TAMC asset management plan template for consistency with Federal and State industry

standards and findings from previous transportation asset management plan submittals.

Goal 2: Continue progress of roadway culvert asset management integration building upon lessons learned from 2018 TAMC Local Agency Culvert Inventory Pilot project as well as culvert data collection efforts performed by Michigan Department of Transportation, other transportation agencies and other stakeholder organizations including Water Asset Management Council, Michigan Department of Environment, Great Lakes and Energy and Michigan Department of Natural Resources.

Objectives

1. Develop data governance and standards for roadway culverts.
2. Develop culvert performance metrics for local agency reporting and integration into asset management plans and TAMC technological reporting.
3. Establish TAMC Policy for the Collection of Culvert Condition Data to provide guidance and directives for ongoing culvert inventory updates, condition assessment, and data integration procedures.
4. Provide tools and training for the ongoing collection of roadway culvert inventory and condition assessment.
5. Incorporate culvert inventory and condition data into TAMC Dashboards and Interactive Map applications.
6. Review other agency's culvert information which can be incorporated into inventory for reduction in duplication of effort among Michigan Department of Environment, Great Lakes and Energy and Michigan Department of Natural Resources and Drain Commissioners, etc.

Data Committee

Goal 1: Ensure TAMC's training programs, policies and technological applications are appropriate, current with most recent data and optimized for continuation of TAMC's Federal Aid, Non-Federal Aid and Inventory-Based Rating System data collection efforts; TAMC will continue collecting no less than ½ of Federal-Aid eligible system annually.

Objectives

1. Continue review and update of TAMC Policy for the Collection of Roadway Surface Condition Data to accommodate technological updates.
2. Ensure Framework Base Map, Roadsoft and TAMC Investment Reporting Tool applications are compatible and up-to-date to accept pavement condition data.

3. Report on Road Data Collection progress on a monthly basis during the collection season.
4. Annually perform quality control assessment of pavement condition data collected by rating teams.
5. Develop data for costs-per-mile of data collection.
6. Ensure TAMC's Dashboards, Interactive Map, and Investment Reporting Tool applications are updated routinely with latest available data sets.

Goal 2: Ensure TAMC's training programs and Investment Reporting Tool applications are appropriate and optimized for continuation of the annual investment reporting requirements as part of Act 51.

Objectives

1. Ensure Roadsoft, MDOT's Act 51 Distribution and Reporting System and TAMC Investment Reporting Tool applications are compatible and up to date.
2. Monitor Investment Reporting Tool compliance and report compliance status on a monthly basis.
3. Perform quality checks on Investment Reporting Tool data and report on quality of information.
4. Update Average Project Cost data by improvement category on an annual basis.
5. Compare pavement condition data and Investment Reporting Tool planned road project data.
6. Develop an understanding of roadway asset deterioration.
7. Develop means to upload 3-year capital project data into the Investment Reporting Tool from electronic State Transportation Improvement Program and RPA/MPO Transportation Improvement Programs.
8. Develop condition forecasting tool that uses Investment Reporting Tool planned project data.
9. Incorporate pavement warranty data fields into Investment Reporting Tool for ongoing reporting and compliance.

Goal 3: Develop traffic signal asset management integration building upon guidance from traffic signal subject matter experts at MDOT and other local transportation agencies.

Objectives

1. Develop data governance and standards for traffic signals.
2. Develop traffic signal performance metrics for local agency reporting and integration into asset management plans and TAMC technological reporting.
3. Establish TAMC Policy for the Collection of Traffic Signal Data to provide guidance and directives for ongoing inventory updates and data integration procedures.

4. Provide tools and training for the ongoing collection of traffic signal inventories and condition assessments.
5. Incorporate traffic signal inventory data into TAMC Dashboards and Interactive Map applications.

APPENDICES

ACRONYM GUIDE

ACE	ADMINISTRATION, COMMUNICATION, AND EDUCATION (TAMC COMMITTEE)
ACT-51	PUBLIC ACT 51 OF 1951-DEFINITION: A CLASSIFICATION SYTEM DESIGNED TO DISTRIBUTE MICHIGAN'S TRANSPORTATION FUNDS.
ADARS	ACT 51 DISTRIBUTION AND REPORTING SYSTEM
CDSA	CENTAL DATA STORAGE AGENCY (CURRENTLY CSS)
CRA	COUNTY ROAD ASSOCIATION (OF MICHIGAN)
CSD	CONTRACT SERVICES DIVISION (MDOT)
CSS	CENTER FOR SHARED SOLUTIONS (DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET, STATE OF MICHIGAN)
CTT	CENTER FOR TECHNOLOGY & TRAINING (MICHIGAN TECHNOLOGICAL UNIVERSITY)
DNR	DEPARTMENT OF NATURAL RESOURCES (STATE OF MICHIGAN)
DTMB	DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET (STATE OF MICHIGAN)
EGLE	DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY (STATE OF MICHIGAN)
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FOD	FINANCIAL OPERATIONS DIVISION (MDOT)
FY	FISCAL YEAR
IBR	INVENTORY-BASED RATING SYSTEM FOR UNPAVED ROADWAYS
IRT	INVESTMENT REPORTING TOOL APPLICATION
LDC	LAPTOP DATA COLLECTOR APPLICATION
LTAP	LOCAL TECHNICAL ASSISTANCE PROGRAM (MICHIGAN TECHNOLOGICAL UNIVERSITY)
MAC	MICHIGAN ASSOCIATION OF COUNTIES
MAR	MICHIGAN ASSOCIATION OF REGIONS
MCL	MICHIGAN COMPILED LAW
MDOT	MICHIGAN DEPARTMENT OF TRANSPORTATION
MIC	MICHIGAN INFRASTRUCTURE COUNCIL
MML	MICHIGAN MUNICIPAL LEAGUE
MPO	METROPOLITAN PLANNING ORGANIZATION
MTA	MICHIGAN TOWNSHIPS ASSOCIATION
MTF	MICHIGAN TRANSPORTATION FUNDS
MTPA	MICHIGAN TRANSPORTATION PLANNING ASSOCIATION
MTU	MICHIGAN TECHNOLOGICAL UNIVERSITY
NBI	NATIONAL BRIDGE INVENTORY
NBIS	NATIONAL BRIDGE INSPECTION STANDARDS
NFA	NON-FEDERAL AID
NFC	NATIONAL FUNCTIONAL CLASSIFICATION
NHS	NATIONAL HIGHWAY SYSTEM
PA	PUBLIC ACT
PASER	PAVEMENT SURFACE EVALUATION AND RATING
PNFA	PAVED NON-FEDERAL AID
QA/QC	QUALITY ASSURANCE/QUALITY CONTROL
RPA	REGIONAL PLANNING AGENCY
STC	STATE TRANSPORTATION COMMISSION
STIP	STATE TRANSPORTATION IMPROVEMENT PROGRAM
TAMC	TRANSPORTATION ASSET MANAGEMENT COUNCIL
TAMP	TRANSPORTATION ASSET MANAGEMENT PLAN
TIP	TRANSPORTATION IMPROVEMENT PROGRAM
UWP	UNIFIED WORK PROGRAM
WAMC	WATER ASSET MANAGEMENT COUNCIL
X-COUNCIL	CROSS COUNCIL COMMITTEE (MIC/TAMC/WAMC)

STATE TRUNK LINE HIGHWAY SYSTEM (EXCERPT)
Act 51 of 1951

247.659a Definitions; transportation asset management council; creation; charge; membership; appointments; Michigan infrastructure council; staff and technical assistance; advisory committee; infrastructure asset management pilot program; template for asset management plan; report including multiyear program; submission and review asset management plan; compliance; notice of progress; annual report; funding; records on road and bridge work performed and funds expended; federal grants or loans.

Sec. 9a. (1) As used in this section:

(a) "Asset management" means an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost-effectively, based on a continuous physical inventory and condition assessment and investment to achieve established performance goals.

(b) "Asset management plan" means a plan created by the department and approved by the state transportation commission or a plan created by a local road agency and approved by the local road agency's governing body that includes provisions for asset inventory, performance goals, risk of failure analysis, anticipated revenues and expenses, performance outcomes, and coordination with other infrastructure owners.

(c) "Bridge" means a structure including supports erected over a depression or an obstruction, such as water, a highway, or a railway, for the purposes of carrying traffic or other moving loads, and having an opening measuring along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes where the clear distance between openings is less than 1/2 of the smaller contiguous opening.

(d) "Central storage data agency" means an agency or office chosen by the council where the data collected is stored and maintained.

(e) "Department" means the state transportation department.

(f) "Federal-aid eligible" means a public road or bridge that is eligible for federal aid to be spent for the construction, repair, or maintenance of that road or bridge.

(g) "Local road agency" means a county road commission or designated county road agency or city or village that is responsible for the construction or maintenance of public roads within the state under this act.

(h) "Michigan infrastructure council" means the Michigan infrastructure council created in section 3 of the Michigan infrastructure council act.

(i) "Multiyear program" means a compilation of road and bridge projects anticipated to be contracted for by the department or a local road agency during a 3-year period. The multiyear program shall include a listing of each project to be funded in whole or in part with state or federal funds.

(j) "Region" means the geographic jurisdiction of any of the following:

(*i*) A regional planning commission created under 1945 PA 281, MCL 125.11 to 125.25.

(*ii*) A regional economic development commission created under 1966 PA 46, MCL 125.1231 to 125.1237.

(*iii*) A metropolitan area council formed under the metropolitan councils act, 1989 PA 292, MCL 124.651 to 124.729.

(*iv*) A Michigan metropolitan planning organization established under the moving ahead for progress in the 21st century act, Public Law 112-141.

(*v*) An agency directed and funded by section 822f of 2016 PA 268, to engage in joint decision-making practices related to, but not limited to, community development, economic development, talent, and infrastructure opportunities.

(k) "State planning and development regions" means those agencies required by 23 USC 134, and those agencies established by Executive Directive 1968-1.

(*l*) "Water asset management council" means the water asset management council created in section 5002 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5002.

(2) In order to provide a coordinated, unified effort by the various road agencies within this state, the transportation asset management council is hereby created within the state transportation commission. Upon creation of the Michigan infrastructure council, the transportation asset management council shall be placed within the Michigan infrastructure council.

(3) The transportation asset management council shall advise the Michigan infrastructure council on a statewide transportation asset management strategy and the processes and tools needed to implement that strategy, beginning with the federal-aid eligible highway system and infrastructure assets that impact system performance, safety, or risk management, including signals and culverts. This section does not prohibit a local road agency from using an asset management process on its non-federal-aid eligible system.

(4) The transportation asset management council shall consist of 10 voting members appointed by the state transportation commission. The transportation asset management council shall include 2 members from the County Road Association of Michigan, 2 members from the Michigan Municipal League, 2 members from the state planning and development regions, 1 member from the Michigan Townships Association, 1 member from the Michigan Association of Counties, and 2 members from the department. Nonvoting members shall include 1 person from the agency or office selected as the location for central data storage. Each agency with voting rights shall submit a list of 2 nominees to the state transportation commission from which the appointments shall be made. The Michigan Townships Association shall submit 1 name, and the Michigan Association of Counties shall submit 1 name. Names shall be submitted within 30 days after July 3, 2002. The state transportation commission shall make the appointments within 30 days after receipt of the lists.

(5) The positions for the department on the transportation asset management council shall be permanent. The position of the central data storage agency shall be nonvoting and shall be for as long as the agency continues to serve as the data storage repository. The member from the Michigan Association of Counties shall be initially appointed for 2 years. The member from the Michigan Townships Association shall be initially appointed for 3 years. Of the members first appointed from the County Road Association of Michigan, the Michigan Municipal League, and the state planning and development regions, 1 member of each group shall be appointed for 2 years and 1 member of each group shall be appointed for 3 years. At the end of the initial appointment, all terms shall be for 3 years. The chairperson shall be selected from among the voting members of the transportation asset management council. A member of the transportation asset management council may be removed for incompetence, dereliction of duty, malfeasance during his or her tenure in office, or any other cause considered appropriate by the Michigan infrastructure council. The Michigan infrastructure council shall consult with the transportation asset management council before removing a member of the transportation asset management council under this subsection.

(6) The department shall provide qualified administrative staff and the state planning and development regions shall provide qualified technical assistance to the transportation asset management council.

(7) The transportation asset management council may appoint an advisory committee whose members shall serve as needed to provide research on issues and projects as determined by the transportation asset management council. An advisory committee member who is not a member of the transportation asset management council does not have voting rights on the advisory committee. A recommendation from the advisory committee appointed under this subsection is advisory only and is not binding.

(8) Except as otherwise provided in this subsection, costs incurred for data collection, analysis, or submittal, other than costs covered by the council for the federal-aid eligible highway system, are the responsibility of the owner of the data. A local road agency may request planning region assistance or reimbursement for data collected on non-federal-aid eligible roads or streets within that region. The region shall determine where to collect local road or street data to expend its remaining data collection money based upon requests received from local road agencies.

(9) The transportation asset management council shall promote and oversee the implementation of recommendations from the regional infrastructure asset management pilot program on a statewide level as the program relates to roads, bridges, and related transportation infrastructure.

(10) No later than October 1, 2019, the transportation asset management council shall develop a template for an asset management plan for use by local road agencies responsible for 100 or more certified miles of road and require its submission to the transportation asset management council as provided in subsection (12). No later than October 1, 2019, the transportation asset management council shall establish a schedule for the submission of asset management plans by local road agencies described in subsection (11)(b) that ensures that 1/3 of those local road agencies submit an asset management plan each year. The template required by this subsection shall include, but is not limited to, all of the following:

(a) Asset inventory, including the location, material, size, and condition of the assets, in a format that allows for and encourages digital mapping. All standards and protocols for assets shall be consistent with government accounting standards. Standards and protocols for assets that are eligible for federal aid shall be consistent with federal requirements and regulations.

(b) Performance goals, including the desired condition and performance of the assets, which shall be set by the local road agency. Performance goals may vary among asset classes under the local road agency's jurisdiction. If a local road agency has jurisdiction over roads or bridges that are designated as part of the federal National Highway System, performance goals for that portion of the system shall be consistent with established federal performance targets.

(c) Risk of failure analysis, including the identification of the probability and criticality of a failure of the most critical assets and any contingency plans.

(d) Anticipated revenues and expenses, including a description of all revenue sources and anticipated

receipts for the period covered by the asset management plan and expected infrastructure repair and replacement expenditures, including planned improvements and capital reconstruction.

(e) Performance outcomes, including a determination of how the local road agency's investment strategy will achieve the desired levels of service and performance goals and the steps necessary to ensure asset conditions meet or achieve stated goals and a description and explanation of any gap between achievable condition and performance through the investment strategy and desired goals.

(f) A description of any plans of the asset owner to coordinate with other entities, including neighboring jurisdictions and utilities, to minimize duplication of effort regarding infrastructure preservation and maintenance.

(g) Proof of acceptance, certification, or adoption by the local road agency's governing body.

(11) The department, each county road commission, and each city and village of this state shall annually submit a report on infrastructure conditions and investment to the transportation asset management council. This report shall include a multiyear program developed through the asset management process described in this section. No later than October 1, 2019, the transportation asset management council shall establish a schedule for the submission by the department of the report required by this subsection. All of the following apply to a multiyear program required by this subsection:

(a) Projects contained in the department's annual multiyear program shall be consistent with the department's asset management process and asset management plan, and shall be reported consistent with categories established by the transportation asset management council.

(b) Projects contained in the annual multiyear program of each local road agency responsible for 100 or more certified miles of road shall be consistent with the asset management process and asset management plan of that local road agency and shall be reported consistent with categories established by the transportation asset management council.

(c) Projects contained in the annual multiyear program of each local road agency responsible for less than 100 certified miles of road shall be consistent with the asset management process of that local road agency and shall be reported consistent with categories established by the transportation asset management council.

(12) Beginning October 1, 2020, each local road agency described in subsection (11)(b) shall begin submitting an asset management plan to the transportation asset management council according to the 3-year schedule described in subsection (10). The asset management plan shall cover a period of at least 3 years, and shall be consistent with a template provided by the transportation asset management council. A local road agency that is required to submit an asset management plan under this subsection that has not submitted the asset management plan by October 1, 2024 is not in compliance with this subsection. A local road agency that is not in compliance with this subsection shall be notified by the transportation asset management council that the local road agency shall comply with this subsection within 120 days of the notice. If a local road agency fails to comply with this subsection after 120 days of the notice required by this subsection, the transportation asset management council shall notify the department of the noncompliance and the department may withhold funds distributed to the local road agency under this act. The department shall release any funds withheld for noncompliance with this subsection to the local road agency in the following month's allocation after compliance is verified.

(13) The transportation asset management council shall review an asset management plan submitted under subsection (12) no later than 6 months after receipt of the asset management plan. The transportation asset management council shall compare the asset management plan to the minimum requirements of this act and the template created by the transportation asset management council, and determine whether the asset management plan is in compliance with those standards. If the asset management plan does not meet those standards, the transportation asset management council shall seek concurrence from the department that the asset management plan does not meet the transportation asset management council's standards. If the department concurs, the transportation asset management council shall require the local road agency to revise its asset management plan to conform to the standards within 6 months after notifying the local road agency that the asset management plan does not meet the transportation asset management council's standards. The transportation asset management council shall provide an opportunity for a noncompliant local road agency to appear before the transportation asset management council to discuss the reasons the local road agency's plan is not in compliance and ways for the local road agency to become compliant.

(14) Beginning October 1, 2025, if the transportation asset management council determines, and the department concurs, that a local road agency described in subsection (11)(b) has not demonstrated progress toward achieving the condition goals described in its asset management plan for its federal-aid eligible county primary road system or city major street system, as applicable, the transportation asset management council shall provide notice to the local road agency of the reasons that it has determined progress is not being made and recommendations on how to make progress toward the local road agency's condition goals. The local road

agency shall become compliant within 6 months after receiving the notification required by this subsection. The transportation asset management council shall provide an opportunity for the noncompliant local road agency to appear before the transportation asset management council to discuss the reasons the local road agency is not compliant and ways for the local road agency to become compliant. If the local road agency is not compliant within 6 months after receiving the notification required by this subsection, the local road agency shall not shift funds distributed to it under this act from a county primary road system to a county local road system or from a city major street system to a city local street system, as applicable. Upon demonstration of progress toward achieving its condition goals, a local road agency may shift funds distributed to it under this act from a county primary road system to a county local road system or from a city major street system to a city local street system, as applicable. A local road agency may submit a revised asset management plan to the transportation asset management council.

(15) An annual report shall be prepared by the staff assigned to the transportation asset management council regarding the results of activities conducted during the preceding year and the expenditure of funds related to the processes and activities identified by the Michigan infrastructure council. The report shall also include a summary analysis of the asset management plans and annual reports received from local road agencies, a determination of how investments are achieving desired levels of service and performance goals, an identification of any additional steps that may be needed to achieve desired levels of service and performance goals, and an overview of the activities identified for the succeeding year. The transportation asset management council shall submit this report to the Michigan infrastructure council, the state transportation commission, the legislature, and the transportation committees of the house and senate by May 2 of each year.

(16) Funding necessary to support the activities described in this section shall be provided by an annual appropriation from the Michigan transportation fund to the state transportation commission. Beginning on the effective date of the amendatory act that amended this subsection, the annual appropriation provided for in this subsection shall be allocated to the Michigan infrastructure council and shall be used to support the activities described in this section.

(17) The department and each local road agency shall keep accurate and uniform records on all road and bridge work performed and funds expended for the purposes of this section, according to the procedures developed by the transportation asset management council. Each local road agency and the department shall annually report to the transportation asset management council the mileage and condition of the road and bridge system under their jurisdiction and the receipts and disbursements of road and street funds in the manner prescribed by the transportation asset management council, which shall be consistent with any current accounting procedures.

(18) A local road agency may seek and use federal grants or loans to achieve the goals and manage the asset inventory described in its asset management plan.

History: Add. 1957, Act 262, Eff. July 1, 1957;—Am. 1972, Act 327, Imd. Eff. Jan. 3, 1973;—Am. 1978, Act 444, Imd. Eff. Oct. 10, 1978;—Am. 1982, Act 438, Eff. Jan. 1, 1983;—Am. 1987, Act 234, Imd. Eff. Dec. 28, 1987;—Am. 1998, Act 308, Imd. Eff. July 29, 1998;—Am. 2002, Act 499, Imd. Eff. July 3, 2002;—Am. 2007, Act 199, Imd. Eff. Dec. 21, 2007;—Am. 2010, Act 257, Imd. Eff. Dec. 14, 2010;—Am. 2012, Act 298, Imd. Eff. Aug. 23, 2012;—Am. 2018, Act 325, Eff. Sept. 30, 2018.

Compiler's note: For transfer of powers and duties of the transportation needs study committee to the state transportation commission and abolishment of the committee, see E.R.O. No. 1997-6, compiled at MCL 247.691 of the Michigan Compiled Laws.

For transfer of powers and duties of the citizens advisory committee to the director of the department of transportation and abolishment of the committee, see E.R.O. No. 1997-6, compiled at MCL 247.691 of the Michigan Compiled Laws.

Popular name: McNitt Act

Popular name: Michigan Transportation Fund Act

STATE TRUNK LINE HIGHWAY SYSTEM (EXCERPT)
Act 51 of 1951

247.663 Return of distribution to city and village treasurers; manner, purpose, and conditions; audits; pavement warranties; definitions.

Sec. 13. (1) The amount distributed to cities and villages shall be returned to the treasurers of the cities and villages in the manner, for the purposes, and under the terms and conditions specified in this section. The amount received by a newly incorporated municipality shall be in place of any other direct distribution of money from the Michigan transportation fund. The population of a newly incorporated municipality as determined under this section shall be added to the total population of all incorporated cities and villages in the state in computing the amounts to be returned under this section to each municipality in the state. Major street mileage, local street mileage, and equivalent major mileage, if applicable, shall be determined by the department before the next month for which distribution is made following the effective date of incorporation of a newly incorporated municipality.

(2) From the amount available for distribution to cities and villages during each December, an amount equal to 0.7% of the total amount returned to all cities and villages under subsections (3) and (4) during the previous calendar year shall be withheld. The amount withheld shall be used to partially reimburse cities and villages located in counties that are eligible for snow removal funds pursuant to section 12a and that have costs for winter maintenance on major and local streets that are greater than the statewide average. The distributions shall be made annually during February and shall be calculated separately for the major and local street systems but may be paid in a combined warrant. The distribution to a city or village shall be equal to 1/2 of its winter maintenance expenditures after deducting the product of its total earnings under subsections (3) and (4) multiplied by 2 times the average municipal winter maintenance factor. Winter maintenance expenditures shall be determined from the street financial reports for the most current fiscal years ending before July 1. A city or village that does not submit a street financial report for the fiscal year ending before July 1 by the subsequent December 31 is ineligible for the winter maintenance payment that is to be based on that street financial report. The department shall determine the average municipal winter maintenance factor annually by dividing the total expenditures of all cities and villages on winter maintenance of streets and highways by the total amount earned by all cities and villages under subsections (3) and (4) during the 12 months. If the sum of the distributions to be made under this subsection exceeds the amount withheld, the distributions to each eligible city and village shall be reduced proportionately. If the sum is less than the amount withheld, the balance shall be added to the amount available for distribution under subsections (3) and (4) during the next month. The distributions shall be for use on the major and local street systems respectively and shall be subject to the same provisions as money returned under subsections (3) and (4).

(3) Seventy-five percent of the remaining amount to be returned to the cities and villages, after deducting the amounts withheld pursuant to subsection (2), shall be returned 60% in the same proportion that the population of each bears to the total population of all cities and villages, and 40% in the same proportion that the equivalent major mileage in each bears to the total equivalent major mileage in all cities and villages. The amount returned under this subsection shall be used by each city and village for the following purposes in the following order of priority:

(a) For the payment of contributions required to be made by a city or village under the provisions of contracts previously entered into under 1941 PA 205, MCL 252.51 to 252.64, that have been previously pledged for the payment of the principal and interest on bonds issued under that act; or for the payment of the principal and interest upon bonds issued by a city or village pursuant to 1952 PA 175, MCL 247.701 to 247.707.

(b) Payment of obligations of the city or village on highway projects undertaken by the city or village jointly with the department.

(c) For the payment of principal and interest upon loans received pursuant to section 11(5), to the extent other money has not been made available for that payment.

(d) For the preservation, construction, acquisition, and extension of the major street system as defined by this act including the acquisition of a necessary right of way for the system, work incidental to the system, and an appurtenant roadside park or motor parkway, of the city or village and for the payment of the principal and interest on that portion of the city's or village's general obligation bonds that are attributable to the construction or reconstruction of the city's or village's major street system. Not more than 5% per year of the money returned to a city or village by this subsection shall be expended for the preservation or acquisition of appurtenant roadside parks and motor parkways. Surplus money may be expended for the development, construction, or repair of off-street parking facilities, the construction or repair of street lighting, and transfer to the local street system under subsection (6).

(e) For capital outlay projects for equipment and buildings, contributions pledged for the payment of loans and for the payment of contractual debt service requirements for the payment of bonds for the purpose of providing money for capital outlay projects for equipment and buildings necessary to the development and maintenance of the road system so long as amounts allocated under this subdivision are used for transportation purposes.

(4) The remaining amount to be returned to incorporated cities and villages shall be expended in each city or village for the preservation, construction, acquisition, and extension of the local street system of the city or village, including the acquisition of a necessary right of way for the system, work incidental to the system, and subject to subsection (5), for the payment of the principal and interest on the portion of the city's or village's general obligation bonds that are attributable to the construction or reconstruction of the city's or village's local street system. The amount returned under this subsection shall be returned to the cities and villages 60% in the same proportion that the population of each bears to the total population of all incorporated cities and villages in the state, and 40% in the same proportion that the total mileage of the local street system of each bears to the total mileage in the local street systems of all cities and villages of the state. The payment of the principal and interest upon bonds issued by a city or village pursuant to 1952 PA 175, MCL 247.701 to 247.707, and after that payment, the payment of debt service on loans received under section 11(5), shall have priority in the expenditure of money returned under this subsection.

(5) Money distributed to each city and village for the maintenance and preservation of its local street system under this act represents the total responsibility of the state for local street system support. Money distributed from the Michigan transportation fund shall not be expended for construction purposes on city and village local streets except to the extent matched from local revenues including other money returned to a city or village by this state under the state constitution of 1963 and statutes of this state, from money that can be raised by taxation in cities and villages for street purposes within the limitations of the state constitution of 1963 and statutes of this state, from special assessments, or from any other source.

(6) Money returned under this section to a city or village shall be expended on the major and local street systems of that city or village. However, the first priority is the major street system. Money returned for expenditure on the major street system shall be expended in the priority order provided in subsection (3) except that surplus money may be transferred for preservation of the local street system. Major street money transferred for use on the local street system shall not be used for construction but may be used for preservation. A city or village shall not transfer more than 50% of its annual major street funding for the local street system unless it has adopted and is following an asset management process for its major and local street systems and adopts a resolution with a copy to the department setting forth all of the following:

(a) A list of the major streets in that city or village.

(b) A statement that the city or village is adequately maintaining its major streets.

(c) The dollar amount of the transfer.

(d) The local streets to be funded with the transfer.

(e) A statement that the city or village is following an asset management process for its major and local street systems.

(7) A city or village that has not adopted an asset management plan shall obtain the concurrence of the department to transfer more than 50% of its major street funding to its local street system. The department may provide for pilot projects that would allow a city or village that has adopted an asset management plan under subsection (6) to combine their local and major street funds into 1 street fund and to submit a single report to the department on the expenditure of money on the local and major street systems.

(8) Not more than 10% per year of all of the money returned to a city or village from any source for the purposes of this section may be expended for administrative expenses. A city or village that expends more than 10% for administrative expenses in a year is subject to section 14(5).

(9) In each city and village to which money is returned under this section, the responsibility for street preservation and the development, construction, or repair of off-street parking facilities and construction or repair of street lighting shall be coordinated by a single administrator designated by the governing body who shall be responsible for and shall represent the municipality in transactions with the department pursuant to this act.

(10) Cities and villages may provide for consolidated street administration. A city or a village may enter into an agreement with other cities or villages, the county road commission, or with the state transportation commission for the performance of street or highway work on a road or street within the limits of the city or village or adjacent to the city or village. The agreement may provide for any of the contracting parties to perform the work contemplated by the contracts including services and acquisition of rights of way, by purchase or condemnation in its own name. The agreement may provide for joint participation in the costs if appropriate.

(11) Interest earned on money returned to a city or a village for purposes provided in this section shall be credited to the appropriate street fund.

(12) In addition to the financial compliance audits required by law, the department may conduct performance audits and make investigations of the disposition of all state money received by cities and villages for transportation purposes to determine compliance with the terms and conditions of this act. Performance audits shall be conducted according to government auditing standards issued by the United States General Accounting Office. The department shall develop all performance audit procedures and reporting requirements sufficient to determine whether money expended under this section was expended in compliance with this act by September 1, 2012 and shall report to the transportation committees of the senate and house of representatives no later than October 1, 2012 on the additional audit procedures and reporting requirements. The audit procedures shall include a review of the road fund balance of the city or village. The cities and villages shall report their road fund balances by fund balance component. The department shall assist cities and villages to ensure that road fund balances are consistently classified and are in compliance with the audit and reporting requirements of this section. The department shall provide notice to cities and villages of the standards to be used for audits under this subsection prior to the fiscal year in which the audit is conducted. The department shall notify cities and villages of any subsequent changes to the standards. Cities and villages shall make available to the department the pertinent records for the audit. Performance audits may be performed at the discretion of the department or upon receiving a request from the speaker of the house of representatives or the senate majority leader.

(13) Of the amounts appropriated for a city or village major or local street system under this section, where possible, a city or village shall secure pavement warranties for full replacement or appropriate repair for contracted construction work on pavement projects whose cost exceeds $2,000,000.00 and projects for new construction or reconstruction undertaken after the effective date of the amendatory act that added this subsection if allowed by the federal highway administration and the department. A city or village shall submit a proposed warranty program to the department for approval no later than February 1, 2017. If a proposed warranty program submitted under this subsection is approved by the department, the city or village shall implement the program no later than 1 year after the approval. A city or village shall include a list of all warranties that were secured under this subsection and indicate whether any of those warranties were redeemed with the report required under section 14(3), and shall also list all pavement projects whose cost exceeds $2,000,000.00 for which a warranty was not secured. The list shall include, but is not limited to, all of the following information:

(a) The type of project.

(b) The cost or estimated cost of the project.

(c) The expected lifespan of the project.

(d) Whether or not the project met or is currently meeting its expected lifespan.

(e) If the project failed to meet or is not meeting its expected lifespan, the cause of the failure and the cost to replace or repair the project.

(f) The entity responsible for paying the cost of replacing or repairing the project.

(14) With the approval of the director of the department, a city may use up to 20% of the amount received by that city under this section for public transit purposes if more than 10,000,000 passengers used public transit within that city during the previous fiscal year.

(15) As used in this section:

(a) "Administrative expenses" means expenses that are not assigned under this section, including, but not limited to, specific road construction or maintenance projects, and are often referred to as general or supportive services. Administrative expenses do not include net equipment expense, net capital outlay, debt service principal and interest, or payments to other state or local offices that are assigned, but not limited to, specific road construction projects or maintenance activities.

(b) "Equivalent major mileage" means the sum of 2 times the state trunk line mileage certified by the department as of March 31 of each year, as being within the boundaries of each city and village having a population of 25,000 or more, plus the major street mileage in each city and village, multiplied by the following factor:

(*i*) 1.0 for cities and villages of 2,000 or less population.

(*ii*) 1.1 for cities and villages from 2,001 to 10,000 population.

(*iii*) 1.2 for cities and villages from 10,001 to 20,000 population.

(*iv*) 1.3 for cities and villages from 20,001 to 30,000 population.

(*v*) 1.4 for cities and villages from 30,001 to 40,000 population.

(*vi*) 1.5 for cities and villages from 40,001 to 50,000 population.

(*vii*) 1.6 for cities and villages from 50,001 to 65,000 population.

(*viii*) 1.7 for cities and villages from 65,001 to 80,000 population.

(*ix*) 1.8 for cities and villages from 80,001 to 95,000 population.

(*x*) 1.9 for cities and villages from 95,001 to 160,000 population.

(*xi*) 2.0 for cities and villages from 160,001 to 320,000 population.

(*xii*) For cities over 320,000 population, a factor of 2.1 increased successively by 0.1 for each 160,000 population increment over 320,000.

(c) "Population" means the population according to the most recent statewide federal census as certified at the beginning of the state fiscal year, except that, if a municipality has been newly incorporated since completion of the census, the population of the municipality for purposes of the distribution of money before completion of the next census shall be the population as determined by special federal census, if there is a special federal census, and if not, by the population as determined by the official census in connection with the incorporation, if there is such a census and, if not, by a special state census to be taken at the expense of the municipality by the secretary of state pursuant to section 6 of the home rule city act, 1909 PA 279, MCL 117.6.

History: 1951, Act 51, Eff. June 1, 1951;—Am. 1957, Act 262, Eff. July 1, 1957;—Am. 1967, Act 298, Eff. Jan. 1, 1968;—Am. 1967, Ex. Sess., Act 4, Eff. Jan. 1, 1968;—Am. 1972, Act 327, Imd. Eff. Jan. 3, 1973;—Am. 1976, Act 41, Imd. Eff. Mar. 16, 1976;—Am. 1978, Act 444, Imd. Eff. Oct. 10, 1978;—Am. 1979, Act 58, Imd. Eff. July 18, 1979;—Am. 1982, Act 436, Imd. Eff. Dec. 29, 1982;—Am. 1982, Act 438, Eff. Jan. 1, 1983;—Am. 1983, Act 82, Imd. Eff. June 15, 1983;—Am. 1987, Act 234, Imd. Eff. Dec. 28, 1987;—Am. 1992, Act 82, Imd. Eff. June 2, 1992;—Am. 1993, Act 294, Imd. Eff. Dec. 28, 1993;—Am. 1997, Act 79, Eff. July 28, 1997;—Am. 1999, Act 54, Imd. Eff. June 15, 1999;—Am. 2004, Act 9, Imd. Eff. Feb. 26, 2004;—Am. 2006, Act 338, Imd. Eff. Aug. 15, 2006;—Am. 2010, Act 261, Imd. Eff. Dec. 14, 2010;—Am. 2012, Act 298, Imd. Eff. Aug. 23, 2012;—Am. 2015, Act 175, Eff. Apr. 1, 2016.

Compiler's note: Enacting section 1 of Act 473 of 2014 provides:

"Enacting section 1. This amendatory act does not take effect unless House Joint Resolution UU of the 97th Legislature becomes a part of the state constitution of 1963 as provided in section 1 of article XII of the state constitution of 1963."

House Joint Resolution UU was presented to the electors as Proposal 15-1 at the May 5, 2015 special election. The proposal to amend the constitution was not approved by the voters and Act 473 of 2014 does not go into effect.

Popular name: McNitt Act

Popular name: Michigan Transportation Fund Act

STATE TRUNK LINE HIGHWAY SYSTEM (EXCERPT)
Act 51 of 1951

247.651g Pavement management system.

Sec. 1g. The transportation asset management council, in conjunction with the department, counties, and municipalities, shall develop and implement a pavement management system for each mile of roadway on the federal-aid eligible highway system in Michigan. This pavement management system shall attempt to ensure that a disproportionate share of pavement shall not become due for replacement or major repair at the same time. The transportation asset management council shall provide local road agencies with the training needed to utilize the pavement management system in accordance with this section.

History: Add. 1997, Act 79, Eff. July 28, 1997;—Am. 2007, Act 199, Imd. Eff. Dec. 21, 2007.

Popular name: McNitt Act

Popular name: Michigan Transportation Fund Act

STATE TRUNK LINE HIGHWAY SYSTEM (EXCERPT)
Act 51 of 1951

247.660c Definitions.

Sec. 10c. As used in this act:

(a) "Urban or rural area" means a contiguous developed area, including the immediate surrounding area, where transportation services should reasonably be provided presently or in the future; the area within the jurisdiction of an eligible authority; or for the purpose of receiving funds for public transportation, a contiguous developed area having a population of less than 50,000 that has an urban public transportation program approved by the state transportation department and for which the state transportation commission determines that public transportation services should reasonably be provided presently or in the future.

(b) "Eligible authority" means an authority organized under the metropolitan transportation authorities act of 1967, 1967 PA 204, MCL 124.401 to 124.426.

(c) "Eligible governmental agency" means a county, city, or village or an authority created under 1963 PA 55, MCL 124.351 to 124.359; the urban cooperation act of 1967, 1967 (Ex Sess) PA 7, MCL 124.501 to 124.512; 1967 (Ex Sess) PA 8, MCL 124.531 to 124.536; 1951 PA 35, MCL 124.1 to 124.13; the public transportation authority act, 1986 PA 196, MCL 124.451 to 124.479; or the revenue bond act of 1933, 1933 PA 94, MCL 141.101 to 141.140.

(d) "Transit vehicle" means a bus, rapid transit vehicle, railroad car, street railway car, water vehicle, taxicab, or other type of public transportation vehicle or individual unit, whether operated singly or in a group that provides public transportation.

(e) "Transit vehicle mile" means a transit vehicle operated for 1 mile in public transportation service including demand actuated and line-haul vehicle miles.

(f) "Demand actuated vehicle" means a bus or smaller transit vehicle operated for providing group rides to members of the general public paying fares individually, and on demand rather than in regularly scheduled route service.

(g) "Demand actuated vehicle mile" means a demand actuated vehicle operated for 1 mile in service to the general public.

(h) "Public transportation", "comprehensive transportation", "public transportation service", "comprehensive transportation service", "public transportation purpose", or "comprehensive transportation purpose" means the movement of people and goods by publicly or privately owned water vehicle, bus, railroad car, street railway, aircraft, rapid transit vehicle, taxicab, or other conveyance that provides general or special service to the public, but not including charter or sightseeing service or transportation which is exclusively for school purposes. Public transportation, public transportation services, or public transportation purposes; and comprehensive transportation, comprehensive transportation services, or comprehensive transportation purposes as defined in this subdivision are declared by law to be transportation purposes within the meaning of section 9 of article IX of the state constitution of 1963.

(i) "State transportation commission" or "commission" means the state transportation commission established in section 28 of article V of the state constitution of 1963.

(j) "Governmental unit" means the state transportation department, the state transportation commission, a county road commission, a city, or a village.

(k) "Department" or "department of transportation" means the state transportation department, the principal department of state government created under section 350 of the executive organization act of 1965, 1965 PA 380, MCL 16.450.

(*l*) "Preservation" means an activity undertaken to preserve the integrity of the existing roadway system. Preservation does not include new construction of highways, roads, streets, or bridges, a project that increases the capacity of a highway facility to accommodate that part of traffic having neither an origin nor destination within the local area, widening of a lane width or more, or adding turn lanes of more than 1/2 mile in length. Preservation includes, but is not limited to, 1 or more of the following:

(*i*) Maintenance.

(*ii*) Capital preventive treatments.

(*iii*) Safety projects.

(*iv*) Reconstruction.

(*v*) Resurfacing.

(*vi*) Restoration.

(*vii*) Rehabilitation.

(*viii*) Widening of less than the width of 1 lane.

(*ix*) Adding auxiliary weaving, climbing, or speed change lanes.

(*x*) Modernizing intersections.

(*xi*) Adding auxiliary turning lanes of 1/2 mile or less.

(*xii*) Installing traffic signs in new locations, installing signal devices in new locations, and replacing existing signal devices.

(m) "Maintenance" means routine maintenance or preventive maintenance, or both. Maintenance does not include capital preventive treatments, resurfacing, reconstruction, restoration, rehabilitation, safety projects, widening of less than 1 lane width, adding auxiliary turn lanes of 1/2 mile or less, adding auxiliary weaving, climbing, or speed-change lanes, modernizing intersections, or the upgrading of aggregate surface roads to hard surface roads. Maintenance of state trunk line highways does not include streetlighting except for freeway lighting for traffic safety purposes.

(n) "Routine maintenance" means actions performed on a regular or controllable basis or in response to uncontrollable events upon a highway, road, street, or bridge. Routine maintenance includes, but is not limited to, 1 or more of the following:

(*i*) Snow and ice removal.

(*ii*) Pothole patching.

(*iii*) Unplugging drain facilities.

(*iv*) Replacing damaged sign and pavement markings.

(*v*) Replacing damaged guardrails.

(*vi*) Repairing storm damage.

(*vii*) Repair or operation of traffic signs and signal systems.

(*viii*) Emergency environmental cleanup.

(*ix*) Emergency repairs.

(*x*) Emergency management of road closures that result from uncontrollable events.

(*xi*) Cleaning streets and associated drainage.

(*xii*) Mowing roadside.

(*xiii*) Control of roadside brush and vegetation.

(*xiv*) Cleaning roadside.

(*xv*) Repairing lighting.

(*xvi*) Grading.

(o) "Preventive maintenance" means a planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserve assets by retarding deterioration and maintaining functional condition without significantly increasing structural capacity. Preventive maintenance includes, but is not limited to, 1 or more of the following:

(*i*) Pavement crack sealing.

(*ii*) Micro surfacing.

(*iii*) Chip sealing.

(*iv*) Concrete joint resealing.

(*v*) Concrete joint repair.

(*vi*) Filling shallow pavement cracks.

(*vii*) Patching concrete.

(*viii*) Shoulder resurfacing.

(*ix*) Concrete diamond grinding.

(*x*) Dowel bar retrofit.

(*xi*) Bituminous overlays of 1-1/2 inches or less in thickness.

(*xii*) Restoration of drainage.

(*xiii*) Bridge crack sealing.

(*xiv*) Bridge joint repair.

(*xv*) Bridge seismic retrofit.

(*xvi*) Bridge scour countermeasures.

(*xvii*) Bridge painting.

(*xviii*) Pollution prevention.

(*xix*) New treatments as they may be developed.

(p) "County road commission" means the board of county road commissioners elected or appointed pursuant to section 6 of chapter IV of 1909 PA 283, MCL 224.6, or, in the case of a charter county with a population of 750,000 or more with an elected county executive that does not have a board of county road commissioners, the county executive for ministerial functions and the county commission provided for in section 14(1)(d) of 1966 PA 293, MCL 45.514, for legislative functions. In addition, if a board of county road commissioners is dissolved as provided in section 6 of chapter IV of 1909 PA 283, MCL 224.6, county road

commission includes the county board of commissioners of the county.

(q) "Capital preventive treatments" means any preventive maintenance category project on state trunk line highways that qualifies under the department's capital preventive maintenance program.

(r) "Public transit region" means that term as defined in the regional transit authority act.

(s) "Regional transit authority" means an authority created under the regional transit authority act.

History: Add. 1976, Act 297, Eff. Nov. 15, 1976;—Am. 1978, Act 444, Imd. Eff. Oct. 10, 1978;—Am. 1982, Act 438, Eff. Jan. 1, 1983;—Am. 1987, Act 234, Imd. Eff. Dec. 28, 1987;—Am. 1990, Act 73, Imd. Eff. May 17, 1990;—Am. 2002, Act 498, Imd. Eff. July 3, 2002;—Am. 2005, Act 45, Imd. Eff. June 16, 2005;—Am. 2008, Act 485, Imd. Eff. Jan. 12, 2009;—Am. 2010, Act 257, Imd. Eff. Dec. 14, 2010;—Am. 2012, Act 298, Imd. Eff. Aug. 23, 2012;—Am. 2012, Act 391, Imd. Eff. Dec. 19, 2012.

Compiler's note: Former MCL 247.660c, containing definitions, was repealed by Act 296 of 1976.

Popular name: McNitt Act

Popular name: Michigan Transportation Fund Act

STATE TRUNK LINE HIGHWAY SYSTEM (EXCERPT)
Act 51 of 1951

247.670a Contract for preservation of county local road system within township.

Sec. 20a. A board of county road commissioners in a county and the township board of a township with a population of 15,000 or more, and which in the prior year and the contract year will have levied a property tax of not less than 1 mill on each dollar of assessed valuation of the township for the improvement or preservation of county roads within the township, may exercise the provisions of this section only by entering into a written contract of not more than 1 year providing for the preservation by the township of all or any part of the county local road system within that township, subject to, at a minimum, the following conditions:

(a) The contract shall specify the total amount of money that shall be annually expended by the contracting township for the preservation of all or part of the local road system. The contracting road commission may pay not more than 90% of the amount specified in the contract to the contracting township annually. The contracting road commission shall not pay more than 66% of an amount equal to the average annual amount of funds expended by the county road commission on the local road system located within the contracting township for construction and preservation purposes over the previous 5-year period from local road funds received by the county under this act. The contracting township shall match any funds expended by the contracting road commission on the local road system located within the contracting township in excess of 66%. The amount paid to the contracting township shall not directly or indirectly include money transferred from the primary fund allocation to the county under section 12(8).

(b) The contracting township shall keep separate accounts and accurate and uniform records on all road preservation work and funds, and shall file with the state transportation commission and the contracting county road commission on or before April 1 of each year, on forms provided by the state transportation commission, a report showing the disposition of funds received and expended for road purposes.

(c) The contract shall require the contracting township to provide insurance covering the contracting road commission's liability for failure to preserve the local roads specified in the contract.

(d) The contracting road commission shall determine and specify the equipment and personnel necessary to provide the preservation as set forth in the contract, and the contract shall not take effect until the contracting township has acquired the necessary equipment and personnel specified in the contract.

(e) As used in this section, "preservation" means that term as defined in section 10c unless the contracting parties specify a different meaning in the contract.

History: Add. 1974, Act 74, Imd. Eff. Apr. 4, 1974;—Am. 2002, Act 498, Imd. Eff. July 3, 2002;—Am. 2005, Act 5, Imd. Eff. Apr. 7, 2005;—Am. 2010, Act 257, Imd. Eff. Dec. 14, 2010;—Am. 2012, Act 298, Imd. Eff. Aug. 23, 2012.

Popular name: McNitt Act

Popular name: Michigan Transportation Fund Act

STATE TRUNK LINE HIGHWAY SYSTEM (EXCERPT)
Act 51 of 1951

247.668j Annual certification that certain employee-related conditions met; failure to make certification; withholding distributions to local road agency; website.

Sec. 18j. (1) Beginning September 30, 2015, each local road agency shall annually certify to the department that it satisfies 1 of the following conditions with respect to employees:

(a) The local road agency has developed and publicized an employee compensation plan that the local road agency intends to implement with any new, modified, or extended contract or employment agreements for employees not covered under contract or employment agreement. The employee compensation plan that each local road agency plans to achieve shall be posted on a publicly accessible internet site and shall be submitted to the department. At a minimum, the employee compensation plan shall include all of the following:

(*i*) New employee hires who are eligible for retirement plans are placed on retirement plans that cap annual employer contributions at 10% of base salary for employees who are eligible for social security benefits. For employees who are not eligible for social security benefits, the annual employer contribution is capped at 16.2% of base salary.

(*ii*) For defined benefit pension plans, a maximum multiplier of 1.5% for all employees who are eligible for social security benefits, except, if postemployment health care is not provided, the maximum multiplier shall be 2.25%. For all employees who are not eligible for social security benefits, a maximum multiplier of 2.25%, except, if postemployment health care is not provided, the maximum multiplier shall be 3.0%. This subparagraph does not apply to years of service accrued prior to September 30, 2013, or to contracts entered into prior to September 30, 2013.

(*iii*) For defined benefit pension plans, final average compensation for all employees is calculated using a minimum of 3 years of compensation and shall not include more than a total of 240 hours of paid leave. Overtime hours shall not be used in computing the final average compensation for an employee. This subparagraph does not apply to years of service accrued prior to September 30, 2013, or to contracts entered into prior to September 30, 2013.

(*iv*) Health care premium costs for new employee hires shall include a minimum employee share of 20%; or, an employer's share of the local health care plan costs shall be cost competitive with the new state preferred provider organization health plan, on a per-employee basis.

(b) The local road agency complies with 1 of the following:

(*i*) A local road agency that offers medical benefits to its employees or elected public officials shall certify to the department by September 30, 2015 that it is in compliance with the publicly funded health insurance contribution act, 2011 PA 152, MCL 15.561 to 15.569. For purposes of this subparagraph, dental and vision coverages are not considered medical benefits. The department shall develop a certification process and method for local road agencies to follow. A local road agency shall indicate in a certification under this subparagraph whether it has exempted itself from the publicly funded health insurance contribution act, 2011 PA 152, MCL 15.561 to 15.569, as provided in section 8 of the publicly funded health insurance contribution act, 2011 PA 152, MCL 15.568.

(*ii*) A local road agency that does not offer medical benefits to its employees or elected public officials shall certify to the department by September 30, 2015 that it does not offer medical benefits to its employees or elected public officials. For purposes of this subparagraph, dental and vision coverages are not considered medical benefits. The department shall develop a certification process and method for local road agencies to follow.

(2) If a local road agency does not make the certification required under subsection (1), the department may withhold all or part of the distributions to the local road agency from the Michigan transportation fund under this act. A withholding under this subsection shall continue for the period of noncompliance with subsection (1) by the local road agency.

(3) A county road commission shall maintain a searchable website accessible by the public at no cost that includes, but is not limited to, all of the following:

(a) Current fiscal year budget.

(b) The number of active employees of the county road commission by job classification and wage rate.

(c) A financial performance dashboard that contains information on revenues, expenditures, and unfunded liabilities. The county road commission may link to financial information provided by the Michigan transportation asset management council.

(d) The names and contact information for the governing body of the county road commission.

(e) A copy of the certification required by subsection (1).

(4) The department shall maintain a searchable website accessible by the public at no cost. A website

maintained by the department under this subsection shall include, but is not limited to, the following:

(a) Current fiscal year budget.

(b) The number of active employees of the department by job classification and wage rate.

(c) A financial performance dashboard that contains information on revenues, expenditures, and unfunded liabilities. The department may link to financial information provided by the Michigan transportation asset management council.

(d) The names and contact information for the governing body of the department.

(5) A county road commission may develop and operate its own website to provide the information required under subsection (3), or the county road commission may reference this state's central transparency website as the source for the information required under subsection (3). If a county road commission does not have a website, the county road commission may post the information required under subsection (3) on the website for the county within which the county road commission is located or on the website of a statewide road association of which the county road commission is a member.

History: Add. 2012, Act 506, Imd. Eff. Dec. 28, 2012;—Am. 2014, Act 301, Imd. Eff. Oct. 9, 2014.

Compiler's note: Former MCL 247.668j, which pertained to pledge for annual debt service requirements and to successive borrowings, was repealed by Act 234 of 1987, Imd. Eff. Dec. 28, 1987.

Popular name: McNitt Act

Popular name: Michigan Transportation Fund Act

MICHIGAN INFRASTRUCTURE COUNCIL ACT (EXCERPT)
Act 323 of 2018

21.602 Definitions.

Sec. 2. As used in this act:

(a) "Asset" means infrastructure related to drinking water, wastewater, stormwater, transportation, energy, or communications, including, but not limited to, drinking water supply systems, wastewater systems, stormwater systems, drains, roads, bridges, broadband and communication systems, and electricity and natural gas networks.

(b) "Asset class" means a single type of asset including its network and all associated appurtenances critical to its performance.

(c) "Asset management" means an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost-effectively, based on a continuous physical inventory and condition assessment and investment to achieve performance goals.

(d) "Asset management plan" means a set of procedures to manage assets through their life cycles, based on principles of life cycle costing. An asset management plan may be used as a tool to help an asset owner implement its asset management program.

(e) "Asset owner" means a person that owns or operates an asset.

(f) "Department" means the department of treasury.

(g) "Performance goals" means standards of system performance that reflect asset management principles for asset preservation and sustainability, operations, capacity consistent with local needs, and identified levels of service.

(h) "Person" means an individual, partnership, corporation, association, governmental entity, or other legal entity.

(i) "Region" means the geographic jurisdiction of any of the following:

(*i*) A regional planning commission created pursuant to 1945 PA 281, MCL 125.11 to 125.25.

(*ii*) A regional economic development commission created pursuant to 1966 PA 46, MCL 125.1231 to 125.1237.

(*iii*) A metropolitan area council formed pursuant to the metropolitan councils act, 1989 PA 292, MCL 124.651 to 124.729.

(*iv*) A metropolitan planning organization established pursuant to federal law.

(*v*) An agency directed and funded by section 822f of article VIII of 2016 PA 268, to engage in joint decision-making practices related, but not limited to, community development, economic development, talent, and infrastructure opportunities.

(j) "Transportation asset management council" means the transportation asset management council created in section 9a of 1951 PA 51, MCL 247.659a.

(k) "Water asset management council" means the water asset management council created in section 5002 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5002.

History: 2018, Act 323, Imd. Eff. July 2, 2018.

MICHIGAN INFRASTRUCTURE COUNCIL ACT (EXCERPT)
Act 323 of 2018

21.603 Michigan infrastructure council; creation; membership; terms of members; removal; quorum; department of technology, management, and budget central data storage agency.

Sec. 3. (1) The Michigan infrastructure council is created within the department.

(2) The Michigan infrastructure council consists of the following:

(a) Nine voting members appointed pursuant to subsection (3) who are representative of 1 or more of the following:

(*i*) Asset management experts from the public and private sectors with knowledge of and expertise in the areas of planning, design, construction, management, operations and maintenance for drinking water, wastewater, stormwater, transportation, energy, and communications.

(*ii*) Financial and procurement experts from the public or private sector.

(*iii*) Experts in regional asset management planning across jurisdictions and infrastructure sectors.

(b) The following nonvoting members:

(*i*) The chairperson of the water asset management council or his or her designee.

(*ii*) The chairperson of the transportation asset management council or his or her designee.

(*iii*) The director of the department of agriculture and rural development or his or her designee.

(*iv*) The director of the department of environmental quality or his or her designee.

(*v*) The director of the department of natural resources or his or her designee.

(*vi*) The director of the department of technology, management, and budget or his or her designee.

(*vii*) The director of the state transportation department or his or her designee.

(*viii*) The state treasurer or his or her designee.

(*ix*) The chairperson of the Michigan public service commission or his or her designee.

(3) Voting members of the Michigan infrastructure council under subsection (2)(a) shall be appointed as follows:

(a) Five by the governor.

(b) One by the senate majority leader.

(c) One by the speaker of the house of representatives.

(d) One by the senate minority leader.

(e) One by the house minority leader.

(4) The voting members first appointed to the Michigan infrastructure council must be appointed within 60 days after the effective date of this act.

(5) The voting members of the Michigan infrastructure council serve for terms of 3 years or until a successor is appointed, whichever is later, except as follows:

(a) Of the members first appointed under subsection (3)(a), 1 shall serve for 2 years, 1 shall serve for 1 year, and 3 shall serve for 3 years.

(b) Of the members first appointed under subsection (3)(b), (c), (d), and (e), 2 shall serve for 2 years and 2 shall serve for 1 year.

(6) A vacancy on the Michigan infrastructure council shall be filled for the unexpired term in the same manner as the original appointment.

(7) A member of the Michigan infrastructure council may be removed for incompetence, dereliction of duty, malfeasance during his or her tenure in office, or any other cause considered appropriate by the office for whom the appointment was made.

(8) The governor shall call the first meeting of the Michigan infrastructure council within 90 days after the effective date of this act. At the first meeting, the Michigan infrastructure council shall elect from among its members a chairperson and other officers as it considers appropriate. After the first meeting, the Michigan infrastructure council shall meet at least quarterly, or more frequently at the call of the chairperson or if requested by 3 or more members.

(9) A majority of the voting members of the Michigan infrastructure council and a majority of the nonvoting members of the Michigan infrastructure council constitute a quorum for the transaction of business at a meeting of the Michigan infrastructure council. An affirmative vote of a majority of the voting members of the Michigan infrastructure council is required for official action of the Michigan infrastructure council.

(10) The Michigan infrastructure council shall perform its business at a public meeting of the Michigan infrastructure council held in compliance with the open meetings act, 1976 PA 267, MCL 15.261 to 15.275.

(11) A writing created by the Michigan infrastructure council in the performance of an official function is subject to the freedom of information act, 1976 PA 442, MCL 15.231 to 15.246.

(12) Members of the Michigan infrastructure council serve without compensation. However, members of

the Michigan infrastructure council may be reimbursed for their actual and necessary expenses incurred in the performance of their official duties as members of the Michigan infrastructure council.

(13) The departments of agriculture and rural development; environmental quality; natural resources; technology, management, and budget; transportation; and treasury shall provide qualified administrative and technical staff to the Michigan infrastructure council.

(14) The department of technology, management, and budget shall serve as the central data storage agency for the statewide database provided for in this act.

History: 2018, Act 323, Imd. Eff. July 2, 2018.

MICHIGAN INFRASTRUCTURE COUNCIL ACT (EXCERPT)
Act 323 of 2018

21.604 Michigan infrastructure council; duties; annual report; statewide asset management system.

Sec. 4. (1) The Michigan infrastructure council shall do all of the following:

(a) Develop a multiyear program, work plan, budget, and funding recommendation for asset management; update these every year; and provide these to the governor and the legislature by September 30 every year.

(b) Ensure that the work plan in subdivision (a) includes an emphasis on coordination and integration across asset classes and regions.

(c) Prepare an annual report on the current statewide asset management assessment that tracks progress on established performance goals.

(d) Undertake research and advise on matters relating to asset management, including all of the following:

(*i*) Funding and financing models.

(*ii*) Best practices.

(*iii*) Information technology advancements.

(*iv*) Emerging technology to advance smart systems.

(*v*) Right sizing and cost-efficiencies.

(*vi*) Impediments to delivery.

(*vii*) Opportunities for greater coordination and collaboration across asset classes and asset owners.

(*viii*) Align and link state incentives to asset performance improvement goals, including cost control, asset management, operational efficiency, and cost-effective regional solutions.

(e) Within 180 days after its first meeting, evaluate the regional infrastructure asset management pilot program created under Executive Directive 2017-1, and the findings of the 21st Century Infrastructure Commission created in Executive Order No. 2016-5, and develop and publish a 3-year strategy for establishing a statewide integrated asset management system. The initial multiyear program, work plan, budget, and funding recommendation under subdivision (a) must include development of the strategy for establishing a statewide integrated asset management system. The strategy must also include, at a minimum, all of the following:

(*i*) A determination of appropriate assets within the asset classes.

(*ii*) Consistent data standards and definitions for each asset class.

(*iii*) Identify and designate a process to plan, analyze, and coordinate asset management across assets and asset owners at the regional level. This process may be implemented through regional planning agencies, the regional prosperity initiative regions, or another approach, which may vary among regions, that ensures all areas of the state are included and efforts are consistent with state and federal requirements. Regions shall be responsible for maintaining and managing the statewide database at a regional level.

(*iv*) Procedures for data storage, collecting, updating, and reporting.

(*v*) Recommendations related to the appropriate level of financial support for local asset data collection, local development of asset management plans, regional review and collaboration, and participation in an integrated statewide asset management system.

(*vi*) A process to coordinate the planning efforts of the transportation asset management council, the water asset management council, the Michigan public service commission, and the Michigan economic development corporation, with other state-required asset management planning requirements. In coordinating planning efforts under this subparagraph, the Michigan infrastructure council shall endeavor to provide efficiencies to the planning process and to reduce any unnecessary duplication of effort.

(*vii*) Coordination with the transportation asset management council and the water asset management council to ensure that training and education programs that address all of the following are coordinated across assets:

(A) Asset management principles and plan development.

(B) The use of the statewide database.

(C) Ongoing user support.

(D) State department asset management requirements.

(*viii*) Develop statewide performance goals for appropriate assets within each asset class and identify regional and statewide progress toward meeting performance goals.

(*ix*) Protocols that ensure data security and accuracy at the local, regional, and state levels.

(*x*) Development of consistent and coordinated state department, transportation asset management council, and water asset management council asset management plan components and requirements including, but not limited to:

(A) Asset inventory, condition assessment, and uniform data.

(B) Performance goals.

(C) Revenue structure, investment strategy, and capital improvement plan.

(D) Asset criticality and risk analysis.

(E) Public engagement and transparency.

(F) Self-assessment of asset management maturity.

(G) Reports at an asset owner, regional, and statewide level. Reporting levels should take into account the size and complexity of the network or system. Priority should be placed on the largest systems.

(H) A resolution by the appropriate governing body approving the plan.

(I) Certification that asset management is being coordinated to the asset owners' best ability across asset classes and regionally.

(f) Beginning 3 years after the effective date of this act, start the second phase of the statewide system for asset management implementation and include, at a minimum, all of the following:

(*i*) Predictive analytics to forecast asset condition.

(*ii*) A public dashboard of state, regional, and local system performance across asset classes, including the appropriate and secure level of geospatial data and aggregated reporting.

(*iii*) Develop and publish a 30-year integrated infrastructure strategy that is updated every 5 years and includes all of the following:

(A) Current statewide condition assessment and infrastructure priorities across asset classes, tracked progress on established performance goals, and net changes in asset value.

(B) Investment needs to reach targeted overall system ratings and performance goals, with a goal of leveling annual investments to long-term predictable amounts.

(C) Network intelligence in asset management planning and monitoring. Retrofit technologies should be considered, pursued, and incorporated as they become available for upgrades and maintenance activities to existing and future assets.

(2) The multiyear programs, work plans, budgets, and funding recommendations required in subsection (1)(a), the annual reports required by subsection (1)(c), the 3-year strategy for establishing a statewide integrated asset management system required by subsection (1)(e), and the second phase of the statewide system for asset management implementation required in subsection (1)(f) shall comply with both of the following:

(a) Not propose, recommend, or fund any government-owned broadband or telecommunications network to provide service to residential or commercial premises, except that this prohibition does not apply to state expenditures for a transportation purpose, connected vehicle communication technologies, or other transportation-related activities.

(b) To the extent government funding is proposed or recommended to subsidize non-government-owned broadband networks to expand service to residential or commercial premises, require that the proposals and recommendations must be limited to areas unserved by broadband, must be technology neutral, and include a competitive bid process that results in the award of the subsidy based on objective and efficient procedures.

History: 2018, Act 323, Imd. Eff. July 2, 2018.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (EXCERPT)
Act 451 of 1994

324.5007 Training needs; multi-asset management system.

Sec. 5007. (1) The water asset management council shall identify training needs to develop proficiency in using a multi-asset management system for asset owners, and training to identify asset system conditions based on a statewide asset condition measure.

(2) The water asset management council shall coordinate and collaborate with the transportation asset management council on planning, reporting, and training. The water asset management council shall collaborate with the transportation asset management council created in section 9a of 1951 PA 51, MCL 247.659a, on potential coordination in the submission of asset management plans.

History: Add. 2018, Act 324, Imd. Eff. July 2, 2018.

Michigan Transportation Asset Management Council

Bylaws of the Michigan Transportation Asset Management Council

As Last Amended by TAMC on February 8, 2017

1. Goal Statement: The Transportation Asset Management Council (TAMC) will support excellence in managing Michigan's transportation infrastructure by:
    a. Advising the State Legislature and State Transportation Commission on a Statewide Asset Management Strategy.
    b. Promoting Asset Management Principles Statewide.
    c. Providing Asset Management Tools and Best Practices for Road Agencies.

2. Membership, Chairperson, and Committees:
    a. Membership: Per P.A. 199 of 2007 "The council shall consist of 10 voting members appointed by the state transportation commission. The council shall include 2 members from the county road association of Michigan, 2 members from the Michigan municipal league, 2 members from the state planning and development regions, 1 member from the Michigan townships association, 1 member from the Michigan association of counties, and 2 members from the department (MDOT). Nonvoting members shall include 1 person from the agency or office selected as the location for central data storage."
    b. Chairperson and Vice-chairperson: Per P.A. 199 of 2007 "The chairperson shall be selected from among the voting members of the council."
        1. Eligibility: All voting members of the TAMC are eligible to be Chairperson or Vice-chairperson of the TAMC.
        2. Term of Office: The Chairperson and Vice-chairperson's Terms of Office shall be three years. Officers may be reelected to additional terms by the TAMC. Terms may be consecutive.
        3. Election of Officers: Elections for Chairperson and Vice-chairperson of the TAMC shall be held during the September TAMC meeting in the last year of the three year term or as needed to fill a vacant officer position. Election shall be by a majority vote of the attending voting TAMC members during a regular TAMC meeting where a quorum is present.
        4. Responsibility & Dismissal: It is the responsibility of the Chairperson to chair monthly meetings, publically represent the TAMC and speak on its behalf. It is the responsibility of the Vice-chairperson to perform these duties in the absence of the Chairperson. If the Chairperson or Vice-chairperson fails to meet this responsibility, the voting membership of TAMC may dismiss the Chairperson or Vice-chairperson by majority vote.
    c. Committees: At a minimum, each voting member shall serve on one TAMC Committee. The TAMC Chairperson shall select TAMC members for each committee at the beginning of the TAMC Chairperson's term of office. Member assignments may be reviewed and changed by the TAMC Chairperson as necessary during the Chairperson's term of office. Each committee of the TAMC shall have a Chairperson and a Vice-chairperson selected by majority vote of the voting membership of each Committee. Each committee Chairperson and Vice-chairperson shall serve a three (3) year term. In the absence of the committee Chairperson, the committee Vice-chairperson shall manage the committee meetings. Any committee may include for support, technical, or other reasons; non TAMC

members as non-voting advisory participants in the committees. The TAMC has three permanent committees as follows:

1. Administrative, Communications and Education (ACE Committee): Committee comprised of three (3) to five (5) TAMC members that advises the TAMC on matters pertaining to training, communication, education and budget.
2. Data Committee: Committee comprised of three (3) to five (5) TAMC members that advises the TAMC on matters pertaining to data collection, quality, and analysis.
3. Bridge Committee: Committee comprised of three (3) to five (5) TAMC members that advises the TAMC on matters pertaining to application of asset management principles to bridges and the creation of guidance materials and training program.

Other Committees: The TAMC or the TAMC Chairperson may establish other 'ad hoc' committees as necessary for the operation of the TAMC. Such committees shall operate until the TAMC or TAMC Chairperson disbands them.

3. Meetings: Transportation Asset Management Council (TAMC) and committee meeting schedules are established at the September TAMC Meeting for the following fiscal year. The established schedules shall be made available to the public.

4. Quorum: per Michigan's Open Meetings Act "Meeting" means the convening of a public body at which a quorum is present for the purpose of deliberating toward or rendering a decision of a public policy." A quorum as it pertains to the TAMC shall be defined as a majority of voting members present for a meeting during which official business is discussed and acted upon.

5. Membership Appointment & Term: it is the responsibility of each member organization to seek out qualified individuals for nomination to the TAMC. Once the nomination is received, it must be acted upon by the State Transportation Commission. Per P.A. 199 of 2007 "The positions for the department shall be permanent. The position of the central data storage agency shall be nonvoting and shall be for as long as the agency continues to serve as the data storage repository. At the end of the initial appointment, all terms shall be for 3 years."

6. Advisory Panel: Per P.A. 199 of 2007 "(6) the council may appoint a technical advisory panel whose members shall be representatives from the transportation construction associations and related transportation road interests. The asset management council shall select members to the technical advisory panel from names submitted by the transportation construction associations and related transportation road interests. The technical advisory panel members shall be appointed for 3 years. The asset management council shall determine the research issues and assign projects to the technical advisory panel to assist in the development of statewide policies. The technical advisory panel's recommendations shall be advisory only and not binding on the asset management council."

7. Staffing: Per P.A. 199 of 2007 "(4) The department shall provide qualified administrative staff and the state planning and development regions shall provide qualified technical assistance to the council."
    a. MDOT assigns a full-time Coordinator primarily responsible for the management and coordination of the TAMC's activities including development of the three-year work program, budget, and annual report as required by law; provide project management of activities needed to carry out the TAMC's work program; manage the on-going development and maintenance of the TAMC's website and performance measure dashboards.

Additional MDOT staff provides technical support to TAMC as necessary.

b. In addition to MDOT staff, the TAMC annually contracts with Michigan's Regional and Metropolitan Planning Organizations to provide technical assistance related to the promotion of asset management principles and PASER data collection within each regional boundary.

8. Amendments: A two-thirds majority of TAMC voting members is required to amend the TAMC bylaws. Proposed amendments in final form must be distributed to the members at the TAMC meeting prior to having it on the TAMC agenda as an action item.

TAMC Budget Financial Reporting - FY17-FY19

Michigan Transportation Asset Management Council

	(most recent invoice date)	FY17 Budget $	FY17 Actual Spent	FY17 Actual Balance	FY18 Budget $	FY18 Actual Spent	FY18 Actual Balance	FY19 Budget $	FY19 Year to Date Spent	FY19 Year to Date Balance	FY20 Budget $
I. Data Collection & Regional-Metro Planning Asset Management Progam											
Battle Creek Area Transporation Study	3 QTR 19	$ 20,000.00	$ 15,444.03	$ 4,555.97	$ 20,500.00	$ 20,213.36	$ 286.64	$ 20,500.00	$ 6,100.76	$ 14,399.24	$ 20,500.00
Bay County Area Transportation Study	3 QTR 19	$ 20,000.00	$ 10,794.42	$ 9,205.58	$ 21,100.00	$ 8,028.84	$ 13,071.16	$ 21,100.00	$ 14,271.14	$ 6,828.86	$ 19,900.00
Central Upper Peninsula Planning and Development	3 QTR 19	$ 40,471.00	$ 40,471.00	$ -	$ 47,000.00	$ 47,000.00	$ -	$ 47,000.00	$ 22,181.81	$ 24,818.19	$ 50,000.00
East Michigan Council of Governments	Aug '19	$ 95,995.00	$ 80,092.75	$ 15,902.25	$ 111,000.00	$ 81,559.65	$ 29,440.35	$ 111,000.00	$ 80,656.86	$ 30,343.14	$ 108,000.00
Eastern Upper Peninsula Regional Planning & Devel.	3 QTR 19	$ 20,000.00	$ 20,000.00	$ -	$ 23,100.00	$ 23,100.00	$ -	$ 23,100.00	$ 10,522.89	$ 12,577.11	$ 25,000.00
Genesee Lapeer Shiawasse Region V Planning Com.	June '19	$ 39,423.00	$ 37,172.06	$ 2,250.94	$ 46,000.00	$ 45,954.99	$ 45.01	$ 46,000.00	$ 10,353.88	$ 35,646.12	$ 46,000.00
Grand Valley Metropolitan Council	3 QTR 19	$ 20,000.00	$ 18,974.64	$ 1,025.36	$ 25,000.00	$ 12,060.69	$ 12,939.31	$ 25,000.00	$ 9,869.35	$ 15,130.65	$ 24,000.00
Kalamazoo Area Transportation Study	Aug '19	$ 20,000.00	$ 19,128.11	$ 871.89	$ 22,000.00	$ 21,588.77	$ 411.23	$ 22,000.00	$ 19,843.36	$ 2,156.64	$ 22,000.00
Macatawa Area Coordinating Council	3 QTR 19	$ 20,000.00	$ 7,405.66	$ 12,594.34	$ 20,200.00	$ 9,575.57	$ 10,624.43	$ 20,200.00	$ 4,622.68	$ 15,577.32	$ 19,000.00
Midland Area Transportation Study	2 QTR 19	$ 20,000.00	$ 17,660.54	$ 2,339.46	$ 21,000.00	$ 20,857.81	$ 142.19	$ 21,000.00	$ 1,680.88	$ 19,319.12	$ 21,000.00
Northeast Michigan Council of Governments	Aug '19	$ 43,426.45	$ 43,426.45	$ -	$ 52,200.00	$ 52,200.00	$ -	$ 46,000.00	$ 37,005.75	$ 8,994.25	$ 51,000.00
Networks Northwest	3 QTR 19	$ 61,316.00	$ 61,316.00	$ -	$ 72,000.00	$ 71,915.46	$ 84.54	$ 72,000.00	$ 36,818.88	$ 35,181.12	$ 75,000.00
Region 2 Planning Commission	3 QTR 19	$ 37,940.00	$ 24,743.56	$ 13,196.44	$ 42,000.00	$ 29,362.33	$ 12,637.67	$ 42,000.00	$ 23,751.00	$ 18,249.00	$ 40,000.00
Saginaw County Metropolitan Plannning Commission	3 QTR 19	$ 20,000.00	$ 11,585.29	$ 8,414.71	$ 22,200.00	$ 22,000.00	$ 200.00	$ 22,200.00	$ 11,475.89	$ 10,724.11	$ 21,000.00
Southcentral Michigan Planning Commission	Aug '19	$ 53,162.00	$ 36,915.67	$ 16,246.33	$ 57,300.00	$ 37,137.28	$ 20,162.72	$ 57,300.00	$ 33,358.23	$ 23,941.77	$ 55,000.00
Southeast Michigan Council of Governments	Aug '19	$ 135,680.00	$ 135,679.60	$ 0.40	$ 174,000.00	$ 174,000.00	$ -	$ 174,000.00	$ 106,013.48	$ 67,986.52	$ 174,000.00
Southwest Michigan Planning Commission	3 QTR 19	$ 37,030.00	$ 37,030.00	$ -	$ 41,000.00	$ 41,000.00	$ -	$ 41,000.00	$ 14,315.05	$ 26,684.95	$ 41,000.00
Tri-County Regional Planning Commission	3 QTR 19	$ 33,786.00	$ 33,786.00	$ -	$ 40,000.00	$ 21,680.54	$ 18,319.46	$ 40,000.00	$ 15,926.00	$ 24,074.00	$ 40,000.00
West Michigan Regional Planning Commission	Aug '19	$ 82,467.00	$ 82,467.00	$ -	$ 91,000.00	$ 74,351.07	$ 16,648.93	$ 91,000.00	$ 71,610.21	$ 19,389.79	$ 88,000.00
West Michigan Shoreline Regional Development Com.	Aug '19	$ 46,781.56	$ 46,145.01	$ 636.55	$ 54,000.00	$ 51,333.45	$ 2,666.55	$ 54,000.00	$ 34,297.78	$ 19,702.22	$ 54,000.00
Western Upper Peninsula Regional Planning & Devel.	3 QTR 19	$ 34,867.00	$ 34,847.53	$ 19.47	$ 40,000.00	$ 40,000.00	$ -	$ 40,000.00	$ 21,813.83	$ 18,186.17	$ 42,000.00
MDOT Region Participation	8/30/19	$ 62,750.00	$ 85,337.50	$ (22,587.50)	$ 80,000.00	$ 52,914.97	$ 27,085.03	$ 41,440.00	$ 35,168.07	$ 6,271.93	$ 30,000.00
PASER Quality Review Contract	9/3/19							$ 50,000.00	$ 41,683.39	$ 8,316.61	$ 50,000.00
Fed. Aid Data Collection & RPO/MPO Program Total		**$ 965,095.01**	**$ 900,422.82**	**$ 64,672.19**	**$ 1,116,400.00**	**$ 957,834.78**	**$ 158,565.22**	**$ 1,127,840.00**	**$ 663,341.17**	**$ 464,498.83**	**$ 1,116,400.00**
II. PASER Data Collection (Paved, Non-Federal-Aid System)											
PASER PNFA Data Collection Total		**$ 40,760.39**	**$ 40,760.39**	**$ -**	***(PNFA Moved Into Data Collection Program Above)***			***(PNFA Moved Into Data Collection Program Above)***			
III. TAMC Central Data Agency (MCSS)											
Project Management	9/4/19	$ 37,800.00	$40,064.00	($2,264.00)	$ 42,000.00	$ 46,585.00	$ (4,585.00)	$ 60,000.00	$ 74,258.00	$ (14,258.00)	$ 64,200.00
Data Support /Hardware / Software	9/4/19	$ 60,200.00	$58,833.00	$1,367.00	$ 68,800.00	$ 67,800.00	$ 1,000.00	$ 55,000.00	$ 15,175.00	$ 39,825.00	$ 37,000.00
Application Development / Maintenance / Testing	9/4/19	$ 83,280.00	$78,238.00	$5,042.00	$ 114,475.00	$ 115,250.00	$ (775.00)	$ 135,000.00	$ 95,450.00	$ 39,550.00	$ 166,000.00
Help Desk / Misc Support / Coordination	9/4/19	$ 66,600.00	$65,652.00	$948.00	$ 70,200.00	$ 68,200.00	$ 2,000.00	$ 61,900.00	$ 46,925.00	$ 14,975.00	$ 53,250.00
Training	9/4/19	$ 27,600.00	$29,133.00	($1,533.00)	$ 34,950.00	$ 24,850.00	$ 10,100.00	$ 28,660.00	$ 17,110.00	$ 11,550.00	$ 26,000.00
Data Access / Reporting	9/4/19	$ 47,155.00	$45,696.00	$1,459.00	$ 49,575.00	$ 52,175.00	$ (2,600.00)	$ 38,000.00	$ 23,125.00	$ 14,875.00	$ 28,500.00
TAMC Central Data Agency (MCSS) Total		**$ 322,635.00**	**$ 317,616.00**	**$ 5,019.00**	**$ 380,000.00**	**$ 374,860.00**	**$ 5,140.00**	**$ 378,560.00**	**$ 272,043.00**	**$ 106,517.00**	**$ 374,950.00**
IV. MTU Training & Education Program Contract (Z4)	9/26/19	**$ 210,000.00**	**$ 208,658.90**	**$ 1,341.10**	**$ 235,000.00**	**$ 234,534.14**	**$ 465.86**	**$ 220,000.00**	**$ 154,161.75**	**$ 65,838.25**	**$ 225,000.00**
V. MTU Activities Program Contract (Z3)	9/26/19	**$ 70,000.00**	**$ 60,253.50**	**$ 9,746.50**	**$ 115,000.00**	**$ 114,089.32**	**$ 910.68**	**$ 120,000.00**	**$ 72,699.39**	**$ 47,300.61**	**$ 115,012.32**
VI. TAMC Expenses											
Fall Conference Expenses	12/11/18	$ 6,000.00			$ 10,000.00			$ 10,000.00			$ 10,000.00
Fall Conf. Attendence Fees + sponsorship Fees	12/11/18	$ -	$ 2,625.00		$ -	$ 4,405.00		$ -	$ 6,755.00		$ -
Net Fall Conference	12/11/18	$ 8,625.00	$ 8,312.40	$ 312.60	$ 14,405.00	$ 7,269.00	$ 7,136.00	$ 16,755.00	$ 7,507.40	$ 9,247.60	$ -
Spring Conference Expenses	6/27/19	$ 8,000.00		$ -	$ 3,800.00			$ 10,000.00	$ -		$ 10,000.00
Spring Conf. Attendence Fees + sponsorship Fees	6/27/19	$ -	$ 6,140.00	$ -	$ -	$ 8,350.00		$ -	$ 9,790.00		$ -
Net Spring Conference	6/27/19	$ 14,140.00	$ 6,721.80	$ 7,418.20	$ 12,150.00	$ 7,439.36	$ 4,710.64	$ 19,790.00	$ 8,562.18	$ 11,227.82	
Unallocated / Contingency											$ 10,000.00
Other Council Expenses	9/27/19	$ 3,915.29	$ 8,483.24	$ (4,567.95)	$ 10,000.00	$ 7,301.72	$ 2,698.28	$ 10,000.00	$ 5,073.95	$ 4,926.05	$ 10,000.00
TAMC Expenses Total		**$ 26,680.29**	**$ 23,517.44**	**$ 3,162.85**	**$ 36,555.00**	**$ 22,010.08**	**$ 14,544.92**	**$ 46,545.00**	**$ 21,143.53**	**$ 25,401.47**	**$ 40,000.00**
Total Program		**$ 1,635,170.69**	**$ 1,551,229.05**	**$ 83,941.64**	**$ 1,882,955.00**	**$ 1,703,328.32**	**$ 179,626.68**	**$ 1,892,945.00**	**$ 1,183,388.84**	**$ 709,556.16**	**$ 1,871,362.32**
Appropriation		**$ 1,626,400.00**		**5.13%**	**$ 3,876,400.00**		**9.54%**	**$ 1,876,400.00**		**37.48%**	**$ 1,876,400.00**
VII. Special Projects with Separate Budgets											
CSS Investment Reporting Tool Re-write (FY17 SPR Funds)	9/30/17	**$ 241,040.00**	**$ 260,023.00**	**$ (18,983.00)**							
MI Local Agency Culvert Inventory Pilot (FY18 HB4320 S-3)											
Central Data Agency (MCSS)	10/16/18				$ 15,000.00	$ 9,312.00	$ 5,688.00				$ 25,000.00
MTU Culvert Project Activities & Training Program	1/2/19				$ 172,100.00	$ 172,100.00	$ -				$ 56,000.00
TAMC Administration & Contingency	11/7/18				$ 84,438.00	$ -	$ 84,438.00				$ 387,171.13
Central Upper Peninsula Planning and Development	3 QTR 18				$ 88,641.00	$ 51,909.64	$ 36,731.36				$ -
East Michigan Council of Governments	Sept '18				$ 328,607.00	$ 259,229.13	$ 69,377.87				$ -
Eastern Upper Peninsula Regional Planning & Devel.	4 QTR 18				$ 5,688.00	$ 5,034.70	$ 653.30				$ -
Genesee Lapeer Shiawasse Region V Planning Com.	Sept '18				$ 124,909.00	$ 54,266.60	$ 70,642.40				$ -
Grand Valley Metropolitan Council	4 QTR 18				$ 77,782.00	$ 69,733.25	$ 8,048.75				$ -
Kalamazoo Area Transportation Study	Sept '18				$ 50,402.00	$ 15,879.65	$ 34,522.35				$ -
Northeast Michigan Council of Governments	Sept '18				$ 33,506.00	$ 21,781.96	$ 11,724.04				$ -
Networks Northwest	Sept '18				$ 184,513.00	$ 163,641.05	$ 20,871.95				$ -
Region 2 Planning Commission	3 QTR 18				$ 54,900.00	$ 22,776.80	$ 32,123.20				$ -
Southcentral Michigan Planning Commission	Sept '18				$ 93,456.00	$ 36,137.17	$ 57,318.83				$ -
Southeast Michigan Council of Governments	Sept '18				$ 87,644.00	$ 45,757.96	$ 41,886.04				$ -
Southwest Michigan Planning Commission	4 QTR 18				$ 101,849.00	$ 67,138.17	$ 34,710.83				$ -
Tri-County Regional Planning Commission	4 QTR 18				$ 47,587.00	$ 6,962.44	$ 40,624.56				$ -
West Michigan Regional Planning Commission	Sept '18				$ 241,511.00	$ 181,441.39	$ 60,069.61				$ -
West Michigan Shoreline Regional Development Com.	Sept '18				$ 144,238.00	$ 89,092.30	$ 55,145.70				$ -
Western Upper Peninsula Regional Planning & Devel.	4 QTR 18				$ 63,229.00	$ 46,960.41	$ 16,268.59				$ -
Culvert Pilot Project Total		$	$	$	**$ 2,000,000.00**	**$ 1,319,154.62**	**$ 680,845.38**				**$ 468,171.13**
Total Special Program		**$ 241,040.00**	**$ 260,023.00**	**$ (18,983.00)**	**$ 2,000,000.00**	**$ 1,319,154.62**	**$ 680,845.38**				**$ 2,299,533.45**
Appropriation		**$ 241,040.00**		**0.00%**	**$ 2,000,000.00**		**34.04%**				**$ 1,876,400.00**

Transportation Asset Management Council 8/29/2019
2019 Roster and Committee Assignments

TAMC Current Members		2019 Term Status			Committee Assignments			
Member Name	**Member Agency**	**Begin**	**End**	**Member Since**	**ACE**	**Bridge**	**Data**	**Michigan Infrastructure Council**
Bolt, Christopher	MAC	Jan - 19	Aug - 19*	Jan - 19		**X**		
Bradshaw, Derek	MAR	Apr - 19	May - 22	May -16	**X**			
Johnson, Joanna, **Chair**	CRA	Apr - 19	May - 22	Oct - 13				**X (non voting)**
McEntee, Bill, **Vice-Chair**	CRA	Jan - 18	Dec - 20	Oct - 02			**Chair**	
Mekjian, Gary	MML	Mar - 17	Feb - 20	Mar - 17	**X**			
Slattery, Bob	MML	Oct - 16	Sep - 19	Jan - 05			**X**	
Start, Jon	MTPA	Dec - 17	Dec - 19	Jan - 15	**Chair**		**Vice-Chair**	
Surber, Rob (non-voting)	MCSS	N/A	N/A	Oct - 03	**X**		**X**	
Tubbs, Jennifer	MTA	Dec - 17	Dec - 19	Jan - 11			**X**	
White, Todd	MDOT	N/A	N/A	Jan - 19	**X**			
Wieferich, Brad	MDOT	N/A	N/A	Jan - 16		**X**		

**Christopher Bolt to serve the remainder of Donald Disselkoen's Term*

Non-TAMC Members with TAMC Committee Assignments				
Member Name	**Member Agency**	**ACE**	**Bridge**	**Data**
Alan Halbeisen, P.E.	American Council of Engineering Companies		**X**	
Rebecca Curtis, P.E.	MDOT		**Vice-Chair**	
Keith Cooper, P.E.	MDOT		**Chair**	
Wayne Harrall, P.E.	CRA		**X**	
Brian Vilmont, P.E.	Subject Matter Expert		**X**	

Center for Shared Solutions	FY20 TAMC Work Plan				
		8/23/2019			
		CSS Work Items			
Work Area	**Tasks**	**Description**	**Est Hours**	**Est Cost**	**CSS Notes**
A. Program Management	1. Administrative / Mgmt Tasks	Time set aside for meetings, coordination of deliverables, management of staff resources, budget tracking	600	$64,200	
Subtotal				$64,200	
B. Data Support	1. PASER Data Tasks	Coordination of incoming PASER data; Correspondence with local agencies; Management of datasets; Quality Control; Preparing maps and reports; Responding to requests as needed.	200	$20,000	Lowered costs as less support of PASER needed with new IRT upload tools
	2. Reporting and Analysis	Additional reports and status features beyond initial IRT rewrite	90	$9,000	
	3. Data Preparation for MTU / Model Runs	Compilation, migration, and delivery of data for MTU Roadsoft updates, training, and model runs	80	$8,000	
Subtotal				$37,000	
C. Application Development / Maintenance / Support	1. IRT Bug Fixes / Ongoing Maintenance / Support	Required time spent on maintaining current IRT website - troubleshooting when problems arise, handling break/fix issues, updating of geography; also includes server and/or infrastructure support to ensure online availability of application	200	$20,000	Based off past history of effort and also backlog of maintenance items
	2. Application Testing	Includes functionality testing, regression testing, updating test plans, and user acceptance testing, in response to data and application updates	120	$11,400	Testing for bug fixeds, IRT enhancements, culverts and other application requests

	Application Changes & Improvements	-			
	3. IRT Application Updates From IRT Requirements Backlog	Complete additional functionality that was identified as enhancements. Includes finalizing PASER process into Reports, read-only roles, projects file uploads, assign ADARS projects to IRT projects, multiple treatments for one project	300	$30,000	Priority 2 backlog already has 170 hours of planned work
	4. Interactive Map - Desktop	Interactive Map Update Requests	100	$10,000	Based on past history and priority list, lowered amount this year
	5. Additional Dashboard Enhancements	Any new dashboard related changes that need to be made.	150	$15,000	Based on past history of ad-hoc request to update dashboard functionality or layout
	6. Additional application upgrades - TAMC web servcies upgrades, new legistlation requirements	Improve data integration between TAMC databases and MDOT systems; traffic signals, possible enhancements to applications to meet any new requirements for reporting, compliance with asset management plans, etc.	400	$40,000	This category outlines possible initiatives in FY20 that would require the better integration between TAMC dashboard and MDOT data (Dashboard Portal work ~ 150 hrs) and the analysis of the integration of tamc system to MDOT systems (STIP/TIP program integration to TAMC ~ 250 hrs), traffic signal work possible here too.
	7. Culverts	Adding Culverts to IRT, Interactive Map, Dashboards	280	$28,000	Because still decisions to be made by TAMC it was requested to move this to FY20
	8. Program Changes / Improvements and Usability Testing	Additional Misc Support for Changes and ADA Review	20	$2,000	Review of changes to applications to ensure ADA and usability compliance
	9. TAMC Website hosting fees	Costs to support monthly hosting fees for TAMC web site		$9,600	
Subtotal				$166,000	

D. Help Desk, Misc Support	1. Help Desk Tasks	Time set aside for answering phones calls, assisting IRT users, logging issues, attending conferences	350	$33,250	
	2. Administrative Support	Preparation of reports, status maps, correspondence, meetings, etc., to assist TAMC staff	200	$20,000	
Subtotal				$53,250	
E. Training	1. Provide training via webinar and online videos, plus 5 onsite sessions	Maintain online training videos and documentation to reflect any updates to applications; Execute 4 training sessions via webinar, plus 4 onsite sessions throughout year.	200	$19,000	Lowered to reflect less on-site training in FY20
	2. ATT Teleconference Services	Webinar fee - assuming 4 webinars in FY20		$7,000	Increase to account for potential additional webinars in FY20
Subtotal				$26,000	
F. Data Access / Reporting	1. Dashboard - Maintenance	Maintenance / Support of existing dashboards currently including annual data migrations for updating dashboard data.	300	$28,500	Lowered cost and covered any enhancements in application section
Subtotal				$28,500	
				Total FY20 Budget	**$374,950.00**
				Total FY19 Budget	**$378,560.00**

MDOT and CSS Roles and Responsibilities as related to TAMC

	Task	MDOT	CSS	Notes
1	Send out Gov Delivery notifications/messages	**X**	X	
2	Set up the IRT training schedule		**X**	With MDOT input
3	Set up the IRT training venues		**X**	With MTU input
4	Conduct IRT Trainings/Webinars		**X**	With Council member support
5	IRT / Dashboard / TAMC App Testing			
a.	Unit Testing is done by developers in Dev environment.		**X**	
b.	Integration testing is done by developers in Dev environment		**X**	
c.	User Acceptance testing	X	**X**	CSS to work with Council to identify appropriate end-users, End users will test
d.	Production validation	X	**X**	CSS to work with Council to identify appropriate end-users, End users will test
e.	Test Case creation	X	**X**	CSS to work with Council to identify appropriate end-users, End users will test
6	Make changes to the IRT Manual to keep it up to date as new items/changes are released		**X**	CSS to work with council to review the manual
7	Help Desk	X	**X**	MDOT assistance needed at times.
8	Participate in the trade shows and conferences	**X**	X	
9	Website Updates			MDOT to receive additional website training
a.	Conference Information	**X**		*CSS to be involved during transitional phase (Jul. '19 - Oct. '19)*
b.	Newsfeed items	**X**		*CSS to be involved during transitional phase (Jul. '19 - Oct. '19)*
c.	Training information for all associated areas	**X**		MDOT to work with CSS to update IRT training information
d.	Support information/changes	**X**		*CSS to be involved during transitional phase (Jul. '19 - Oct. '19)*
e.	About Us/Council Changes	**X**		*CSS to be involved during transitional phase (Jul. '19 - Oct. '19)*
f.	Meetings tab	**X**		*CSS to be involved during transitional phase (Jul. '19 - Oct. '19)*
10	Webpage changes - structural		**X**	
11	CSS manages the Azure / TFS system		**X**	MDOT can participate in this process
12	Google analytics reports	**X**	X	
13	Analyze Requests		**X**	
14	Build and Design		**X**	
15	Perform changes and updates		**X**	
16	Testing		**X**	
17	Trouble shoot		**X**	
18	Run special reports		**X**	

X - Lead Agency

X - Supporting Agency

Proposal Title:

DRAFT 2020 Transportation Asset Management Council Education Program Work Plan

Submitted To:

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August 9, 2019

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Table of Contents

1.0 INTRODUCTION

The Michigan Transportation Asset Management Council (TAMC) began delivering its education program and providing technical services in 2004. Since that time, Michigan Technological University has assisted with the TAMC Education Program and continues to be a logical choice for assisting with this program because of its Center for Technology & Training (CTT). The CTT is part of the Department of Civil and Environmental Engineering (CEE) and is located on Michigan Technological University's campus, which offers a wide array of resources for this project. The CTT houses various state- and federal-funded programs. For example, CTT projects funded by the Michigan Department of Transportation (MDOT) include the Michigan Local Technical Assistance Program (LTAP), Roadsoft, Michigan Engineer's Resource Library (MERL), and Bridge Load Rating technical support program. Additionally, the CTT houses the federally-funded Environmental Protection Agency's Region 5 environmental finance center—the Great Lake Environmental Infrastructure Center (GLEIC). This array of programs economizes upon professional, development, and support staff to make project delivery cost effective and time efficient. The CTT focuses its efforts specifically on projects related to local government agencies and transportation.

In 2014, the State of Michigan required continuing education hours (CEH) for professional engineers to maintain their licenses. As an education institution, the Michigan LTAP is in the position to provide CEH for professional engineers. Alongside this ability, the Michigan LTAP can encourage the appropriate TAMC classes as a means for maintaining licensure.

One of the prime challenges of effectively working with the over 600 local agencies in Michigan is keeping accurate contact information. The ability of the Michigan LTAP to contact local agency staff through e-mail, phone, and direct mail can provide a major benefit to programs that are targeted at Michigan's local agencies, like TAMC's training efforts. The Michigan LTAP maintains a state-of-the-art contact and event management database, which makes advertising and participant registration for local agency training events a very simple, cost-effective process. In addition, because LTAP is a nationally recognized program working to educate local agencies, events advertised through the Michigan LTAP can take advantage of state and national agreements between partner organizations—such as County Road Association (CRA) of Michigan, National Association of County Engineers (NACE), National Association of Counties (NACO), Michigan Township Association (MTA), American Council of Engineering Companies (ACEC), and Michigan Municipal League (MML)—for access to their contact databases. These agreements allow the Michigan LTAP access to these partner organization mail lists at no cost. Access to these same mail lists outside of LTAP partner organization agreements can have a substantial cost, sometimes as high as $0.10 to $0.20 per contact.

Events that are co-sponsored with the Michigan LTAP benefit by utilizing the wealth of local agency contact information that is stored in the Michigan LTAP contact and event management system and from the no-cost access to Michigan LTAP partner organization mail lists. They also benefit by taking advantage of the infrastructure that the Michigan LTAP has for registering and invoicing participants, event tracking, and training records retention. By not duplicating these efforts, the arrangement results in an economy of scale through cooperation among programs that educate local agency transportation staff.

Since its inception, the TAMC training program has been and continues to be coordinated as a co-sponsored training event with the Michigan LTAP.

2.0 TAMC WORK PLAN GUIDELINES

The tasks for this proposal were identified from educational priorities outlined by TAMC in the *Draft TAMC Strategic Work Program for 2020-2022* (See Appendix A). Tasks are referenced to the appropriate items in the *TAMC Strategic Work Program*.

3.0 WORK PLAN

This draft work plan is for discussion purposes only to assist TAMC in budgetary planning. It does not represent a firm quote, and it does not commit University personnel, facilities, or funds. Final terms and conditions of this sponsored activity are subject to University review and authorization of a formal proposal or agreement.

This work plan and budget are for the period beginning January 1, 2020 and ending December 31, 2020. The project is approximately $225,000. A more precise and detailed cost estimate will be provided with the final proposal should TAMC accept this scope of work at the budgetary level in Appendix B.

The work plan consists of the following major tasks in accordance with the Draft *TAMC Strategic Work Program for 2020-2022*:

- Task 1: Assist in Coordinating the Michigan Transportation Asset Management Conferences
- Task 2: Conduct Michigan Transportation Asset Management Workshops
- Task 3: Conduct Introduction to Transportation Asset Management for Local Officials Training
- Task 4: Conduct Michigan Transportation Asset Management Council PASER Training

- Task 5: Conduct Inventory Based Rating™ Training
- Task 6: Conduct Workshop on Creating Bridge Asset Management Plans
- Task 7: Conduct Workshop on Creating Pavement Asset Management Plans
- Task 8: Project Management and Reporting

A nominal registration fee will be assessed to participants for attending training events delivered under this program consistent with Michigan LTAP policy. Registering and failing to show at an event per Michigan LTAP cancelation policy will result in a fee for participants. Registration fees are calculated to break even for on-site expenses, which include consumables that participants use or take with them (such as facility rental, webinar and phone line expenses, food and refreshments, handouts, and rental of audio visual equipment). Registration fees help to offset the load on the program for on-site activities. The absence of a registration fee (i.e., free training) has been shown to increase no-shows and decrease attendance at training programs because it is assumed that "free" training has some other profit motive and requires no commitment on the part of the participant.

Participants in training events offered under this program will be issued certificates of completion for continuing education hours (CEH) required for maintaining a Michigan professional engineer license where applicable. Every attempt will be made to ensure that trainings provided in this program are eligible for CEH credit for attendees.

3.1 Task 1– Assist in Coordinating the Michigan Transportation Asset Management Conferences

Draft TAMC Strategic Work Program for 2020-2022 Item: ACE Committee Goal 3, Objective 3: Annual Educational Conference (see Appendix A).

CTT staff will participate in organizing both conferences, including participation in organization meetings, distribution of promotional material, handling of participant registration, printing of folder handouts, active facilitation of the conferences, and provision of on-site audiovisual and logistical support. CTT staff will also record audio and screen captures of presentations, which will be built into a Flash or video format that can be streamed over the web.

CTT staff will collect the registration fee set by TAMC, mail invoices, and return collected fees back to TAMC to defray on-site and facility expenses.

The currently planned events are:

Assist at one, one-day conference
Lansing, Michigan, Spring 2020

Assist at one, one-day conference
Upper Peninsula, Michigan, Fall 2020

3.2 Task 2– Conduct Michigan Transportation Asset Management Workshops

Draft TAMC Strategic Work Program for 2020-2022 for the Full Council Goal 1, Objective 3: Supporting the development of asset management methodologies (see Appendix A).

This task consists of presenting two full-day sessions of the Asset Management Workshop. This workshop has been ongoing since 2006 and has met most audience needs. Two sessions per year should be sufficient to meet the demand for new local agency employees or participants new to asset management. The locations of the workshop will be distributed statewide to minimize participant drive time.

This task does not include a budget for reimbursement for participants, RPO coordinators, TAMC members, or TAMC staff, or for any revision, editing, or enhancements to the *Asset Management Guide for Local Agencies* or presentation material.

The currently planned events are:
Conduct two, one-day sessions, Fall 2020

3.3 Task 3– Conduct Introduction to Transportation Asset Management for Local Officials and Gravel Road Basics for Elected Officials Training

Draft TAMC Strategic Work Program for 2020-2022 for the Full Council Goal 1, Objective 3: Supporting the development of asset management methodologies (see Appendix A).

This task includes presentation of five sessions of either Asset Management for Local Officials which has been offered for several years running and focuses on management of paved roads, or Gravel Roads Basics for Elected Officials, which was developed and piloted in 2018 and focuses on unpaved roads. The five sessions will be offered in any combination of these two classes that local agencies request.

Historically TAMC local elected officials training have been offered at a local agency office, with that agency offering to “host” the event. Hosted training events typically target the elected officials in the immediate jurisdictions. Hosted training events will be delivered during morning, afternoon, or evening as the site’s host agency expresses interest. In addition to hosted sessions, several “open enrollment” sessions will be planned that are not associated with a host agency. Open enrollment events will be advertised to all elected officials statewide.

This budget includes facility costs (if any), handouts, participant registration, CTT instructor time, and travel costs. This budget does not include any reimbursement for participants, RPO coordinators, TAMC members, or TAMC staff. Host agencies are responsible for break refreshments.

The currently planned events are:
Conduct five workshop sessions at approximately three-hours each.

3.4 Task 4 – Conduct TAMC PASER Training

Draft TAMC Strategic Work Program for 2020-2022 for the Full Council Goal 1, Objective 1: Surveying and reporting the condition of roads and bridges (see Appendix A).

The presentation material will be updated to reflect data collected in 2019, quality-control results, and any changes in legislation and TAMC policies. Training will also be further adapted to the use of audience response systems (I-Clickers) based on the continued success of the usage of this technology. This technology was found to engage attendees, provide instant and accurate feedback, and produce data that can be used to further assess training techniques.

Training dates will be coordinated with TAMC's data collection start date. TAMC needs to notify the CTT of any changes in its collection training requirements and policy by December 1, 2019. It is otherwise assumed that start dates and training policy will remain the same as the last approved start dates and policy.

This task includes facility costs (if any), printing of handouts, purchase of PASER Manuals, participant registration, CTT instructor time, and travel costs. This task does not include any reimbursement for participants, RPO coordinators, TAMC members, or TAMC staff.

This task includes the distribution of the Local Agency Asset Management Survey, which will be delivered in its current format to all local agency participants at the on-site PASER training sessions.

The currently planned events are:
Conduct four, three-hour distress identification webinars; conduct ten half-day on-site PASER training sessions; conduct one full-day combined PASER and distress identification workshop for newly hired staff; conduct one, two-hour webinar for RPO's and MPO's on using the Roadsoft data process.

3.5 Task 5 – Conduct Inventory Based Rating™ Training

Draft TAMC Strategic Work Program for 2020-2022 for the Full Council Goal 1, Objective 1: Surveying and reporting the condition of roads and bridges (see Appendix A).

The Inventory Based Rating™ (IBR) system for unpaved roads was developed in 2015 at the request of the TAMC. In 2016, the tools in Roadsoft were released to allow agencies to collect and analyze unpaved road condition data efficiently. In 2017, the TAMC adopted a data collection policy, which included mandatory collection of the IBR data for unpaved roads on the federal aid eligible road system that took effect in 2018. In order to collect this data, it will be necessary to train staff from agencies that own gravel roads.

This task will update and deliver training that will allow local agencies to make consistent use of the tools and systems that TAMC has developed over the years for unpaved roads and will allow them to collect data for their own use and for reporting to TAMC.

The currently planned events are:
Update and conduct three, one-hour webinars on use of the IBR system for rating unpaved roads.

3.6 Task 6 – Conduct Michigan Bridge Asset Management Workshop

Draft TAMC Strategic Work Program for 2020-2022 for the Full Council Goal 3, Objective 2: Provide training for asset management template (see Appendix A).

The Bridge Asset Management Workshop was modified during the 2016 TAMC Education work plan and was presented for the first time as part of the 2017 TAMC Education work plan. The new workshop includes two two-hour webinars that present bridge asset management principles and one five-hour on-site workshop that provides participants with a hands-on how-to session for developing an agency's bridge asset management plan. The details for the requirements of the revised workshop were outlined by the Bridge Committee.

This task will provide time and expenses for a CTT instructor to present the webinar on two occasions and workshop series on four occasions. This task does not include a budget for reimbursement for participants, RPO coordinators, TAMC members, or TAMC staff, or for any revision, editing, or enhancements to handouts or presentation material. The locations of the workshop will be distributed statewide to minimize participant drive time and to maximize attendance.

The currently planned events are:
Conduct two sets of two-hour webinars and four five-hour on-site sessions

3.7 Task 7: Conduct Workshop on Creating Pavement Asset Management Plans

Draft TAMC Strategic Work Program for 2020-2022 for the Full Council Goal 3, Objective 2: Provide training for asset management template (see Appendix A).

This task consists of presenting four full-day sessions of the Pavement Asset Management Plan Workshop and two, two-hour webinars on how to define their network in preparation for the Pavement Asset Management Plan Workshop. The Pavement Asset Management Plan Workshop was developed and piloted in 2017. Public Act 325 of 2018 makes asset management plans compulsory. Asset management plans are positive signs of implementation of asset management principles at an agency level and are considered a best practice.

This task will provide time and expenses for CTT instructors to present the webinars and workshops and update the training materials from feedback received by participants. This task also provides technical support for local agencies that have completed the workshop while working with the data-parsing tools developed for this workshop.

The currently planned events are:
Present two, two-hour webinars and four, one-day sessions

3.8 Task 8: Project Management & Reporting

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 2: Provide fiscal and budgetary accountability for TAMC. (see Appendix A).

This effort covers all management of the project, project reporting, project-specific interaction with Michigan Tech administration, and relations with the sponsor.

Monthly Reports

Monthly progress reports will include a list of trainings conducted (date, location) and an estimate of percent completion by task. Estimates of percent complete are based on aggregate hours worked—not based on budget expended—so these estimates are not intended to be used for auditing invoices by the sponsor.

Quarterly Reports

Quarterly progress reports will include trainings conducted (date, location), a cumulative list of training participants, and an estimate of percent completion by task (these estimates will not be used for auditing invoices). Quarterly reports will be submitted in place of a monthly report by the last day of the month following the end of the calendar quarter.

Annual Training Report
At the end of each calendar year, CTT staff will compile a comprehensive report that will summarize the performance of all TAMC training events. The report will include historical attendance figures as compared to the current year, spatial summary maps of attendees for the TAM conferences, and feedback received from participant evaluations.

Annual Survey of Local Agency Asset Management Implementation Report
Following the completion of PASER training, CTT staff will compile a comprehensive training report that will summarize the results of the Local Agency Asset Management Survey collected during the annual PASER collection and will compare current and historical results.

4.0 KEY PERSONNEL

Tim Colling, PhD, PE, Director – PI
Pete Torola, PE, Research Engineer II – Co-PI
Chris Gilbertson, PhD, PE, Associate Director – Co-PI

Names of Employees and Positions for this Service
Allison Berryman, Customer Svc & Data Support Specialist
Chris Codere, Sr. Project Manager, Training & Operations
Tim Colling, PhD, PE, Director – PI
Mary Crane, Sr. Software Engineer
Cynthia Elder, Workshop Coordinator
Zach Fredin, PE, Research Engineer I
Chris Gilbertson, PhD, PE, Associate Director
Andy Manty, PE, Research Engineer
Victoria Sage, MS, Technical Writer/Training Coordinator
Peter Torola, PE, Research Engineer II

Appendix A: Draft TAMC Strategic Work Program for 2020-2022

Appendix B: Budget and Cost Derivation MDOT Form 5101A-1

Will be included in final proposal

Appendix C: Payroll Verification

Will be included in final proposal

Proposal Title:

DRAFT 2020 Transportation Asset Management Council Technical Assistance Activities Program Work Plan

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Date Submitted:

August 9, 2019

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Table of Contents

1.0 INTRODUCTION

The Michigan Transportation Asset Management Council (TAMC) began delivering its education program and providing technical services in 2004. Since that time, the Center for Technology &Training (CTT) has assisted the TAMC with its education programs and technical assistance services. The CTT is a logical choice for this program because, in addition to the TAMC Education Program, the CTT houses other programs funded by the Michigan Department of Transportation (MDOT) including the Michigan Local Technical Assistance Program (LTAP), Roadsoft, Michigan Engineer's Resource Library (MERL), and the Bridge Load Rating Program. This array of programs economizes upon professional, development, and support staff to make project delivery cost effective. The CTT focuses its efforts specifically on projects related to local government agencies and transportation. The CTT is part of the Civil and Environmental Engineering (CEE) department on Michigan Technological University's campus.

2.0 TAMC WORK PLAN GUIDELINES

The tasks for this proposal were identified from educational priorities outlined by TAMC in the *Draft TAMC Strategic Work Program for 2020-2022* (See Appendix A). Tasks are referenced to the appropriate items in the *TAMC Strategic Work Program*.

3.0 WORK PLAN

This draft work plan is for discussion purposes only to assist TAMC in budgetary planning. It does not represent a firm quote, and it does not commit University personnel, facilities, or funds. Final terms and conditions of this sponsored activity are subject to University review and authorization of a formal proposal or agreement.

This work plan and budget is for the period beginning October 1, 2019 and ending September 30, 2020. The project is approximately $115,000. A more precise and detailed cost estimate will be provided with the final proposal should TAMC accept this scope of work at the budgetary level in Appendix B.

The work plan consists of the following major tasks in accordance with the Draft *TAMC Strategic Work Program for 2020-2022*:

- Task 1: Maintain Roadsoft –IRT Data Submission Protocols

- Task 2: Maintenance of TAMC PASER Training Certification Testing Instruments and Records
- Task 3: Traffic Signal Study
- Task 4: Treatment Cost Query Process
- Task 5: Undefined Staff Support
- Task 6: Attend and Participate in TAMC Council Meetings
- Task 7: Attend and Participate in TAMC Committee Meetings
- Task 8: Project Management and Monthly Reporting

3.1 Task 1: Maintain Roadsoft – IRT Data Submission Protocols

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 1, Objective 1: Surveying and reporting the condition of roads and bridges. (see Appendix A).

TAMC dedicates a significant portion of its efforts to collecting the pavement data and construction history information (completed and planned investments) necessary for driving asset management processes at the local, regional, and state levels of government. TAMC data collection activities require sharing of data between these three levels of government in a meaningful format for each stakeholder. To facilitate this data collection, sharing, and reporting, the TAMC relies on interfaces between Roadsoft (asset management software) developed by the Center for Technology & Training and the Investment Reporting Tool (IRT) developed by the Center for Shared Solutions (CSS). Development for both of these tools is ongoing as user requirements change, software interfaces and underlying data systems are maintained, and data collection policies are modified.

The data transfer protocols and interactivity between Roadsoft and the IRT need to be updated and tested annually to ensure that quality data are passed between the two systems and that changes or updates during the prior year have not resulted in data transfer irregularities. This task should be completed close to the start of data collection activities in April, but the development cycle and project load for CSS will dictate. This task will include annual testing and verification of the Roadsoft export of PASER data to the IRT, and import and export of planned and completed treatments (investment reporting) from Roadsoft to the IRT and from the IRT to Roadsoft. Currently with the recent rewrite of the IRT, the functionality does not exist in the IRT to support planned and completed data transfers, however when the IRT allows this functionality the CTT team will actively implement any changes necessary to make Roadsoft compatible with the new IRT transfer. The task also includes a budget for making small changes to the import and export protocols should they be necessary; however, at the time of the submission of this proposal, it is not clear what the extent the changes will be.

3.2 Task 2: Maintenance of TAMC PASER Training Certification Testing Instruments and Records.

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 1, Objective 1: Surveying and reporting the condition of roads and bridges. (see Appendix A).

In 2012, the TAMC instituted a PASER Training certification process, which reduced the need for qualified raters to attend training every year. As part of this certification process, raters are required to have a minimum level of past training attendance and pass a knowledge-based exam. During the 2012 work program, testing instruments (i.e., written test and associated slideshow of testing graphics) were created and tested on a control group at the CTT.

This task includes modification to the existing testing materials to be sure that past testing instruments are not identical to current testing instruments for the upcoming year. The task will also cover administration of the certification program, tracking and notification of eligible participants, and maintenance of certification records for the roughly 400 participants in the PASER Training program. The time needed accomplish this task before beginning training efforts requires this task to be present in the TAMC Activities work program.

3.3 Task 3: Signal Study

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 1, Objective 3: Supporting the development of appropriate asset management methodologies. (see Appendix A).

Public Act 325 of 2018 provided a specific charge for TAMC to oversee *"…assets that impact system performance, safety, or risk management, including signals and culverts."* One of the largest challenges of TAMC working with traffic signal assets is determining their overall population in Michigan's 533 cities and villages, and 83 counties. The number of traffic signals and the cost associated with installing them has a large impact on what level of oversight TAMC may exercise. If, for example, signals only comprise a small portion of the total cost of local infrastructure, TAMC may elect to collect minimal data on them. Establishing an estimate of the total local agency owned signal population will require collecting data from a sample of the more than 600 local agencies that own roads in Michigan. Electronic or mailed surveys are attractive data gathering methods due to their relatively low workload for researchers, however, surveys often have a very low return rate, and provide little evidence of the quality of data returned.

In completion of this task, CTT staff will contact by phone or in person staff from each of the 83 counties, and 39 largest cities to verbally collect data on the total number of signalized intersections that they are responsible for. Where agencies are non-responsive or are unsure of their number of signals, other methods of estimation will be used, such as estimation from

peers, estimation from demographical factors, or visual observation from aerial or street level photography.

CTT will collect a sample of signal data from smaller cities using the agency's total road miles to group them as a cohort. Figure 1 illustrates the distribution of Michigan cities and villages based on their road mileage. Research staff will start with large mileage cohorts first, and will continue working down the road mileage scale until a reasonable endpoint is found where few signals are present within the cohort. Currently that endpoint is expected around 40 miles of road. CTT will use this data to determine an estimate of the total number of signalized intersections maintained by local agencies.

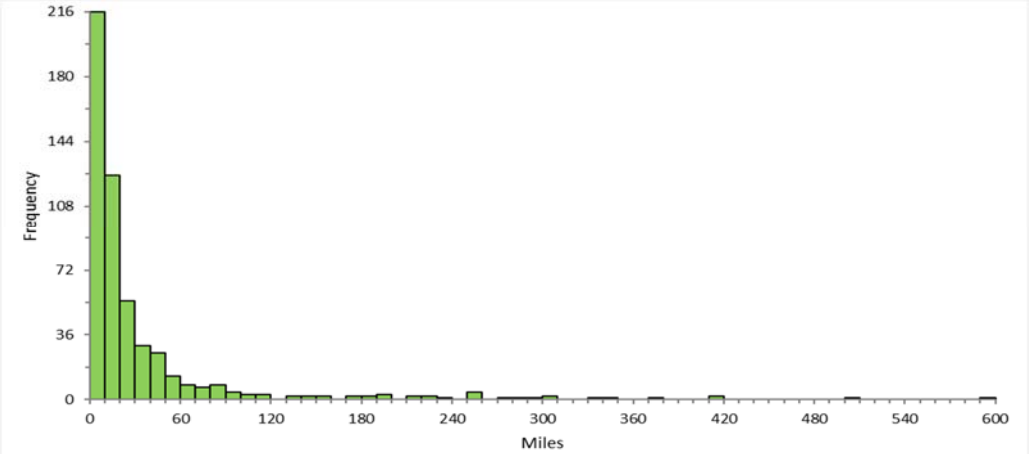

Figure 1: Total centerline road miles for Michigan cities and villages plotted as a function of the number of agencies (frequency). For clarity the city of Detroit is excluded from this graph due to its large number of miles (2588 miles).

CTT will conduct a cost study to determine project cost for signal replacement and new installation projects. Cost data will be collected from bid tabulations from MDOT's bid letting system, and from vendor and local agency subject matter experts.

The findings from this study will be presented in a summary report which will include proposed next steps for TAMC to consider for addressing signal data.

3.4 Task 4: Develop Treatment Cost Query Process

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 1, Objective 3: Supporting the development of appropriate asset management methodologies. (see Appendix A).

In 2018 CTT completed a study evaluating Investment reporting data for 2016 and 2017. The data generated from this study can be used to inform modeling efforts at the state and local level. This data will also be instrumental in assisting local agencies in developing their own asset management plans since treatment cost is a main input. The Draft TAMC Strategic Work Program for 2020-2022 proposed to update this cost analysis annually.

In completion of this task CTT will work with the Center for Shared Solutions to create a set of procedural steps to process investment reporting data to reproduce data similar to the 2018 investment reporting study with limited staff intervention. The 2016 and 2017 investment reporting data will be used as a test data set to verify that the developed procedure for processing investment data will produce results similar to the investment reporting study. This will greatly speed the generation of routine cost and investment volume information for TAMC's use, minimizing the need for more detailed studies.

This task will require effort on the part of the Center for Shared Solutions, so a budget for their involvement will be necessary in their work plan.

3.5 Task 5: Undefined Staff Support

This task will support any item in the *Draft TAMC Strategic Work Program for 2020-2022* but the individual goal or objective cannot be defined at this time since this work item is on an as needed basis.

This task provides support to the TAMC for items that cannot be identified at this time but are deemed critical to be completed in a short timeframe. Historically, this task has covered data management or critical changes to programs. This task allocates approximately 150 hours of staff time to tasks as requested by the Council or its sub-committees. Specific work activities are determined through discussion with the sponsor's project manager, the TAMC staff coordinator, or the TAMC chairperson.

3.6 Task 6: Attend and Participate in TAMC Council Meetings

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 3: Coordination of asset management with partner organizations. (see Appendix A).

This task includes attendance at TAMC Council Meetings to brief members on activity to date, to participate in on-site work, and to take direction from council members and staff. This task also includes time and expenses for CTT staff to attend four on-site 'person-meetings'[1] and six

[1] A "person-meeting" is one person attending one meeting

conference-call meetings[2]. Discussion with the sponsor's project manager and the TAMC staff coordinator will determine which meetings will be attended and which personnel will attend.

3.7 Task 7: Attend and Participate in TAMC Committee Meetings

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 3: Coordination of asset management with partner organizations. (see Appendix A).

This task includes attendance at TAMC Committee Meetings (including monthly meetings with RPO and MPO staff to brief members on activity to date), participation in on-site work, and taking direction from TAMC members and staff. This task also includes time and expenses for the CTT staff to attend four on-site 'person-meetings'[1] and eight conference-call meetings[2]. Discussion with the sponsor's project manager and the TAMC staff coordinator will determine which meetings will be attended and which personnel will attend.

3.8 Task 8: Project Management and Monthly Reporting

Draft TAMC Strategic Work Program for 2020-2022 Item: TAMC Goal 2: Provide fiscal and budgetary accountability for TAMC. (see Appendix A).

This task covers all management of the project, project reporting, and project-specific interaction with Michigan Technological University administration and relations with the sponsor.

Monthly progress reports will include a list of activities conducted and an estimate of percent completion by task. Estimates of percent complete are based on aggregate hours worked, not based on budget expended; so, these estimates are not intended to be used for auditing invoices by the sponsor.

4.0 KEY PERSONNEL

Tim Colling, PhD, PE, Director – PI
Mary Crane, Sr. Software Engineer– Co-PI

Names of Employees and Positions for this Service
Tim Colling, PhD, PE, Director
Gary Schlaff, Sr. Project Manager, Development & IT

[2] As a cost saving measure, the number of on-site meetings and associated travel cost have been reduced, with the assumption that teleconference meetings will meet the TAMC's needs as they have over the last several years.

Chris Codere, Sr. Project Manager, Training & Operations
Mary Crane, Sr. Software Engineer
Cynthia Elder, Workshop Coordinator
Chris Gilbertson, PhD, PE, Sr. Research Engineer
Andrew Manty, PE, Research Engineer
Luke Peterson, Principle Programmer
Scott Bershing, Technical Writer
Victoria Sage, MS, Technical Writer
Peter Torola, PE, Research Engineer II

Appendix A: Draft TAMC Strategic Work Program for 2020-2022

Appendix B: Budget and Cost Derivation MDOT Form 5101A-1

Will be included in final proposal

Appendix C: Payroll Verification

Will be included in final proposal

Proposal Title:

DRAFT 2020 Transportation Asset Management Council Culvert Condition Assessment Work Plan

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Date Submitted:

August 19, 2019

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1.0 INTRODUCTION

The Michigan Transportation Asset Management Council (TAMC) began delivering its education program and providing technical services in 2004. Since that time, Michigan Technological University has assisted with the TAMC Education Program and continues to be a logical choice for assisting with this program because of its Center for Technology & Training (CTT). The CTT is part of the Department of Civil and Environmental Engineering (CEE) and is located on Michigan Technological University's campus, which offers a wide array of resources for this project. The CTT houses various state- and federal-funded programs. For example, CTT projects funded by the Michigan Department of Transportation (MDOT) include the Michigan Local Technical Assistance Program (LTAP), Roadsoft, Michigan Engineer's Resource Library (MERL), and Bridge Load Rating technical support program. Additionally, the CTT houses the federally-funded Environmental Protection Agency's Region 5 environmental finance center—the Great Lake Environmental Infrastructure Center (GLEIC). This array of programs economizes upon professional, development, and support staff to make project delivery cost effective and time efficient. The CTT focuses its efforts specifically on projects related to local government agencies and transportation.

One of the prime challenges of effectively working with the over 600 local agencies in Michigan is keeping accurate contact information. The ability of the Michigan LTAP to contact local agency staff through e-mail, phone, and direct mail can provide a major benefit to programs that are targeted at Michigan's local agencies, like TAMC's training efforts. The Michigan LTAP maintains a state-of-the-art contact and event management database, which makes advertising and participant registration for local agency training events a very simple, cost-effective process. In addition, because LTAP is a nationally recognized program working to educate local agencies, events advertised through the Michigan LTAP can take advantage of state and national agreements between partner organizations—such as County Road Association (CRA) of Michigan, National Association of County Engineers (NACE), National Association of Counties (NACO), Michigan Township Association (MTA), American Council of Engineering Companies (ACEC), and Michigan Municipal League (MML)—for access to their contact databases. These agreements allow the Michigan LTAP access to these partner organization mail lists at no cost. Access to these same mail lists outside of LTAP partner organization agreements can have a substantial cost, sometimes as high as $0.10 to $0.20 per contact.

Events that are co-sponsored with the Michigan LTAP benefit by utilizing the wealth of local agency contact information that is stored in the Michigan LTAP contact and event management system and from the no-cost access to Michigan LTAP partner organization mail lists. They also benefit by taking advantage of the infrastructure that the Michigan LTAP has for registering and invoicing participants, event tracking, and training records retention. By not duplicating these

efforts, the arrangement results in an economy of scale through cooperation among programs that educate local agency transportation staff.

Since its inception, the TAMC training program has been and continues to be coordinated as a co-sponsored training event with the Michigan LTAP.

2.0 TAMC WORK PLAN GUIDELINES

At the request of TAMC this proposal has been separated from other project work that CTT has with TAMC in order to get separate and discrete financial information relating to the completion of these tasks.

The tasks for this proposal were identified from educational priorities outlined by TAMC in the Draft TAMC Strategic Work Program for 2020-2022 (See Appendix A). Tasks are referenced to the appropriate items in the TAMC Strategic Work Program.

3.0 WORK PLAN

This draft work plan is for discussion purposes only to assist TAMC in budgetary planning. It does not represent a firm quote, and it does not commit University personnel, facilities, or funds. Final terms and conditions of this sponsored activity are subject to University review and authorization of a formal proposal or agreement.

This work plan and budget are for the period beginning October 1, 2019 and ending September 30, 2020. The project is approximately $56,000. A more precise and detailed cost estimate will be provided with the final proposal should TAMC accept this scope of work at the budgetary level in Appendix B.

The work plan consists of the following major tasks:

- Task 1: Conduct Culvert Condition Assessment Training
- Task 2: Evaluate Culvert Data from Combined Sources
- Task 3: Culvert Condition Assessment System Translation

A nominal registration fee will be assessed to participants for attending training events delivered under this program consistent with Michigan LTAP policy. Registering and failing to show at an event per Michigan LTAP cancelation policy will result in a fee for participants. Registration fees are calculated to break even for on-site expenses, which include consumables that participants use or take with them (such as facility rental, webinar and phone line

expenses, food and refreshments, handouts, and rental of audio visual equipment). Registration fees help to offset the load on the program for on-site activities. The absence of a registration fee (i.e., free training) has been shown to increase no-shows and decrease attendance at training programs because it is assumed that "free" training has some other profit motive and requires no commitment on the part of the participant.

Participants in training events offered under this program will be issued certificates of completion for continuing education hours (CEH) required for maintaining a Michigan professional engineer license where applicable. Every attempt will be made to ensure that trainings provided in this program are eligible for CEH credit for attendees.

Task 1 – Culvert Data Collection and Condition Assessment Training

Draft TAMC Strategic Work Program for 2020-2022 Item: Bridge Committee Goal 2, Objective 4: Provide Tools and Training for Culvert Data Collection (see Appendix A).

This task includes presentation of five webinar sessions of approximately three-hours each. The training modules will provide detailed information on the three primary aspects of collecting culvert inventory and condition data: equipment, data collection, and data validation.

Two of the webinars will be focused on data collection and data handling. Topics for the training will include: recommended equipment for culvert data collection; completing data collection with Roadsoft using visual walk-throughs of the software to explain the processes needed to collect each piece of information, and the overall process of data management and quality control.

The remaining three webinars will teach participants the technical points of assessing culvert condition using the modified FHWA Culvert Inspection System. The training will present example culverts and allow participants to rate them using the condition assessment system. The training will include at least one example of every major culvert material type along with a variety of culvert conditions. Instructors will provide guidance on the correct use of the condition evaluation system and discuss each example with reference to the culvert rating table provided in the system.

Task 2 – Evaluate Culvert Data from Combined Source

Draft TAMC Strategic Work Program for 2020-2022 Item: Bridge Committee Goal 2, Objective 4: Provide Tools and Training for Culvert Data Collection (see Appendix A).

Regional culvert data is collected and stored locally from a variety of sources throughout the state and there is a desire by the parties collecting data to share this data for their combined

interests. Data is known to exist from the Michigan Department of Natural Resources (MDNR), the Michigan Department of Transportation (MDOT), and the Transportation Asset Management Council (TAMC).

The MDNR facilitated the collection of culvert data from the perspective of gathering information on aquatic habitat in 2013. MDOT gathered culvert data as part of a pilot study in 2016 and 2017. In 2018 TAMC developed a pilot program for the inventory and condition evaluation of local agency culverts. Each of these studies produced data for very specific purposes, some of this data is potentially of use to other agencies and some may not be. This task will study the existing data from the three main sources; MDNR, MDOT, and TAMC, and look at how this data could be combined to create a statewide culvert inventory. Figure 1 shows a comparison between some of the data collected during the TAMC pilot and the MDNR study. While some of the data can be shared (green column) other data is unique to each agency. Each agency also had different data collecting schema, for example condition evaluation through the TAMC pilot looked at several structural elements to determine the overall condition of the culvert on a scale from 1 to 10 whereas a generalized good/fair/poor evaluation was sufficient for the MDNR purposes.

TAMC		**MDNR**
Inventory ID	Global Inventory ID	Inventory ID
Condition Evaluation (FHWA)	GPS Coordinates	General Condition (good/fair/poor)
Skew Angle	Ownership	Number of Culverts
	Year Inventoried	Inlet Type
	Shape	Outlet Type
	Material Type	Structure Substrate
	Length	Structure Interior
	Width/Height	Percentage Plugged
	Roadway Surface Type	Percentage Crushed
	Depth of Cover	Perched/Not Perched
		Water Depth
		Embedded Depth of Structure
		Water Velocity
		Streem Flow
		Water Depth
		Bankfull Width
		Wetted Width
		Dominant substrate
		Road Condition
		Road Width
		Location of Low Point in Road
		Runoff Path
		Slope
		Vegetation
		Erosion

The largest immediate concern with combining these data sets is the issue of the same (duplicate) culvert appearing in two or more of the datasets since the DNR dataset is not limited by jurisdictional boundaries. Duplicate culverts can be hard to identify simply on spatial

information alone, since the error involved in geographical location data may be as much as 30 feet. Additionally, different standards in precision can also make identifying duplicates difficult.

Duplicate culverts may represent one of three real life scenarios which may or may not be relevant:

1) A single culvert located two times respectively in each system where measurement error makes them appear as separate assets. In this case the duplicate should be removed.
2) A single culvert that has been replaced and exists in one or more systems before and after replacement. In this case the older (removed culvert) data should be removed or marked as deprecated.
3) A multiple barrel culvert where each barrel is located separately. This case may need intervention or a case by case review to determine the appropriate action.

This task will attempt to identify duplicate culverts in each of the datasets based on a comparison of other fields in the inventory, collection date, location data, and any other information present. The final output for this task will be a listing of known duplicates and suspected duplicates in each system. This task will be the first step in developing a state level shared map or dashboard for culverts.

It is likely that the question over whether several sources of data represent the same culvert or multiple culverts will have to be resolved by a site visit. These will be flagged so that a future inspector can resolve the question and assign a global inventory ID at a future date. No site work is planned for this task.

It is expected that this task will help take the first steps at establishing a protocol for sharing culvert data amongst multiple agencies while maintaining individual agency needs, each agency's standards for data collection, and the ability of an agency to update and manage their data with respect to shared data. Concurrently with the completion of this task TAMC and the DNR or other related entities can begin to establish a data sharing protocol in an attempt to answer the following questions for any future incoming data:

- When data comes from multiple sources whose data receives priority?
- Who has the ownership (ability to modify) shared data?
- Have several data sources identified the same culvert or different culverts at the same location?

Task 3 – Culvert Condition Assessment System Translation

Draft TAMC Strategic Work Program for 2020-2022 for the Bridge Committee Goal 2, Objective 5: Incorporate culvert inventory and condition data into TAMC dashboards (see Appendix A).

There are currently two culvert condition assessment systems in use in Michigan. Most local agencies use the modified FHWA Culvert Inspection System used in Roadsoft. MDOT has its own condition assessment system that was developed in house for its own purposes. Both systems appear to meet the need of the respective users, and each group has a significant investment in historical data. Additionally, there is a new rating standard that is currently under development at the federal level through the American Association of State Highway Transportation Officials (AASHTO). Generally speaking, these three systems have the same function, assess similar defects, and have a similar scale direction, however the systems are not identical and therefor pose a problem when displaying data from numerous sources. Regardless of whether TAMC decides to collect data in all or only one of these three system it will need a method for translating culvert condition data to a common scale. This task will develop a translation method for relating data from the MDOT Culvert Assessment System with the Modified FHWA Culvert Inspection System based on inspection of the rating guidance in each element, for each rating level.

The two current rating systems, those used by the TAMC and MDOT for their respective pilots, make use of an elemental approach to break the individual culvert system down into specific elements that are then rated on a numeric scale based on a descriptive list of observable characteristics. These two systems are unique and while they contain some mutual elements they each contain some elements and descriptions not used by the other. It is anticipated that a direct translation from one system to another will not be possible nor would it serve the needs of the respective data owners. However, a comparison of the condition evaluation descriptions for common elements could be used to classify data from both systems into a good/fair/poor/critical system that could be used for making generalized comparisons and to display data on a culvert dashboard. It is not anticipated that a single culvert would be subject to condition evaluation by both MDOT and a local agency so each culvert would continue to be evaluated according to the needs of the culvert owner, however, this process would allow for the creation of state-wide culvert condition dashboards while still providing the culvert owners the specific information needed for their individual asset management plans and decision making.

Two examples are shown below, the Modified FHWA (TAMC) condition evaluation and the MDOT condition evaluation. Comparison of each method shows that a comparison can be made if each individual system is simplified into good/fair/poor/critical descriptions.

Modified FHWA (TAMC)	Excellent	Very Good	Good	Satisfactory	Fair	Poor	Serious	Critical	Imminent Failure	Imminent Failure
	10	9	8	7	6	5	4	3	2	1
Closed Bottom Invert Deterioration	New condition; galvanizing intact; no corrosion.	Discoloration of surface. Galvanizing partially gone along invert. No layers of rust.	Discoloration of surface. Galvanizing gone along invert but no layers of rust. Minor section loss at ends of pipe not located beneath roadway.	Galvanizing gone along invert with layers of rust. Moderate section loss at ends of pipe not located beneath roadway. Moderate section loss: Less than 4% of invert area.	Heavy rust and scale throughout. Heavy section loss with perforations in invert not located under the roadway. Heavy section loss: Up to 10% of invert area.	Extensive heavy rust and scaling throughout. Perforations throughout invert with an area less than 20% of invert area. Overall thin metal, which allows for an easy puncture with chipping hammer.	Extensive heavy rust and scaling throughout. Perforations throughout invert with an area less than 25% of invert area.	Perforations throughout invert with an area greater than 25% of invert area.	Pipe partially collapsed.	Total failure of pipe.
MDOT		Good	Good	Fair	Fair	Poor	Poor	Critical	Critical	Critical
		9	8	7	6	5	4	3	2	1
Invert Deterioration (Metal)		Little or no surface rust or coating loss	Little or no surface rust or coating loss	General corrosion, scaling, or pitting but significant remaining metal section.	General corrosion, scaling, or pitting but significant remaining metal section.	Perforations visible or easily made by hammer test strike	Perforations visible or easily made by hammer test strike	Significant section loss in invert beyond perforations resulting in voids beneath invert and/or roadway/embankment damage.	Significant section loss in invert beyond perforations resulting in voids beneath invert and/or roadway/embankment damage.	Significant section loss in invert beyond perforations resulting in voids beneath invert and/or roadway/embankment damage.

Modified FHWA (TAMC)	Excellent	Very Good	Good	Satisfactory	Fair	Poor	Serious	Critical	Imminent Failure	Imminent Failure
	10	9	8	7	6	5	4	3	2	1
Pipe Joints or Seams	Straight line between sections.	No settlement or misalignment. Tight with no defects apparent.	Minor misalignment at joints. Minor settlement. Distress to pipe material adjacent to joint.	Misalignment of joints but no infiltration. Settlement. Dislocated end section. Extensive areas of shallow deterioration.	Joint open and allowing backfill to infiltrate. Significant cracking or buckling of pipe material. Joint offset less than 3 inches. End sections dislocated and about to drop off from main portion of the structure. Infiltration staining apparent.	Differential movement and separation of joints. Significant infiltration or exfiltration at joints. Joint offset less than 4 inches. Voids seen in fill through offset joints. End sections dropped off at inlet.	Significant openings. Dislocated joints at several locations exposing fill material with joint offsets greater than 4 inches. Infiltration or exfiltration causing misalignment of pipe and settlement or depressions in roadway. Large voids seen in fill through offset joints.	Culvert not functioning due to alignment problems throughout. Large voids seen in fill through offset joints.	Pipe partially collapsed or collapse is imminent.	Total failure of pipe.
MDOT		Good	Good	Fair	Fair	Poor	Poor	Critical	Critical	Critical
		9	8	7	6	5	4	3	2	1
Joints		No gaps	No gaps	Open with minor infil/exfil of water and/or soil	Open with minor infil/exfil of water and/or soil	Open or displaced with significant infil/exfil of soil and water. Voids visible	Open or displaced with significant infil/exfil of soil and water. Voids visible	Open or displaced with significant infiltration of soil with accompanying roadway damage	Open or displaced with significant infiltration of soil with accompanying roadway damage	Open or displaced with significant infiltration of soil with accompanying roadway damage

It should be noted that while the Modified FHWA (TAMC) approach clearly identifies how the condition evaluation of individual elements becomes an overall rating this is not clear for the MDOT system. The algorithm used by MDOT to determine the overall rating would have to be provided or the data comparisons would have to remain at the elemental level.

The final product for this task will be a series of mapping tables from one rating system to the other in Good-Fair-Poor-Critical groupings which will assist in creating a state level culvert inventory with broad condition data.

4.0 KEY PERSONNEL

Chris Gilbertson, PhD, PE, Associate Director – PI
Tim Colling, PhD, PE, Director – Co-PI

Names of Employees and Positions for this Service

Allison Berryman, Customer Svc & Data Support Specialist
Chris Codere, Sr. Project Manager, Training & Operations

Tim Colling, PhD, PE, Director – PI
Mary Crane, Sr. Software Engineer
Cynthia Elder, Workshop Coordinator
Zach Fredin, PE, Research Engineer I
Chris Gilbertson, PhD, PE, Associate Director
Andy Manty, PE, Research Engineer
Victoria Sage, MS, Technical Writer/Training Coordinator
Peter Torola, PE, Research Engineer II

Appendix A: Transportation Asset Management Council 2017-2019 Work Program.

Appendix B: Budget and Cost Derivation MDOT Form 5101A-1

Appendix C: Payroll Verification

ASSET MANAGEMENT

The resources allocated to the Metropolitan/Regional Planning Organization (MPO/RPO) from the Transportation Asset Management Council (TAMC) annual budget shall be utilized to assist in the completion of the TAMC Work Program. All work shall be consistent with the policies and priorities established by the TAMC. All invoices submitted for reimbursement of Asset Management activities shall utilize Michigan Department of Transportation (MDOT) standard invoice forms and include the required information for processing. The MPO/RPO shall complete the required products and perform tasks according to the timeframes and directives established within TAMC's data collection policies, which are located on the TAMC website (http://tamc.mcgi.state.mi.us/TAMC/#/aboutus). The MPO/RPO will emphasize these tasks to support the top 125 Public Act 51 agencies (agencies that certify under Public Act 51 a minimum of 100 centerline miles of road) within the planning area when resources are limited. The activities eligible for TAMC reimbursement include the following:

TASKS

I. Training Activities
   A. Attendance at training seminar(s) on the use of Pavement Surface Evaluation and Rating (PASER) and Inventory-based Rating System for unpaved roadways.
   B. Represent MPO/RPO at TAMC-sponsored conferences and seminars, including attending either the Spring or Fall TAMC Conference.
   C. Attend TAMC-sponsored Investment Reporting Tool (IRT) training seminars.
   D. Attend TAMC-sponsored Asset Management Plan Development training seminars.

II. Data Collection Participation and Coordination
   A. Federal Aid System:

      1. Organize schedules with Public Act 51 agencies within MPO/RPO's boundary for participating in Federal Aid data collection efforts; ensure all participants of data collection have access to State of Michigan travel reimbursement rates.
      2. Coordinate, participate and facilitate road surface data collection on approximately one-half of the Federal Aid System in accordance with the TAMC Policy for the Collection of Roadway Condition Data on Federal Aid Eligible Roads and Streets.
      3. Collect unpaved roadway condition data on approximately half of any unpaved Federal Aid eligible roadways using the Inventory-based Rating System developed by the Michigan Technological University's Center for Technology and Training.

   B. Non-Federal Aid System:

      1. The RPO/MPO may allocate reimbursements for Non-Federal Aid data collection to Public Act 51 agencies according to the resources available to them in the manner that best reflects the priorities of their area and supports the TAMC work.

2. Coordinate Non-Federal Aid data collection cycles with Public Act 51 agencies with an emphasis on the top 125 agencies.
3. Ensure all participants of data collection understand procedures for data sharing with TAMC as well as TAMC policy and procedures for collecting Non-Federal Aid data.
4. Participate and perform data collection with Public Act 51 agencies on an as-needed basis for the data collection of Non-Federal Aid roads when requested.

III. Equipment

A. Ensure rating teams have the necessary tools to complete the federal aid data collection activity by maintaining a laptop compatible with the Laptop Data Collector and Roadsoft programs, a functioning Global Positioning System (GPS) unit, and other required hardware in good working order.

B. Communicate any equipment needs and purchases with the TAMC Coordinator; laptops are eligible for replacement on a three-year cycle.

IV. Data Submission

A. Develop and maintain technical capability to manage regional Roadsoft databases and the Laptop Data Collector program; maintain a regional Roadsoft database that is accurate and consistent with local agency data sets.
B. Coordinate Quality Assurance/Quality Control activities and data submission tasks according to protocols established in TAMC Data Collection Policies for Federal Aid and Non-Federal Aid Roads.
C. Monitor and report status of data collection efforts to TAMC Asset Management Coordinator through monthly coordinator calls and/or monthly or quarterly program updates that are mailed with invoices.
D. Provide links on agency websites and reports to the TAMC website, interactive maps and dashboards for the dissemination of roadway data.

V. Asset Management Planning

A. Participate and attend TAMC-sponsored training and workshops in order to provide technical support for Asset Management Plan development activities.
B. Provide an annual reporting of the status of Public Act 51 agency Asset Management Plans and keep abreast of the status of these plans for updates and revision.
C. Provide technical assistance and training funds to Public Act 51 agencies during the development of local Asset Management Plans using TAMC templates when applicable; coordinate these tasks with an emphasis on the Top 125 agencies.

VI. Technical Assistance

A. Provide technical assistance to local agencies in using the TAMC reporting tools for planned and completed infrastructure investments or any other TAMC Work Program Activity.
B. Integrate PASER ratings and asset management into project selection criteria:
    1. Analyze data and develop road preservation scenarios.
    2. Analyze performance of implemented projects.

VII. Culvert Mapping Pilot

A. Provide administrative and technical assistance to Public Act 51 agencies and MDOT

for reimbursement of TAMC funds for participation in the 2018 TAMC Culvert Mapping Pilot project.

B. Utilize TAMC reporting forms to communicate progress and expenditures of Public Act 51 agencies to assist TAMC in the Culvert Mapping Pilot Report.

Required Products

I. PASER data for Federal Aid System submitted to TAMC via the IRT.
II. PASER data for Non-Federal Aid System submitted to TAMC via the IRT.
III. Quarterly or monthly activities reports submitted with invoices to TAMC Coordinator.
IV. Create an Annual Report of Asset Management program activities as well as a summary of annual PASER condition data by local agency, functional classification, and Public Act 51 Legal System; provide links to the Regional Annual Report on agency website and submit copies to TAMC Coordinator by April 1 of each year.
V. Prepare a draft status report of Public Act 51 agency Asset Management activities and plans within MPO/RPO boundary by September 30 of each year.