



Michigan  
Transportation Asset  
Management Council

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# 2021-2022-2023

## Strategic Work Program

### **Michigan Transportation Asset Management Council**

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**Michigan Transportation Asset Management Council  
2021 – 2023 Strategic Work Program**

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# Michigan Transportation Asset Management Council 2021 – 2023 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 2021 - 2023.

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### **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 and PA 506 of 2012; PA 323 and PA 325 of 2018; and PA 152, PA 153 and PA 164 of 2020. 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));

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- 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

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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) budgets of 2018 through 2021 provided \$1,876,400 to TAMC. At this time, it is anticipated that the FY2022 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 Budgets from FY2020-2022.*

### **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.

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### 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

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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.



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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 FY2021 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.*

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### 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 2021 Education Work Plan, Appendix H contains the 2021 Technical Assistance Activities Work Plan.*

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## TAMC Goals & Objectives 2021-2023

### 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. As with the previous session, 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.

The most recent TAMC Strategic Planning Session was held on September 9, 2020. This session included review of recent amendments to Public Act 51, including Michigan House Bills 4965, House Bill 4966 and House Bill 4971, which would later become PA 152, PA 153 and PA 164 of 2020. Again, outcomes of the 2020 TAMC 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 through 2020.

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## 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

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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.

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### 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.
4. Review monthly on the number and compliance status of local agency submittal of asset management plans.
5. Recommend technology that may expedite data collection for PA 325 requirements, including the TAMC Investment Reporting Tool application.
6. 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.

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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.

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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.



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### 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.
7. Identify opportunities to provide technical support and data collection resources for Michigan's smallest road-owning agencies.
8. Study industry examples of pavement condition data gathered through alternative processes.

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.

## Michigan Transportation Asset Management Council 2021 – 2023 Strategic Work Program

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.

**Michigan Transportation Asset Management Council  
2021 – 2023 Strategic Work Program**

**APPENDICES**

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

## Public Act 51 & TAMC Related Legislation Links

All links below are provided by the State of Michigan Legislature's [Michigan Bill Search](#) application, as accessed on December 23, 2020. Public Act 51 of 1951 is the guiding legislation to all roads and highways funding and reporting requirements. The remainder of public acts related to TAMC are amendments to Public Act 51 of 1951 unless otherwise noted.

[Public Act 51 of 1951](#) – [State Trunk Line Highway System](#)

[Public Act 499 of 2002](#) – [Creation of Transportation Asset Management Council](#)

[Public Act 338 of 2006](#)

[Public Act 199 of 2007](#)

[Public Act 257 of 2010](#)

[Public Act 298 of 2012](#)

[Public Act 506 of 2012](#)

[Public Act 323 of 2018](#) – Creation of [Michigan Infrastructure Council](#)

[Public Act 324 of 2018](#) – [Amendment to Public Act 451 of 1994 Natural Resources and Environmental Protection: Creation of Water Asset Management Council](#)

[Public Act 325 of 2018](#)

[Public Act 152 of 2020](#)

[Public Act 153 of 2020](#)

[Public Act 164 of 2020](#)



## Bylaws of the Michigan Transportation Asset Management Council

As Last Amended by TAMC on February 5, 2020.

1. **Goal Statement:** The Transportation Asset Management Council will develop and support excellence in managing Michigan's transportation assets by:
  - a. Advising the legislature, the State Transportation Commission, the Michigan Infrastructure Council, transportation committees, and others.
  - b. Promoting asset management principles.
  - c. Providing tools and practices for road agencies.
  - d. Collaborate and coordinate with Water Asset Management Council and other asset owners.
  
2. **Membership, Chairperson, and Committees:**
  - a. **Membership:** The Transportation Asset Management Council shall consist of ten (10) voting members appointed by the State Transportation Commission. The council shall include two (2) members from the County Road Association of Michigan, two (2) members from the Michigan Municipal League, two (2) members from the state planning and development regions, one (1) member from the Michigan Townships Association, one (1) member from the Michigan Association of Counties, and two (2) members from the Michigan Department of Transportation. Nonvoting members shall include one (1) person from the agency or office selected as the location for central data storage.
  - b. **Chairperson and Vice-chairperson:** The Chairperson shall be selected from among the voting members of the Transportation Asset Management Council.
    1. **Eligibility:** All voting members of the Transportation Asset Management Council are eligible to be Chairperson or Vice-chairperson of the Transportation Asset Management Council.
    2. **Term of Office:** The Chairperson and Vice-chairperson's Terms of Office shall be three (3) years. Officers may be reelected to additional terms by the Transportation Asset Management Council; terms may be consecutive.
    3. **Election of Officers:** Elections for Chairperson and Vice-chairperson of the Transportation Asset Management Council shall be held during the September meeting in the last year of the three (3) year term or as needed to fill a vacant officer position. Election shall be by a majority vote of the attending voting Transportation Asset Management Council members during a regular Transportation Asset Management Council meeting where a quorum is present.
    4. **Responsibility and Dismissal:** It is the responsibility of the Chairperson to chair monthly meetings, publicly represent the Transportation Asset Management Council 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 Transportation Asset Management Council may dismiss the Chairperson or Vice-chairperson by majority vote.
  - c. **Committees:** At a minimum, each voting member shall serve on one (1) Transportation Asset Management Council Committee. The Chairperson shall select Transportation Asset

Management Council members for each committee at the beginning of the Chairperson's term of office. Member assignments may be reviewed and changed by the Chairperson as necessary during the Chairperson's term of office. Each committee of the Transportation Asset Management Council 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-Transportation Asset Management Council members as non-voting advisory participants in the committees. The Transportation Asset Management Council has three permanent committees as follows:

1. Administrative, Communications and Education: Committee comprised of three (3) to five (5) Transportation Asset Management Council members that advises the Transportation Asset Management Council on matters pertaining to training, communications, education and budget.
  2. Data Committee: Committee comprised of three (3) to five (5) Transportation Asset Management Council members that advises the Transportation Asset Management Council on matters pertaining to data collection, quality, and analysis.
  3. Bridge Committee: Committee comprised of three (3) to five (5) Transportation Asset Management Council members that advises the Transportation Asset Management Council on matters pertaining to application of asset management principles to bridges and the creation of guidance materials and training program.
  - d. Michigan Infrastructure Council and Water Asset Management Council: The Chairperson shall represent the Transportation Asset Management Council at regular meetings of the Michigan Infrastructure Council. In the absence of the Chairperson, the Vice-chairperson shall attend Michigan Infrastructure Council meetings. The Transportation Asset Management Council Chairperson and Vice-chairperson shall also represent the Transportation Asset Management Council on any standing coordination committees of the Michigan Infrastructure Council and Water Asset Management Council.
  - e. Other committees: The Chairperson may establish other 'ad hoc' committees as necessary for the operation of the Transportation Asset Management Council. Such committees shall operate until the Transportation Asset Management Council or Chairperson disbands them.
3. Meetings: Transportation Asset Management Council and committee meeting schedules are established at the September Transportation Asset Management Council Meeting for the following calendar year. The established schedules shall be made available to the public.
  4. Quorum: per Michigan's Open Meetings Act, the term "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 Transportation Asset Management Council 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 and Term: it is the responsibility of each member organization to seek out qualified individuals for nomination to the Transportation Asset Management Council. Once the nomination is received, it must be acted upon by the State Transportation Commission. The positions for the Michigan Department of Transportation 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

three (3) years.

6. Advisory Panel: The Transportation Asset Management Council may appoint a technical advisory panel whose members shall be representatives from the transportation construction associations and related transportation road interests. The Transportation 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 three (3) years. The Transportation 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 Transportation Asset Management Council.
7. Staffing: The Michigan Department of Transportation shall provide qualified administrative staff and the state planning and development regions shall provide qualified technical assistance to the Transportation Asset Management Council.
  - a. Michigan Department of Transportation assigns a full-time Coordinator primarily responsible for the management and coordination of the Transportation Asset Management Council's activities including development of the three (3) year work program, budget, and annual report as required by law; provide project management of activities needed to carry out the Transportation Asset Management Council's work program; manage the on-going development and maintenance of the Transportation Asset Management Council's website and performance measure dashboards. Additional Michigan Department of Transportation staff provides administrative support to the Transportation Asset Management Council as necessary.
  - b. In addition to Michigan Department of Transportation staff, the Transportation Asset Management Council annually contracts with Michigan's Regional and Metropolitan Planning Organizations to provide technical assistance related to the promotion of asset management principles and data collection within each regional boundary.
8. Amendments: A two-thirds majority of Transportation Asset Management Council voting members is required to amend the Transportation Asset Management Council's bylaws. Proposed amendments in final form must be distributed to the members at the Transportation Asset Management Council meeting prior to having it on the Transportation Asset Management Council agenda as an action item.





	FY20 Budget	FY21 Budget	FY22 Budget
	\$	\$	\$
<b>I. Data Collection &amp; Regional-Metro Planning Asset Management Program</b>			
Battle Creek Area Transportation Study*	\$ 20,500.00	\$ 20,500.00	\$ 20,500.00
Bay County Area Transportation Study*	\$ 19,900.00	\$ 19,900.00	\$ 19,900.00
Central Upper Peninsula Planning and Development*	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
East Michigan Council of Governments*	\$ 108,000.00	\$ 108,000.00	\$ 108,000.00
Eastern Upper Peninsula Regional Planning & Devel.*	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00
Genesee Lapeer Shiawassee Region V Planning Com.*	\$ 46,000.00	\$ 46,000.00	\$ 46,000.00
Grand Valley Metropolitan Council*	\$ 24,000.00	\$ 24,000.00	\$ 24,000.00
Kalamazoo Area Transportation Study*	\$ 22,000.00	\$ 22,000.00	\$ 22,000.00
Macatawa Area Coordinating Council*	\$ 19,000.00	\$ 19,000.00	\$ 19,000.00
Midland Area Transportation Study*	\$ 21,000.00	\$ 21,000.00	\$ 21,000.00
Northeast Michigan Council of Governments*	\$ 51,000.00	\$ 51,000.00	\$ 51,000.00
Networks Northwest*	\$ 75,000.00	\$ 75,000.00	\$ 75,000.00
Region 2 Planning Commission*	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00
Saginaw County Metropolitan Planning Commission*	\$ 21,000.00	\$ 21,000.00	\$ 21,000.00
Southcentral Michigan Planning Commission*	\$ 55,000.00	\$ 55,000.00	\$ 55,000.00
Southeast Michigan Council of Governments*	\$ 174,000.00	\$ 174,000.00	\$ 174,000.00
Southwest Michigan Planning Commission*	\$ 41,000.00	\$ 41,000.00	\$ 41,000.00
Tri-County Regional Planning Commission*	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00
West Michigan Regional Planning Commission*	\$ 88,000.00	\$ 88,000.00	\$ 88,000.00
West Michigan Shoreline Regional Development Com.*	\$ 54,000.00	\$ 54,000.00	\$ 54,000.00
Western Upper Peninsula Regional Planning & Devel.*	\$ 42,000.00	\$ 42,000.00	\$ 42,000.00
MDOT Region Participation	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00
PASER Quality Review Contract*	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
<b>Data Collection &amp; Regional-Metro Program Total</b>	<b>\$ 1,116,400.00</b>	<b>\$ 1,116,400.00</b>	<b>\$ 1,116,400.00</b>
<b>III. TAMC Central Data Agency (MCSS)</b>			
Project Management	\$ 64,200.00	\$ 56,580.00	\$ 64,200.00
Data Support /Hardware / Software	\$ 37,000.00	\$ 25,870.00	\$ 37,000.00
Application Development / Maintenance / Testing	\$ 166,000.00	\$ 171,250.00	\$ 166,000.00
Help Desk / Misc Support / Coordination	\$ 53,250.00	\$ 67,360.00	\$ 53,250.00
Training	\$ 26,000.00	\$ 16,170.00	\$ 26,000.00
Data Access / Reporting	\$ 28,500.00	\$ 37,720.00	\$ 28,500.00
<b>TAMC Central Data Agency (MCSS) Total</b>	<b>\$ 374,950.00</b>	<b>\$ 374,950.00</b>	<b>\$ 374,950.00</b>
<b>IV. MTU Training &amp; Education Program Contract</b>	<b>\$ 225,000.00</b>	<b>\$211,391.21</b>	<b>\$225,000.00</b>
<b>V. MTU Activities Program Contract**</b>	<b>\$ 115,000.00</b>	<b>\$129,464.81</b>	<b>\$115,000.00</b>
<b>VI. TAMC Expenses</b>			
Fall Conference Expenses	\$ 10,000.00	\$ -	\$ 10,000.00
Fall Conf. Attendance Fees + sponsorship Fees	\$ -	\$ -	\$ -
Net Fall Conference	\$ 16,890.00	\$ -	\$ -
Spring Conference Expenses	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
Spring Conf. Attendance Fees + sponsorship Fees	\$ -	\$ -	\$ -
Net Spring Conference	\$ -	\$ -	\$ -
Unallocated / Contingency	\$ 10,000.00	\$ 20,000.00	\$ 10,000.00
Other Council Expenses (Member Mileage Expenses/Printing/Etc.)	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
<b>TAMC Expenses Total</b>	<b>\$ 46,890.00</b>	<b>\$ 40,000.00</b>	<b>\$ 40,000.00</b>
<b>Total Program</b>	<b>\$ 1,878,240.00</b>	<b>\$ 1,872,206.02</b>	<b>\$ 1,871,350.00</b>
<b>Appropriation</b>	<b>\$ 1,876,400.00</b>	<b>\$ 1,876,400.00</b>	<b>\$ 1,876,400.00</b>
<b>VII. Special Projects with Separate Budgets</b>	<b>FY20 Budget</b>	<b>FY21 Budget</b>	<b>FY22 Budget</b>
<b>MI Local Agency Culvert Inventory Pilot (FY18 HB4320 S-3)***</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
Central Data Agency (MCSS)	\$ 25,000.00	\$ -	\$ -
MTU Culvert Project Activities & Training Program	\$ 55,011.46	\$ -	\$ -
TAMC Administration & Contingency (Unencumbered)	\$ 472,863.51	\$ -	\$ -
Central Upper Peninsula Planning and Development	\$ -	\$ -	\$ -
East Michigan Council of Governments	\$ -	\$ -	\$ -
Eastern Upper Peninsula Regional Planning & Devel.	\$ -	\$ -	\$ -
Genesee Lapeer Shiawassee Region V Planning Com.	\$ -	\$ -	\$ -
Grand Valley Metropolitan Council	\$ -	\$ -	\$ -
Kalamazoo Area Transportation Study	\$ -	\$ -	\$ -
Northeast Michigan Council of Governments	\$ -	\$ -	\$ -
Networks Northwest	\$ -	\$ -	\$ -
Region 2 Planning Commission	\$ -	\$ -	\$ -
Southcentral Michigan Planning Commission	\$ -	\$ -	\$ -
Southeast Michigan Council of Governments	\$ -	\$ -	\$ -
Southwest Michigan Planning Commission	\$ -	\$ -	\$ -
Tri-County Regional Planning Commission	\$ -	\$ -	\$ -
West Michigan Regional Planning Commission	\$ -	\$ -	\$ -
West Michigan Shoreline Regional Development Com.	\$ -	\$ -	\$ -
Western Upper Peninsula Regional Planning & Devel.	\$ -	\$ -	\$ -
<b>MI Local Agency Culvert Inventory Pilot Project Total</b>	<b>\$ 552,874.97</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Special Program</b>	<b>\$ 552,874.97</b>	<b>\$ -</b>	<b>\$ -</b>

Notes:

\*TAMC voted on 8-5-20 to extend service dates of the FY20 contracts with Regional-Metro Planning to expire on 6-30-21; the contract for PASER Quality Review has been extended to 9-30-21

\*\* TAMC voted on 8-5-20 to extend service date of the FY20 MTU Activities Program contract to expire on 12-31-20

\*\*\* A formal FY21 Special Project Budget for the remaining unencumbered funds of the MI Local Agency Culvert Inventory Pilot is forthcoming pending TAMC action

**Transportation Asset Management Council  
2021 Roster and Committee Assignments**

TAMC Current Members		Term Status			Committee Assignments			
Member Name	Member Agency	Begin	End	Member Since	ACE	Bridge	Data	Michigan Infrastructure Council
Bolt, Christopher	MAC	Aug - 19	Sept - 22	Jan - 19		X		
Bradshaw, Derek	MAR	Apr - 19	May - 22	May -16	X			
Buck, Ryan*	MTPA	Jan - 21*	Dec - 22*	Jan -21*	X		X	
Johnson, Joanna, <b>Chair</b>	CRA	Apr - 19	May - 22	Oct - 13				X (non voting)
McEntee, Bill, <b>Vice-Chair</b>	CRA	Dec - 20	Dec - 23	Oct - 02			X	
Mekjian, Gary	MML	Jul - 20	Aug - 23	Mar - 17	X			
Slattery, Bob	MML	Oct - 19	Sep - 22	Jan - 05			X	
Surber, Rob (non-voting)	MCSS	N/A	N/A	Oct - 03	X		X	
Tubbs, Jennifer	MTA	Dec - 19	Dec - 22	Jan - 11			X	
White, Todd	MDOT	N/A	N/A	Jan - 19	X			
Wieferich, Brad	MDOT	N/A	N/A	Jan - 16		X		

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

### TAMC Ad-hoc & Sub-committees

#### **TAMC Conference Planning Committee**

J. Johnson, B. Slattery, R. Buck\*, Ed Hug (SEMCOG), Tim Colling (MTU-CTT/LTAP)

#### **MIC-WAMC-TAMC X-Council Group**

John Wiess (MIC Chair-GVMC), Kathleen Lamako (MIC Vice Chair-SEMCOG) Jessica Moy (MIC-Treasury), Joanna Johnson (TAMC Chair-Kalamazoo Co.), Bill McEntee (TAMC Vice Chair), Roger Belknap (TAMC-MDOT), Sue McCormick (WAMC Chair-Great Lakes Water Authority) Scott House (WAMC Vice Chair-East Lansing), Kelly Green (WAMC-EGLE)

*\*Denotes Pending Approval from State Transportation Commission 1-23-21*

FY2021 Center for Shared Solutions TAMC Work Plan						
Work Area	Tasks	Description	2020 Budget	Forecasted Cost	2021 Budget	2021 Forecasted Cost
<b>A. Project Mgmt</b>	1. Administrative / Mgmt Tasks	Time set aside for meetings, coordination of deliverables, management of staff resources, budget tracking	600	\$64,200	525	\$56,579.25
<b>B. Data Support</b>	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	100	\$10,777.00
	2. Reporting and Analysis	Additional reports and status features beyond initial IRT rewrite	90	\$9,000	100	\$10,777.00
	3. Data Preparation for MTU & MTU reports	Compilation, migration, and delivery of data for MTU Roadsoft updates, training, and model runs	80	\$8,000	40	\$4,310.80
<b>C. Application Development / Maintenance / Support</b>	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	200	\$21,554.00
	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	120	\$12,932.40
<b>Application Changes &amp; Improvements</b>	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	550	\$59,273.50
	4. Interactive Map - Desktop	Interactive Map Updates Continued from FY19	100	\$10,000	150	\$16,165.50
	5. Additional Dashboard Enhancements	Any new dashboard related changes that need to be made.	150	\$15,000	150	\$16,165.50
	6. Additional application upgrades - TAMC web services upgrades, new legislation requirements	Improve data integration between TAMC databases and ADARS; possible enhancements to applications to meet any new requirements for reporting, compliance with asset management plans, etc.	0	\$0	200	\$21,554.00
	STIP	Integrating with STIP	250.00	\$25,000	50	\$5,388.50
	MGF/TAMC Portal	Upgrading system to automatically support the intake of information from MDOT for dashboard publishing.	150.00	\$15,000	149	\$16,057.73
	6.5 Culverts/Signals	Adding Culverts to IRT, Interactive Map, Dashboards	280.00	\$28,000		
	7. ADA Review and Usability Testing	ADA and Usability Testing	20	\$2,000	20	\$2,155.40
	8. TAMC Website hosting fees	Costs to support monthly hosting fees for TAMC web site		\$9,600		

<b>D. Help Desk, Misc Support</b>	1. Help Desk Tasks	Time set aside for answering phones calls, assisting IRT users, logging issues, attending conferences	350	\$33,250	250	\$26,942.50
	2. Administrative Support	Preparation of reports, status maps, correspondence, meetings, etc., to assist TAMC staff	200	\$20,000	375	\$40,413.75
<b>E. Training</b>	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	150	\$16,165.50
	2. ATT Teleconference Services	Webinar fee - assuming 4 webinars in FY20		\$7,000		
<b>F. Data Access / Reporting</b>	1. Dashboard - Maintenance	Maintenance / Support of existing dashboards currently in production and minor enhancements as needed.	300	\$28,500	350	\$37,719.50
		<b>Budget Hours</b>	<b>3310.00</b>	<b>\$374,950</b>	<b>3479</b>	<b>\$374,931.83</b>
						<b>\$374,950</b>

Rounded to planned budget

**Proposal Title:****2021 Transportation Asset  
Management Council Education  
Program Work Plan****Submitted To:**

Roger Belknap  
Bureau of Transportation Planning  
Michigan Department of Transportation  
belknapr@michigan.gov

**Principal Investigator:**

Tim Colling, PhD, PE  
Director – Center for Technology & Training  
1400 Townsend Drive - 309 Dillman Hall  
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**Co-Principal Investigators:**

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**Contracting Authority:**

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Director, Government Sponsored Programs  
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(906) 487-2245 fax  
rsch@mtu.edu

**Date Submitted:**

November 17, 2020



Michigan Technological University  
**Civil and Environmental  
Engineering**



November 17, 2020

Via e-mail: [belknapr@michigan.gov](mailto:belknapr@michigan.gov)

Roger Belknap  
TAMC Coordinator  
Michigan Department of Transportation  
425 West Ottawa Street, P.O. Box 30050  
Lansing, MI 48909

RE: Michigan Tech Proposal #2011083, entitled, "2021 Transportation Asset Management Council Education Program Work Plan," directed by Dr. Timothy Colling

Dear Mr. Belknap,

Michigan Technological University is pleased to submit the attached proposal for your review and consideration.

If you have any technical questions, please contact Dr. Colling at (906) 487-2102 or by email at [tkcollin@mtu.edu](mailto:tkcollin@mtu.edu). For all other questions, please contact Randy Lurn, Assistant Sponsored Programs Analyst, at (906) 487-2226 or by email at [rmlaurn@mtu.edu](mailto:rmlaurn@mtu.edu).

Sincerely,

**Kelly M. Kallio** Digitally signed by Kelly M. Kallio  
Date: 2020.11.17 15:21:11 -05'00'

Kelly M. Kallio  
Director of Government Sponsored Programs

KMK/rl

Attachments

cc: T. Colling  
File

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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.

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*.

The current training plan is proposed as primarily in person events, however should Covid-19 restrictions preclude in person training, the events will be converted to the appropriate web based format and offered in that format. Conversion to a web format takes effort, however it is believed that the savings from not traveling as well as the potential to do fewer sessions (geographic coverage and class size are less of an issue online) will balance the budget for these tasks.

## **3.0 WORK PLAN**

This work plan and budget is for the period beginning January 1, 2021 and ending December 31, 2021. The project total is \$211,391.21. A detailed cost estimate is provided 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 Compliance Plan Webinar and Associate Technical Support
- 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 cancellation 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.

### **3.2 Task 2– Conduct Michigan Compliance Plan Webinar and Associate Technical Support**

*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 four webinar sessions on the Michigan Asset Management Compliance plan. This webinar assists local agencies with completing their statutorily required asset management plans using TAMC’s templates. Following the webinars CTT will plan to provide technical assistance to local agencies in completing their plan. Priority will be given to local agencies with the earliest plan due dates.

The currently planned events are:

Conduct two, three hour webinars spring/summer 2021

Conduct two, three hour webinars September 2021

### **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 raters who are part of a collection effort that consists of 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

Jacob Coulson, Programmer/IT Specialist

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 B: BUDGET AND COST DERIVATION MDOT FORM 5101A-1**



This form replaces a traditional cover letter, and must have a signature by an authorized legal signer. This form is required for all priced proposals, and shall be the very first page(s). This priced proposal is a binding document and no further Consultant signature(s) will be required if an authorization is issued, rather than a contract.

This form shall be completed by each consultant that has a derivation of cost sheet as part of this priced proposal. Traditional cover letters are not required, but may be added after this Priced Proposal Cover Sheet(s).

**PROJECT INFORMATION**

MDOT CONTROL SECTION(S) – JOB NUMBER(S):  <p style="text-align: center;"><b>CS Various - JN</b></p>	CONTRACT / AUTHORIZATION NUMBER:
---	----------------------------------

PROJECT DESCRIPTION:  <p style="text-align: center;"><b>2021 Transportation Asset Management Council Technical Assistance</b></p>
---

**BASIS FOR REIMBURSEMENT AND METHOD OF PAYMENT** as specified in the MDOT Scope of Services (*Actual Cost, Actual Cost Plus Fixed Fee, Loaded Hourly Rate, Unit Price, Lump Sum, and Milestones*) When applicable, list ALL Consultant(s) performing work on this project and the basis for reimbursement and method of payment for each.) **Example: Actual Cost Plus Fixed Fee: (Each firm init.)**

<i>Actual Cost (AC)</i>	<i>MTU</i>
-------------------------	------------



**PREQUALIFICATION CLASSIFICATION(S)** (When applicable, list ALL Consultant(s) performing work on this project and all classification(s) in which they will be working. Use current MDOT classification names.) **Example: Design: Roadway: (Each firm init.)**

<i>TAMC Technical Assistance Activities</i>	<i>MTU</i>
---	------------

**PRIME CONSULTANT INFORMATION**

LEGAL BUSINESS NAME:  <p style="text-align: center;"><b>Michigan Technological University</b></p>	FEDERAL ID NUMBER: ( <i>Must match prequalification</i> )  <p style="text-align: center;"><b>386005955</b></p>	ROLE: (Prime, Tier 1, Tier 2)  <p style="text-align: center;"><b>Prime Firm</b></p>	
COMPANY ADDRESS:  <p style="text-align: center;"><b>1400 Townsend Dr.</b></p>	CITY:  <p style="text-align: center;"><b>Houghton</b></p>	STATE:  <p style="text-align: center;"><b>MI</b></p>	ZIP CODE:  <p style="text-align: center;"><b>49931</b></p>
EMAIL (AUTHORIZED CONTRACT SIGNER):  <p style="text-align: center;"><b>rsch@mtu.edu</b></p>	PHONE NO.:  <p style="text-align: center;"><b>9064872226</b></p>	EMAIL (FOR SIGNED CONTRACT DISTRIBUTION):  <p style="text-align: center;"><b>rsch@mtu.edu</b></p>	

**By signature on this form, the consultant agrees that information provided in the consultant priced proposal does not contradict the scope of services or violate the contract terms and conditions.**

AUTHORIZED LEGAL SIGNER: (Printed Name - Title)  <p style="text-align: center;"><b>Kelly Kallio</b> DIRECTOR OF GOVERNMENT SPONSORED Programs</p>	DIGITAL SIGNATURE AND DATE:  <div style="display: flex; align-items: center;">  <div>                         Kelly M. Kallio Nov 17 2020 3:19 PM                     </div> </div> <div style="text-align: right; margin-top: 5px;">  </div>
---	---

## DOCUMENT OF CHANGES TO THE MDOT SCOPE OF SERVICES

This form is for use during the contract approval process and shall be attached anywhere the MDOT Scope of Services is used, such as in a contract exhibit. The MDOT Project Manager (PM) shall complete this form to document any changes (or verify no change) to an MDOT Scope of Service previously used for advertisement and for consultant selection that has been changed through, for example, the contract negotiation process or the scope verification meeting. This form is not required when a PM is requesting additional services through a revision or amendment to an agreement.


### PROJECT INFORMATION

<b>MDOT CONTROL SECTION(S) – JOB NUMBER(S):</b> <p style="text-align: center; color: blue; font-weight: bold;">CS Various - JN</p>	<b>CONTRACT / AUTHORIZATION NUMBER:</b> <p style="text-align: center; color: blue; font-weight: bold;">0</p>								
<b>PRIME CONSULTANT NAME:</b> <p style="text-align: center; color: blue; font-weight: bold;">Michigan Technological University</p>	<b>PROJECT DESCRIPTION:</b> <p style="text-align: center; color: blue; font-weight: bold;">2021 Transportation Asset Management Council Technical Assistance</p>								
<b>Box A.</b> <input type="checkbox"/> No changes have been made.  <b>If you selected one of the following, please complete Box B.</b> <input type="checkbox"/> Changes have been made - pages are attached <input type="checkbox"/> Changes have been made - pages are <u>not</u> attached	<b>Box B. (Select all that apply):</b> <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30px; height: 20px;"><input type="checkbox"/></td><td>Changes include a major adjustment in the project limits.</td></tr><tr><td style="width: 30px; height: 20px;"><input type="checkbox"/></td><td>Changes do not include a major adjustment in the project limits.</td></tr><tr><td style="width: 30px; height: 20px;"><input type="checkbox"/></td><td>Changes affect the engineer's estimate.</td></tr><tr><td style="width: 30px; height: 20px;"><input type="checkbox"/></td><td>Changes do not affect the engineer's estimate.</td></tr></table>	<input type="checkbox"/>	Changes include a major adjustment in the project limits.	<input type="checkbox"/>	Changes do not include a major adjustment in the project limits.	<input type="checkbox"/>	Changes affect the engineer's estimate.	<input type="checkbox"/>	Changes do not affect the engineer's estimate.
<input type="checkbox"/>	Changes include a major adjustment in the project limits.								
<input type="checkbox"/>	Changes do not include a major adjustment in the project limits.								
<input type="checkbox"/>	Changes affect the engineer's estimate.								
<input type="checkbox"/>	Changes do not affect the engineer's estimate.								

For Construction Engineering projects, an Expectations Meeting was held with the Consultant as required by the MDOT Construction Manual. This meeting was held on the following date:	<b>DATE:</b> <input style="width: 100%;" type="text"/>
---	---

LIST SPECIFIC ADDITIONS, DELETIONS, AND/OR CHANGES IN THE MDOT SCOPE OF SERVICES

**I certify that all of the above additions, deletions, and/or changes have been incorporated within the advertised MDOT Scope of Services, as amended.**

<b>AUTHORIZED LEGAL SIGNER:</b> (Printed Name - Title) <p style="text-align: center; color: blue; font-weight: bold;">Kelly Kallio Director of Government Sponsored Programs</p>	<b>DIGITAL SIGNATURE AND DATE:</b> <p style="text-align: center;"> Kelly M. Kallio Nov 17 2020 3:19 PM</p> <p style="text-align: right; font-size: small;">DocuSign</p>
<b>MDOT PROJECT MANAGER:</b> <p style="text-align: center; color: blue; font-weight: bold;">Roger Belknap</p>	<b>DIGITAL SIGNATURE AND DATE:</b>

## CERTIFICATION OF OVERHEAD COST RATE

- This Certification is required per U.S. Department of Transportation, Federal Highway Administration (FHWA) Order 4470.1A, and dated October 27, 2010. FHWA has issued this new policy to be **effective January 1, 2011**, requiring consultants provide certification that costs used to establish overhead cost rates for Federal-aid engineering and design related services contracts do not include any costs which are expressly unallowable; and that the overhead cost rate was established only with allowable costs.

- This certification is to provide assurance that the overhead costs rate was calculated in accordance with the applicable cost principles contained in the Federal Acquisition Regulations (FAR) of Title 48, Code of Federal Regulations (CFR) Part 31.

- This form shall be completed and submitted by the prime consultant and each subconsultant (first and second tier subconsultant(s)) that have a derivation of cost sheet as part of this priced proposal where an overhead rate was proposed. Please note that the Certifying Official is defined as the firm's Executive (President, Vice President or equivalent) or Chief Financial Officer.

### PROJECT INFORMATION

<b>MDOT CONTROL SECTION(S) – JOB NUMBER(S):</b>  <p style="text-align: center; color: blue; font-weight: bold;">CS Various - JN</p>	<b>CONTRACT / AUTHORIZATION NUMBER:</b>  
---	---

<b>PROJECT DESCRIPTION:</b>  <p style="text-align: center; color: blue; font-weight: bold;">2021 Transportation Asset Management Council Technical Assistance</p>
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### DECLARATION OF CERTIFICATION

<b>OVERHEAD COST RATE:</b>	<u>35.80%</u>
<b>DATE MDOT ACCEPTED OVERHEAD COST RATE:</b>	<u>6/26/2017</u>
<b>FISCAL YEAR COVERED FOR RATE CALCULATION:</b>	<u>7/1/2020</u> to <u>6/30/2021</u>

*I, the undersigned, certify that I have reviewed the overhead rate calculation for the fiscal period as specified above and to the best of my knowledge and belief:*

1.) All costs included to establish the above overhead cost rate are allowable in accordance with the cost principles of the Federal Acquisition Regulation (FAR) of title 48, Code of Federal Regulations (CFR), part 31.

2.) This overhead cost rate does not include any costs which are expressly unallowable under the cost principles of the FAR of 48 CFR 31.

**Has the firm been approved to use the SAFE HARBOR INDIRECT COST RATE of 110% with the understanding that the Safe Harbor Rate will be used for the life of the agreement?** N

**All known material transactions or events that have occurred affecting the firm's ownership, organization and overhead cost rates have been disclosed. All supplied wage rates contained within this submittal are true, accurate, and compliant with the guidelines established by 48 CFR 31.201-3.**

### CONSULTANT INFORMATION

<b>LEGAL BUSINESS NAME:</b> <p style="text-align: center; color: blue; font-weight: bold;">Michigan Technological University</p>	<b>FEDERAL ID NUMBER: (Must match prequalification file)</b> <p style="text-align: center; color: blue; font-weight: bold;">386005955</p>	<b>ROLE: (Prime/Tier 1/Tier 2)</b> <p style="text-align: center; color: blue; font-weight: bold;">Prime Firm</p>
<b>COMPANY ADDRESS:</b> <p style="text-align: center; color: blue; font-weight: bold;">1400 Townsend Dr.</p>	<b>CITY:</b> <p style="text-align: center; color: blue; font-weight: bold;">Houghton</p>	<b>STATE:</b> <p style="text-align: center; color: blue; font-weight: bold;">MI</p>
<b>EMAIL (AUTHORIZED CONTRACT SIGNER):</b> <p style="text-align: center; color: blue; font-weight: bold;">rsch@mtu.edu</p>	<b>PHONE NO.:</b> <p style="text-align: center; color: blue; font-weight: bold;">9064872226</p>	<b>EMAIL (FOR SIGNED CONTRACT DISTRIBUTION):</b> <p style="text-align: center; color: blue; font-weight: bold;">rsch@mtu.edu</p>

**By signature on this form, the consultant agrees that information provided in the consultant priced proposal does not contradict the scope of services or violate the contract terms and conditions.**

<b>CERTIFYING OFFICIAL: (Printed Name - Title)</b> <p style="text-align: center; color: blue; font-weight: bold;">Director of Government Operations Programs</p>	<b>DIGITAL SIGNATURE OF CERTIFYING OFFICIAL AND DATE:</b> <p style="text-align: center;">                   Kelly M. Kallio                  Nov 17 2020 3:20 PM             </p>
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**SUMMARY OF TOTAL PROJECT COSTS BY JOB NUMBER**

All Prime and Subconsultant Costs for ALL JOB NUMBERS (including phases). For amendment or revision, complete this form showing all job numbers for all services provided. Report Tier 2 Subconsultant costs with Tier 1 Subconsultants. For use with all Priced Proposals. Use additional pages as necessary.

<b>MDOT CONTROL SECTION(S) - JOB NUMBER(S):</b>  <b>CS Various - JN</b>	<b>CONTRACT / AUTHORIZATION NUMBER:</b>
<b>PRIME CONSULTANT NAME:</b>  <b>Michigan Technological University</b>	<b>DBE Goal:</b>
<b>PROJECT DESCRIPTION:</b> <b>2021 Transportation Asset Management Council Technical Assistance</b>	

Consultant	Firm Role:	Contracted to:	Payment Method:	Job Number	Job Number	Job Number	Job Number	DBE (Y/N)	Total	% of Contract
<b>HOURS</b>				1,425	-	-	-		1,425	
Michigan Technological University	P	MDOT	AC	1,425	-	-	-		1,425	
<b>LABOR</b>				\$ 63,910.65	\$ -	\$ -	\$ -		\$ 63,910.65	
Michigan Technological University	P	MDOT	AC	\$ 63,910.65	\$ -	\$ -	\$ -		\$ 63,910.65	
<b>OVERHEAD</b>				\$ 22,880.01	\$ -	\$ -	\$ -		\$ 22,880.01	
Michigan Technological University	P	MDOT	AC	\$ 22,880.01	\$ -	\$ -	\$ -		\$ 22,880.01	
<b>OTHER DIRECT EXPENSES</b>				\$ 42,674.15	\$ -	\$ -	\$ -		\$ 42,674.15	
Michigan Technological University	P	MDOT	AC	\$ 42,674.15	\$ -	\$ -	\$ -		\$ 42,674.15	
<b>TOTAL COSTS SUMMARY</b>										
Consultant Totals				\$ 129,464.81	\$ -	\$ -	\$ -	N	\$ 129,464.81	100.0%
Firm Role Key: P = Prime Firm, T1 = Tier 1 Sub, T2 = Tier 2 Sub										
<b>TOTAL COSTS</b>				\$ 129,464.81	\$ -	\$ -	\$ -		\$ 129,464.81	100.0%

**DERIVATION OF PRIME CONSULTANT COSTS**

Summary of all Prime Costs for ALL JOB NUMBERS (including phases) for all services provided. Use additional pages as necessary.

<b>MDOT CONTROL SECTION(S) - JOB NUMBER(S):</b>  <b>CS Various - JN</b>	<b>CONTRACT / AUTHORIZATION #:</b>	<b>FIRM ROLE:</b>  <b>Prime Firm</b>
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<b>PRIME CONSULTANT NAME:</b>  <b>Michigan Technological University</b>	<b>PROJECT DESCRIPTION:</b> <b>2021 Transportation Asset Management Council Technical Assistance</b>
---	---

<b>PRIME LABOR:</b>								
<i>CLASSIFICATION</i>	<i>CODE</i>	<i>HOURS</i>	<i>x</i>	<i>RATE/HR</i>	<i>=</i>	<i>LABOR COST</i>		
Sr. Software Manager, Software Dev & IS		30	x	\$ 49.89	=	\$	1,496.70	
Software Engineer		100	x	\$ 31.25	=	\$	3,125.00	
Sr. Software Architect		100	x	\$ 47.05	=	\$	4,705.00	
Principle Programmer		400	x	\$ 45.09	=	\$	18,036.00	
Director		280	x	\$ 67.30	=	\$	18,844.00	
Associate Director		45	x	\$ 49.55	=	\$	2,229.75	
Technical Writer		120	x	\$ 28.73	=	\$	3,447.60	
Research Engineer		150	x	\$ 31.84	=	\$	4,776.00	
Research Engineer/Trainer		160	x	\$ 38.49	=	\$	6,158.40	
Sr. Project Manager, Training & Ops		20	x	\$ 36.50	=	\$	730.00	
Workshop Coordinator		20	x	\$ 18.11	=	\$	362.20	
		<b>Total Hours:</b>	<b>1425</b>				<b>Total Labor</b>	<b>\$ 63,910.65</b>

<b>PRIME OVERHEAD:</b> (Total Labor x Overhead Rate)								
		<b>Overhead Rate:</b>	<b>35.80%</b>				<b>Total Overhead</b>	<b>\$ 22,880.01</b>

<b>PRIME OTHER DIRECT EXPENSES:</b> (List each item once at Actual Cost - NO MARKUP.)							
<i>Items</i>	<i>Quantity</i>	<i>@</i>	<i>Unit Price</i>	<i>Unit</i>	<i>=</i>	<i>Item Price</i>	
Mileage (MTU Motorpool)	7,500.00	@	\$ 0.560	Mile	=	\$	4,200.00
Lodging	12.00	@	\$ 75.000	Night	=	\$	900.00
Per Diem	12.00	@	\$ 55.000	Day	=	\$	660.00
Print/Copy Charges	1,250.00	@	\$ 0.080	Page	=	\$	100.00
Fringe Benefits - Prof	63,910.65	@	\$ 0.400	Dollar	=	\$	25,564.26
ODC Overhead	31,424.26	@	\$ 0.358	Dollar	=	\$	11,249.89
<b>Total Other Direct Expenses</b>							<b>\$ 42,674.15</b>

<b>TOTAL PRIME FIRM COSTS</b>							<b>\$ 129,464.81</b>
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Firm Role: Prime Firm

Note: Payment Method = AC

**SUMMARY OF PERSON HOURS BY PPMS TASK**

All Prime and Subconsultant Hours for EACH JOB NUMBER (including phases). For amendment/revision, complete this form showing all job numbers for all services provided. Use additional pages as necessary.

MDOT CONTROL SECTION(S) - JOB NUMBER(S): **CS Various - JN**  
 CONTRACT / AUTHORIZATION NUMBER:

PRIME CONSULTANT NAME: **Michigan Technological University**  
 PROJECT DESCRIPTION: **2021 Transportation Asset Management Council Technical Assistance**

SUMMARY OF HOURS BY PPMS TASK						
PPMS Task Code	Task Description	Firm Init.	MDOT JN	MDOT JN	MDOT JN	Total
4010	Task 1: Maintain Roadsoft - IRT	Total 310	-	-	-	310
		MTU	310	-	-	310
4020	Task 2: TAMC Data Collection Process Change	Total 460	-	-	-	460
		MTU	460	-	-	460
4030	Task 3: Data Collection State of Practice Study	Total 280	-	-	-	280
		MTU	280	-	-	280
4040	Task 4: Undefined Staff Support	Total 130	-	-	-	130
		MTU	130	-	-	130
4050	Task 5: TAMC Council Meetings	Total 70	-	-	-	70
		MTU	70	-	-	70
4060	Task 6: TAMC Committee Meetings	Total 105	-	-	-	105
		MTU	105	-	-	105
4070	Task 7: Project Management	Total 70	-	-	-	70
		MTU	70	-	-	70

SUMMARY OF HOURS BY FIRM						
Role	Firm Name	Firm Init.	MDOT JN	MDOT JN	MDOT JN	Total
Prime Firm	Michigan Technological University	MTU	1,425	-	-	1,425
		<b>Totals</b>	<b>1,425</b>	<b>-</b>	<b>-</b>	<b>1,425</b>

MDOT CONTROL SECTION(S) - JOB NUMBER(S): **CS Various - JN** FIRM ROLE: **Prime Firm**

CONSULTANT NAME: **Michigan Technological University** PROJECT DESCRIPTION: **2021 Transportation Asset Management Council Technical Assistance**

PPMS Task Code	Task Description	Sr. Software Manager, Software Dev.&	Software Engineer	Sr. Software Architect	Principle Programmer	Director	Associate Director	Technical Writer	Research Engineer	Research Engineer/Trainer	Sr. Project Manager, Training & Dev.	Workshop Coordinator	HOURS FOR TASK
4010	Task 1: Maintain Roadsoft - IRT	20			270	20							310
4020	Task 2: TAMC Data Collection Process Change		100	100	100	20		80		60			460
4030	Task 3: Data Collection State of Practice Study					40		40	100	100			280
4040	Task 4: Undefined Staff Support				30	60			20			20	130
4050	Task 5: TAMC Council Meetings					60	10						70
4060	Task 6: TAMC Committee Meetings					60	35		10				105
4070	Task 7: Project Management	10				20			20		20		70

SUMMARY OF PERSON HOURS FOR ALL MDOT JN'S													
Classification:													
		Sr. Software Manager, Software Dev.&	Software Engineer	Sr. Software Architect	Principle Programmer	Director	Associate Director	Technical Writer	Research Engineer	Research Engineer/Trainer	Sr. Project Manager, Training & Dev.	Workshop Coordinator	HOURS FOR FIRM
		30	100	100	400	280	45	120	150	160	20	20	1425
		Total Hours:											

**APPENDIX C: PAYROLL VERIFICATION**






## PAYROLL VERIFICATION

### Michigan Department of Transportation

*"2021 Transportation Asset Management Council Technical  
Assistance Activities Program Work Plan"*

Principal Investigator: Timothy Colling

<u>Personnel</u>	<u>Current Hourly/Annual Rate:</u>
Timothy Colling	\$ 67.30 / \$ 139,974.00
Gary Schlaff	\$ 49.89 / \$ 103,772.00
Jeremy Guinn	\$ 31.25 / \$ 65,000.00
Nicholas Koszykowski	\$ 47.05 / \$ 97,866.00
Luke Peterson	\$ 45.09 / \$ 93,792.00
Christopher Gilbertson	\$ 49.55 / \$ 103,057.00
Victoria Sage	\$ 28.73 / \$ 59,750.00
Andrew Manty	\$ 31.84 / \$ 66,223.00
Peter Torola	\$ 38.49 / \$ 80,066.00
Christine Codere	\$ 36.50 / \$ 75,918.00
Cynthia Elder	\$ 18.11 / \$ 37,662.00

 11/16/2020  
Date

Roxanne Barrette  
Payroll Supervisor, Payroll Services  
Michigan Technological University

**Proposal Title:****2021 Transportation Asset  
Management Council Technical  
Assistance Activities Program  
Work Plan****Submitted To:**

Roger Belknap  
Bureau of Transportation Planning  
Michigan Department of Transportation  
belknapr@michigan.gov

**Principal Investigator:**

Tim Colling, PhD, PE  
Director – Center for Technology & Training  
1400 Townsend Drive - 309 Dillman Hall  
Houghton, MI 49931  
tkcollin@mtu.edu  
906-487-2102

**Co-Principal Investigators:**

Luke Peterson  
Principal Programmer  
lpeters@mtu.edu

**Contracting Authority:**

Kelly Kallio  
Director, Government Sponsored Programs  
Michigan Technological University  
1400 Townsend Drive  
Houghton, MI 49931  
(906) 487-2226  
(906) 487-2245 fax  
rsch@mtu.edu

**Date Submitted:**

November 17, 2020



Michigan Technological University

**Civil and Environmental  
Engineering**



November 17, 2020

Via e-mail: [belknapr@michigan.gov](mailto:belknapr@michigan.gov)

Roger Belknap  
TAMC Coordinator  
Michigan Department of Transportation  
425 West Ottawa Street, P.O. Box 30050  
Lansing, MI 48909

RE: Michigan Tech Proposal #2011073, entitled, "2021 Transportation Asset Management Council Technical Assistance Activities Program Work Plan," directed by Dr. Timothy Colling

Dear Mr. Belknap,

Michigan Technological University is pleased to submit the attached proposal for your review and consideration.

If you have any technical questions, please contact Dr. Colling at (906) 487-2102 or by email at [tkcollin@mtu.edu](mailto:tkcollin@mtu.edu). For all other questions, please contact Randy Lurn, Assistant Sponsored Programs Analyst, at (906) 487-2226 or by email at [rmlaurn@mtu.edu](mailto:rmlaurn@mtu.edu).

Sincerely,

**Kelly M. Kallio** Digitally signed by Kelly M. Kallio  
Date: 2020.11.17 14:47:53 -05'00'

Kelly M. Kallio  
Director of Government Sponsored Programs

KMK/rl

Attachments

cc: T. Colling  
File

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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, 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 work plan and budget is for the period beginning December 1, 2020 and ending December 31, 2021. The project total is \$129,465.

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: TAMC Data Collection Process Changes
- Task 3: Data Collection State of Practice Study
- Task 4: Undefined Staff Support
- Task 5: Attend and Participate in TAMC Council Meetings
- Task 6: Attend and Participate in TAMC Committee Meetings
- Task 7: 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: TAMC Data Collection Process Changes**

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

The Covid -19 crisis has forced many around the world to adapt to new ways of doing things. TAMC is no different. The annual TAMC pavement condition data collection brings together over 400 people from MDOT, Local Agencies, Regional and Metro planning organizations. Travel policy at each of these partner agencies caused the cancellation of data collection in 2020, and risks cancellation of the 2021 data collection task if adaptations are not made to the collection program. Currently TAMC is considering changes in the number of raters, the composition of the rating teams, and co-rate or quality control check collected data. A change

in collection policy is the first step of this process, but there are significant behind the scenes tasks that result from these potential changes.

This task provides a budget to address the logistics of changing the data collection process for PASER and IBR ratings in 2021. While the full extent of the changes necessary are not currently known it is likely that the following subtasks will be necessary:

Alterations to Roadsoft / LDC: It will likely be necessary for teams to co-rate (repeated measure) of a percentage of their roads as team composition changes. In order to speed this collection and reduce errors, Roadsoft will need to be able to identify a variable percentage of roads that were recently collected by a team for co-rating by a co-rating team using a random sampling method with geographical and segment property constraints. This functionality will likely be completed in the RPO / MPO version of Roadsoft. Once co-rating samples are identified Roadsoft will create a co-rating collection network for export to the LDC. Co-rating team data will be compared to initial ratings for local level concurrence. Tools in Roadsoft will be created for the comparison of co-rating data which allow the identification of any ratings more than plus or minus 1 rating point away from the initial collection. The tool will also allow team members to indicate acceptance of the data set.

Changes to the data collection manual: Significant changes will likely be needed to the TAMC data collection manual to overview the procedures outlined in the co-rating methods above. These include step by step instructions and shortened fact sheets for raters that do not attend PASER training next year, but who will participate in collection.

At the time of this proposal the scope of this task has not been determined. It may be necessary to cancel other tasks and reallocate budget to complete this task depending on scope.

### **3.3 Task 3: Pavement Data Collection State of Practice 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).

Data collection is a large component of what TAMC does, and is a large cost for any asset management program. While the current methods of collection used for TAMC sponsored data collection have a low price point and are accessible to transportation agencies without significant specialized equipment, there are many new innovations in transportation asset data collection that may provide either enhancements to current data collection, or may provide more efficient methods, or more detailed data that is worth considering for future efforts. This task will investigate new, market ready technologies for collecting asset data that could be used on a statewide scale to accomplish TAMC's goals for data collection, specifically:

- Provide low cost, high quality data at a state level scale on a yearly cycle
- Accessible to local agencies to do their own collection outside of TAMC's efforts
- Provide a network level metric for the state to sense overall condition trends
- Provide project level planning guidance at a road owner level
- Provide condition modeling opportunities at a state and local level
- Relatable to historical data

This task will primarily evaluate pavement data collection tools, but will also consider technologies that can collect inventory information on other ancillary roadway assets. Bridge data collection will not be considered since it is required to be collected under federal guidelines which are not under the purview of TAMC to modify. The focus of the study effort will be to identify:

1. The type and quality of data collected
2. The cost of data collection and associated post processing
3. Technology or equipment needed for collection and its associated load on collection costs
4. The number of providers of the data collection method
5. The ability of data collected to be integrated and enhanced with historic data for state and local processes

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: 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’<sup>1</sup> and six conference-call meetings<sup>2</sup>. Discussion with the sponsor’s project manager and the TAMC staff coordinator will determine which meetings will be attended and which personnel will attend. The budget for travel costs will be allocated to attending additional meetings if in person meetings are not convened due to travel restrictions. It is anticipated that several additional virtual meetings may be necessary if in person meetings do not occur.

### **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’<sup>1</sup> and eight conference-call meetings<sup>2</sup>. Discussion with the sponsor’s project manager and the TAMC staff coordinator will determine which meetings will be attended and which personnel will attend.

The budget for travel costs will be allocated to attending additional meetings if in person meetings are not convened due to travel restrictions. It is anticipated that several additional virtual meetings may be necessary if in person meetings do not occur.

### **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

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<sup>1</sup> A “person-meeting” is one person attending one meeting

<sup>2</sup> 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.

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

Luke Peterson, Principle Programmer – Co-PI

##### **Names of Employees and Positions for this Service**

Tim Colling, PhD, PE, Director

Gary Schlaff, Sr. Project Manager, Development & IT

Chris Codere, Sr. Project Manager, Training & Operations

Cynthia Elder, Workshop Coordinator

Chris Gilbertson, PhD, PE, Sr. Research Engineer

Jeremy Guinn, Software Engineer

Nick Koszykowski, Principle Programmer

Andrew Manty, PE, Research Engineer

Luke Peterson, Principle Programmer

Victoria Sage, MS, Technical Writer

Peter Torola, PE, Research Engineer II

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

This form replaces a traditional cover letter, and must have a signature by an authorized legal signer. This form is required for all priced proposals, and shall be the very first page(s). This priced proposal is a binding document and no further Consultant signature(s) will be required if an authorization is issued, rather than a contract.

This form shall be completed by each consultant that has a derivation of cost sheet as part of this priced proposal. Traditional cover letters are not required, but may be added after this Priced Proposal Cover Sheet(s).

**PROJECT INFORMATION**

MDOT CONTROL SECTION(S) – JOB NUMBER(S):  <p style="text-align: center;"><b>CS Various - JN</b></p>	CONTRACT / AUTHORIZATION NUMBER:
---	----------------------------------

PROJECT DESCRIPTION:  <p style="text-align: center;"><b>2021 Transportation Asset Management Council Education Program</b></p>
--

**BASIS FOR REIMBURSEMENT AND METHOD OF PAYMENT** as specified in the MDOT Scope of Services (*Actual Cost, Actual Cost Plus Fixed Fee, Loaded Hourly Rate, Unit Price, Lump Sum, and Milestones*) When applicable, list ALL Consultant(s) performing work on this project and the basis for reimbursement and method of payment for each.) **Example: Actual Cost Plus Fixed Fee: (Each firm init.)**

<i>Actual Cost (AC)</i>	<i>MTU</i>
-------------------------	------------

**PREQUALIFICATION CLASSIFICATION(S)** (When applicable, list ALL Consultant(s) performing work on this project and all classification(s) in which they will be working. Use current MDOT classification names.) **Example: Design: Roadway: (Each firm init.)**

<i>TAMC Education Program Activities</i>	<i>MTU</i>
--	------------

**PRIME CONSULTANT INFORMATION**

LEGAL BUSINESS NAME:  <p style="text-align: center;"><b>Michigan Technological University</b></p>	FEDERAL ID NUMBER: ( <i>Must match prequalification</i> )  <p style="text-align: center;"><b>386005955</b></p>	ROLE: (Prime, Tier 1, Tier 2)  <p style="text-align: center;"><b>Prime Firm</b></p>	
COMPANY ADDRESS:  <p style="text-align: center;"><b>1400 Townsend Dr.</b></p>	CITY:  <p style="text-align: center;"><b>Houghton</b></p>	STATE:  <p style="text-align: center;"><b>MI</b></p>	ZIP CODE:  <p style="text-align: center;"><b>49931</b></p>
EMAIL (AUTHORIZED CONTRACT SIGNER):  <p style="text-align: center;"><b>rsch@mtu.edu</b></p>	PHONE NO.:	EMAIL (FOR SIGNED CONTRACT DISTRIBUTION):  <p style="text-align: center;"><b>rsch@mtu.edu</b></p>	

**By signature on this form, the consultant agrees that information provided in the consultant priced proposal does not contradict the scope of services or violate the contract terms and conditions.**

AUTHORIZED LEGAL SIGNER: (Printed Name - Title)  <p style="text-align: center;"><b>Kelly Kallio</b> DIRECTOR OF GOVERNMENT SPONSORED Programs</p>	DIGITAL SIGNATURE AND DATE:  <div style="display: flex; align-items: center;">  <div>                         Kelly M. Kallio                          Nov 17 2020 3:33 PM                     </div> </div>
---	---

## DOCUMENT OF CHANGES TO THE MDOT SCOPE OF SERVICES

This form is for use during the contract approval process and shall be attached anywhere the MDOT Scope of Services is used, such as in a contract exhibit. The MDOT Project Manager (PM) shall complete this form to document any changes (or verify no change) to an MDOT Scope of Service previously used for advertisement and for consultant selection that has been changed through, for example, the contract negotiation process or the scope verification meeting. This form is not required when a PM is requesting additional services through a revision or amendment to an agreement.

### PROJECT INFORMATION

<b>MDOT CONTROL SECTION(S) – JOB NUMBER(S):</b>  <p style="text-align: center; color: blue; font-weight: bold;">CS Various - JN</p>	<b>CONTRACT / AUTHORIZATION NUMBER:</b>  <p style="text-align: center; color: blue; font-weight: bold;">0</p>
<b>PRIME CONSULTANT NAME:</b>  <p style="text-align: center; color: blue; font-weight: bold;">Michigan Technological University</p>	<b>PROJECT DESCRIPTION:</b> <p style="text-align: center; color: blue; font-weight: bold;">2021 Transportation Asset Management Council Education Program</p>
<b>Box A.</b> <input type="checkbox"/> No changes have been made.  <p style="text-align: center; color: blue; font-weight: bold;">If you selected one of the following, please complete Box B.</p> <input type="checkbox"/> Changes have been made - pages are attached <input type="checkbox"/> Changes have been made - pages are <u>not</u> attached	<b>Box B. (Select all that apply):</b> <input type="checkbox"/> Changes include a major adjustment in the project limits. <input type="checkbox"/> Changes do not include a major adjustment in the project limits. <input type="checkbox"/> Changes affect the engineer's estimate. <input type="checkbox"/> Changes do not affect the engineer's estimate.

For Construction Engineering projects, an Expectations Meeting was held with the Consultant as required by the MDOT Construction Manual. This meeting was held on the following date:	<b>DATE:</b> <input type="text"/>
---	--------------------------------------

**LIST SPECIFIC ADDITIONS, DELETIONS, AND/OR CHANGES IN THE MDOT SCOPE OF SERVICES**

**I certify that all of the above additions, deletions, and/or changes have been incorporated within the advertised MDOT Scope of Services, as amended.**

<b>AUTHORIZED LEGAL SIGNER:</b> (Printed Name - Title)  <p style="text-align: center; color: blue; font-weight: bold;">Kelly Kallio Director of Government Sponsored Programs</p>	<b>DIGITAL SIGNATURE AND DATE:</b>  <p style="text-align: center; color: blue;"><i>Kelly M. Kallio</i>      Kelly M. Kallio Nov 17 2020 3:34 PM</p> <p style="text-align: right; font-size: small;"> DocuSign</p>
<b>MDOT PROJECT MANAGER:</b>  <p style="text-align: center; color: blue; font-weight: bold;">Roger Belknap</p>	<b>DIGITAL SIGNATURE AND DATE:</b>

## CERTIFICATION OF OVERHEAD COST RATE

- This Certification is required per U.S. Department of Transportation, Federal Highway Administration (FHWA) Order 4470.1A, and dated October 27, 2010. FHWA has issued this new policy to be **effective January 1, 2011**, requiring consultants provide certification that costs used to establish overhead cost rates for Federal-aid engineering and design related services contracts do not include any costs which are expressly unallowable; and that the overhead cost rate was established only with allowable costs.

- This certification is to provide assurance that the overhead costs rate was calculated in accordance with the applicable cost principles contained in the Federal Acquisition Regulations (FAR) of Title 48, Code of Federal Regulations (CFR) Part 31.

- This form shall be completed and submitted by the prime consultant and each subconsultant (first and second tier subconsultant(s)) that have a derivation of cost sheet as part of this priced proposal where an overhead rate was proposed. Please note that the Certifying Official is defined as the firm's Executive (President, Vice President or equivalent) or Chief Financial Officer.

### PROJECT INFORMATION

<b>MDOT CONTROL SECTION(S) – JOB NUMBER(S):</b>  <p style="text-align: center; color: blue; font-weight: bold;">CS Various - JN</p>	<b>CONTRACT / AUTHORIZATION NUMBER:</b>  
---	---

<b>PROJECT DESCRIPTION:</b>  <p style="text-align: center; color: blue; font-weight: bold;">2021 Transportation Asset Management Council Education Program</p>
--

### DECLARATION OF CERTIFICATION

<b>OVERHEAD COST RATE:</b>	<u>35.80%</u>
<b>DATE MDOT ACCEPTED OVERHEAD COST RATE:</b>	<u>6/26/2017</u>
<b>FISCAL YEAR COVERED FOR RATE CALCULATION:</b>	<u>7/1/2020</u> to <u>6/30/2021</u>

***I, the undersigned, certify that I have reviewed the overhead rate calculation for the fiscal period as specified above and to the best of my knowledge and belief:***

1.) All costs included to establish the above overhead cost rate are allowable in accordance with the cost principles of the Federal Acquisition Regulation (FAR) of title 48, Code of Federal Regulations (CFR), part 31.

2.) This overhead cost rate does not include any costs which are expressly unallowable under the cost principles of the FAR of 48 CFR 31.

***Has the firm been approved to use the SAFE HARBOR INDIRECT COST RATE of 110% with the understanding that the Safe Harbor Rate will be used for the life of the agreement?***

N

***All known material transactions or events that have occurred affecting the firm's ownership, organization and overhead cost rates have been disclosed. All supplied wage rates contained within this submittal are true, accurate, and compliant with the guidelines established by 48 CFR 31.201-3.***

### CONSULTANT INFORMATION

<b>LEGAL BUSINESS NAME:</b> <p style="text-align: center; color: blue; font-weight: bold;">Michigan Technological University</p>	<b>FEDERAL ID NUMBER:</b> <i>(Must match prequalification file)</i> <p style="text-align: center; color: blue; font-weight: bold;">386005955</p>	<b>ROLE:</b> <i>(Prime/Tier 1/Tier 2)</i> <p style="text-align: center; color: blue; font-weight: bold;">Prime Firm</p>
<b>COMPANY ADDRESS:</b> <p style="text-align: center; color: blue; font-weight: bold;">1400 Townsend Dr.</p>	<b>CITY:</b> <p style="text-align: center; color: blue; font-weight: bold;">Houghton</p>	<b>STATE:</b> <p style="text-align: center; color: blue; font-weight: bold;">MI</p>
<b>EMAIL (AUTHORIZED CONTRACT SIGNER):</b> <p style="text-align: center; color: blue; font-weight: bold;">rsch@mtu.edu</p>	<b>PHONE NO.:</b>	<b>EMAIL (FOR SIGNED CONTRACT DISTRIBUTION):</b> <p style="text-align: center; color: blue; font-weight: bold;">rsch@mtu.edu</p>

**By signature on this form, the consultant agrees that information provided in the consultant priced proposal does not contradict the scope of services or violate the contract terms and conditions.**

<b>CERTIFYING OFFICIAL:</b> <i>(Printed Name - Title)</i> <p style="text-align: center; color: blue; font-weight: bold;">Kelly Kallio Director of Government Operations Programs</p>	<b>DIGITAL SIGNATURE OF CERTIFYING OFFICIAL AND DATE:</b> <p style="text-align: center;">                   Kelly M. Kallio                  Nov 17 2020 3:34 PM  <small>DocuSign</small> </p>
---	--

**SUMMARY OF TOTAL PROJECT COSTS BY JOB NUMBER**

All Prime and Subconsultant Costs for ALL JOB NUMBERS (including phases). For amendment or revision, complete this form showing all job numbers for all services provided. Report Tier 2 Subconsultant costs with Tier 1 Subconsultants. For use with all Priced Proposals. Use additional pages as necessary.

<b>MDOT CONTROL SECTION(S) - JOB NUMBER(S):</b>  <b>CS Various - JN</b>	<b>CONTRACT / AUTHORIZATION NUMBER:</b>
<b>PRIME CONSULTANT NAME:</b>  <b>Michigan Technological University</b>	<b>DBE Goal:</b>
<b>PROJECT DESCRIPTION:</b> <b>2021 Transportation Asset Management Council Education Program</b>	

Consultant	Firm Role:	Contracted to:	Payment Method:	Job Number	Job Number	Job Number	Job Number	DBE (Y/N)	Total	% of Contract
<b>HOURS</b>				<b>2,425</b>	-	-	-		<b>2,425</b>	
Michigan Technological University	P	MDOT	AC	2,425	-	-	-		2,425	
<b>LABOR</b>				<b>\$ 89,105.45</b>	\$ -	\$ -	\$ -		<b>\$ 89,105.45</b>	
Michigan Technological University	P	MDOT	AC	\$ 89,105.45	\$ -	\$ -	\$ -		\$ 89,105.45	
<b>OVERHEAD</b>				<b>\$ 31,899.75</b>	\$ -	\$ -	\$ -		<b>\$ 31,899.75</b>	
Michigan Technological University	P	MDOT	AC	\$ 31,899.75	\$ -	\$ -	\$ -		\$ 31,899.75	
<b>OTHER DIRECT EXPENSES</b>				<b>\$ 90,386.01</b>	\$ -	\$ -	\$ -		<b>\$ 90,386.01</b>	
Michigan Technological University	P	MDOT	AC	\$ 90,386.01	\$ -	\$ -	\$ -		\$ 90,386.01	

<b>TOTAL COSTS SUMMARY</b>										
Consultant Totals	Firm Role:	Contracted to:	Payment Method:	Job Number	Job Number	Job Number	Job Number	DBE (Y/N)	Total	% of Contract
<b>Michigan Technological University</b>	<b>P</b>	<b>MDOT</b>	<b>AC</b>	<b>\$ 211,391.21</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>N</b>	<b>\$ 211,391.21</b>	<b>100.0%</b>
Firm Role Key: P = Prime Firm, T1 = Tier 1 Sub, T2 = Tier 2 Sub										
<b>TOTAL COSTS</b>				<b>\$ 211,391.21</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>		<b>\$ 211,391.21</b>	<b>100.0%</b>

**DERIVATION OF PRIME CONSULTANT COSTS**

Summary of all Prime Costs for ALL JOB NUMBERS (including phases) for all services provided. Use additional pages as necessary.

<b>MDOT CONTROL SECTION(S) - JOB NUMBER(S):</b>  <b>CS Various - JN</b>	<b>CONTRACT / AUTHORIZATION #:</b>	<b>FIRM ROLE:</b>  <b>Prime Firm</b>
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<b>PRIME CONSULTANT NAME:</b>  <b>Michigan Technological University</b>	<b>PROJECT DESCRIPTION:</b> <b>2021 Transportation Asset Management Council Education Program</b>
---	--

<b>PRIME LABOR:</b>							
<i>CLASSIFICATION</i>	<i>CODE</i>	<i>HOURS</i>	<i>x</i>	<i>RATE/HR</i>	<i>=</i>	<i>LABOR COST</i>	
Programmer/IT Specialist		20	x	\$ 21.63	=	\$	432.60
Director		390	x	\$ 67.30	=	\$	26,247.00
Associate Director		105	x	\$ 49.55	=	\$	5,202.75
Technical Writer		515	x	\$ 28.73	=	\$	14,795.95
Research Engineer		50	x	\$ 31.30	=	\$	1,565.00
Research Engineer/Trainer		385	x	\$ 31.84	=	\$	12,258.40
Research Engineer II		370	x	\$ 38.49	=	\$	14,241.30
Sr. Project Manager, Training & Ops		185	x	\$ 36.50	=	\$	6,752.50
Software Support/Financial Assistant		60	x	\$ 22.70	=	\$	1,362.00
Workshop Coordinator		345	x	\$ 18.11	=	\$	6,247.95
		<b>Total Hours:</b>	<b>2425</b>			<b>Total Labor</b>	<b>\$ 89,105.45</b>

<b>PRIME OVERHEAD: (Total Labor x Overhead Rate)</b>							
		<b>Overhead Rate:</b>	<b>35.80%</b>			<b>Total Overhead</b>	<b>\$ 31,899.75</b>

<b>PRIME OTHER DIRECT EXPENSES: (List each item once at Actual Cost - NO MARKUP.)</b>							
<i>Items</i>	<i>Quantity</i>	<i>@</i>	<i>Unit Price</i>	<i>Unit</i>	<i>=</i>	<i>Item Price</i>	
Facility/Room Rental	20.00	@	\$ 275.000	Avg.	=	\$	5,500.00
Mileage (MTU Motorpool)	17,850.00	@	\$ 0.560	Mile	=	\$	9,996.00
Lodging	68.00	@	\$ 75.000	Night	=	\$	5,100.00
Per Diem	90.00	@	\$ 55.000	Day	=	\$	4,950.00
Webinar Expenses	17,250.00	@	\$ 0.080	Minute	=	\$	1,380.00
Mail Charges	1.00	@	\$ 600.000	Annual	=	\$	600.00
Print/Copy Charges	41,875.00	@	\$ 0.080	Page	=	\$	3,350.00
Long Distance Telephone	2,000.00	@	\$ 0.020	Minute	=	\$	40.00
Fringe Benefits - Prof	89,105.45	@	\$ 0.400	Dollar	=	\$	35,642.18
ODC Overhead	66,558.18	@	\$ 0.358	Dollar	=	\$	23,827.83
						<b>Total Other Direct Expenses</b>	<b>\$ 90,386.01</b>

						<b>TOTAL PRIME FIRM COSTS</b>	<b>\$ 211,391.21</b>
--	--	--	--	--	--	-------------------------------	----------------------

Firm Role: Prime Firm

Note: Payment Method = AC



**SUMMARY OF PERSON HOURS BY PPMS TASK**

All Prime and Subconsultant Hours for EACH JOB NUMBER (including phases). For amendment/revision, complete this form showing all job numbers for all services provided. Use additional pages as necessary.

MDOT CONTROL SECTION(S) - JOB NUMBER(S): **CS Various - JN**  
 CONTRACT / AUTHORIZATION NUMBER:

PRIME CONSULTANT NAME:  
**Michigan Technological University**  
 PROJECT DESCRIPTION:  
**2021 Transportation Asset Management Council Education Program**

SUMMARY OF HOURS BY PPMS TASK						
PPMS Task Code	Task Description	Firm Init.	MDOT JN	MDOT JN	MDOT JN	Total
4110	Task 1: Assist in Coordinating the Michigan TAMC Co	Total	280	-	-	280
		MTU	280	-	-	280
4120	Task 2: Conduct Michigan Compliance Plan Webinar	Total	150	-	-	150
		MTU	150	-	-	150
4130	Task 3: Conduct Introduction to Transportation AM fo	Total	240	-	-	240
		MTU	240	-	-	240
4140	Task 4: Conduct TAMC PASER Training	Total	720	-	-	720
		MTU	720	-	-	720
4150	Task 5: Conduct Inventory Based Rating Training	Total	210	-	-	210
		MTU	210	-	-	210
4160	Task 6: Conduct Michigan Bridge Asset Management	Total	395	-	-	395
		MTU	395	-	-	395
4170	Task 7: Conduct Workshop on Creating Pavement As	Total	305	-	-	305
		MTU	305	-	-	305
4180	Task 8: Project Management & Reporting	Total	125	-	-	125
		MTU	125	-	-	125

SUMMARY OF HOURS BY FIRM						
Role	Firm Name	Firm Init.	MDOT JN	MDOT JN	MDOT JN	Total
Prime Firm	Michigan Technological University	MTU	2,425	-	-	2,425
	<b>Totals</b>		<b>2,425</b>	<b>-</b>	<b>-</b>	<b>2,425</b>

**PROPOSED PERSON HOURS BY PPMS TASK**

Michigan Department of Transportation  
5101E (01.08.19)

Summary of all Prime or Subconsultant Hours for ALL JOB NUMBERS (including phases). For amendment/revision, complete this form showing all job numbers for all services provided. Submit only one form per consultant. Use additional pages as necessary.

MDOT CONTROL SECTION(S) - JOB NUMBER(S): **CS Various - JN** FIRM ROLE: **Prime Firm**

PROJECT DESCRIPTION:

**2021 Transportation Asset Management Council Education Program**

**Michigan Technological University**

PPMS Task Code	Task Description	Programmer/IT Specialist	Director	Associate Director	Technical Writer	Research Engineer	Research Engineer/Trainer	Research Engineer II	Sr. Project Manager, Trainer & One On One	Software Support/Financial Assistant	Workshop Coordinator	HOURS FOR TASK
4110	Task 1: Assist in Coordinating the Michigan TAMC Conference		60		80				60	60	20	280
4120	Task 2: Conduct Michigan Compliance Plan Webinar and		50		20		20		20		40	150
4130	Task 3: Conduct Introduction to Transportation AM for Local		40		40		60	60			40	240
4140	Task 4: Conduct TAMC PASER Training	20	150		100		150	200			100	720
4150	Task 5: Conduct Inventory Based Rating Training		20		50		50	50	20		20	210
4160	Task 6: Conduct Michigan Bridge Asset Management Workshop		10	100	165	50	100	40	30		40	395
4170	Task 7: Conduct Workshop on Creating Pavement Asset		40		60		100	40	25		40	305
4180	Task 8: Project Management & Reporting		20	5			5	20	30		45	125

**SUMMARY OF PERSON HOURS FOR ALL MDOT JN'S**

Classification:	Programmer/IT Specialist	Director	Associate Director	Technical Writer	Research Engineer	Research Engineer/Trainer	Research Engineer II	Sr. Project Manager, Trainer & One On One	Software Support/Financial Assistant	Workshop Coordinator	HOURS FOR FIRM
Total Hours:	20	390	105	515	50	385	370	185	60	345	2425

# Appendix C: Payroll Verification



## PAYROLL VERIFICATION

### Michigan Department of Transportation

*"2021 Transportation Asset Management Council Education Program Work Plan"*

Principal Investigator: Timothy Colling

<u>Personnel</u>	<u>Current Hourly/Annual Rate:</u>
Timothy Colling	\$ 67.30 / \$ 139,974.00
Jacob Coulson	\$ 21.63 / \$ 45,000.00
Zachary Fredin	\$ 31.30 / \$ 65,100.00
Allison Berryman	\$ 22.70 / \$ 47,226.00
Christopher Gilbertson	\$ 49.55 / \$ 103,057.00
Victoria Sage	\$ 28.73 / \$ 59,750.00
Andrew Manty	\$ 31.84 / \$ 66,223.00
Peter Torola	\$ 38.49 / \$ 80,066.00
Christine Codere	\$ 36.50 / \$ 75,918.00
Cynthia Elder	\$ 18.11 / \$ 37,662.00

 11/16/2020  
 Roxanne Barrette, PPA Date

Roxanne Barrette  
 Payroll Supervisor, Payroll Services  
 Michigan Technological University

## 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.

**Proposal Title:**

**2021-2022 Transportation Asset  
Management Council Culvert  
Condition Assessment Work  
Plan**

**Submitted To:**

Roger Belknap  
Bureau of Transportation Planning  
Michigan Department of Transportation  
belknapr@michigan.gov

**Principal Investigator:**

Chris Gilbertson PhD, PE  
Associate Director – CTT  
cggilber@mtu.edu  
1400 Townsend Drive - 309 Dillman Hall  
Houghton, MI 49931  
906-487-2102

**Co-Principal Investigators:**

Tim Colling PhD, PE  
Director – CTT  
tkcollin@mtu.edu, 906-487-2102

Nick Koszykowski  
Senior Software Architect – CTT  
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**Contracting Authority:**

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Director – Government Sponsored  
Programs Office  
Michigan Technological University  
1400 Townsend Drive  
Houghton, MI 49931  
(906) 487-2226  
(906) 487-2245 fax  
rsch@mtu.edu

**Date Submitted:**

February 12, 2021







February 16, 2021

Via e-mail: [belknapr@michigan.gov](mailto:belknapr@michigan.gov)

Roger Belknap  
Michigan Department of Transportation  
425 W. Ottawa Street  
Lansing, MI 48933

RE: Revised Michigan Tech Proposal #2101071, entitled, "2021 TAMC Culvert Condition Assessment Work Plan," directed by Dr. Christopher Gilbertson.

Dear Mr. Belknap,

Michigan Technological University is pleased to submit the attached revised proposal for your review and consideration.

If you have any technical questions, please contact Dr. Gilbertson at (906) 487-2102 or by email at [cggilber@mtu.edu](mailto:cggilber@mtu.edu). For all other questions, please contact Jennifer Bukovich, Sponsored Programs Analyst, at (906) 487-2226 or by e-mail at [jlbukovi@mtu.edu](mailto:jlbukovi@mtu.edu).

Sincerely,

Kelly M. Kallio  
Director of Government Sponsored Programs

KMK/jb

Attachments

cc: C. Gilbertson  
C. Codere  
File

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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.

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 cancellation 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.

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 maintain separate and discrete financial information relating to the completion of these tasks.

## **3.0 WORK PLAN**

The FHWA Culvert Inspection System had been incorporated into Roadsoft and has been used historically by local agencies. The 2018 TAMC Culvert Pilot’s evaluation system added additional deterioration descriptions for specific culvert types not included in the 1986 FHWA Culvert Inspection System. An update to the FHWA method was published by AASHTO in August 2020. AASHTO’s Culvert & Storm Drain System Inspection Guide method for condition evaluation was compared with the TAMC Pilot and MDOT systems and the results were presented in the 2020 TAMC Culvert Condition Assessment Final Report, accepted by the TAMC Bridge Committee on December 23, 2020.

This work plan will assist the TAMC Bridge Committee with completing a state-specific culvert inspection guide based on the evaluation method published by AASHTO. Additional tasks will

update the TAMC culvert inventory and evaluation training program to reflect the new guide and changes will be made to Roadsoft to facilitate data collection under the updated criteria. A final report will summarize the work associated with the culvert pilot including the tasks within this work plan.

This work plan and budget are for the period beginning March 1, 2021 and ending September 30, 2022. The project budget is \$135,008. The Budget and Cost Derivation, MDOT Form 5101A-1, can be found in Appendix A.

The work plan consists of the following major tasks:

- Task 1: Provide Technical Writing and Editing for the TAMC Culvert Inspection Guide
- Task 2: Update and Provide Culvert Condition Assessment Training
- Task 3: Update Roadsoft Culvert Module for TAMC Culvert Inspection Guide
- Task 4: Final Report

### **Task 1: Provide Technical Writing and Editing for the TAMC Culvert Inspection Guide**

The AASHTO Culvert & Storm Drain System Inspection Guide states that it “is not intended to be used as a standard or policy statement. (1.3.1)” and that “agencies may choose to use this information as one reference on which to build inspection, assessment, and management criteria best suited to their particular needs.” The TAMC Bridge Committee used the guide along with survey and research presented by the CTT during the 2020 TAMC Culvert Condition Assessment project to compile a draft document with a working title “Michigan Non-NBI Culvert Inspection Guide”. This document is intended to serve as the technical document describing how to meet consistency standards required to submit culvert data to the TAMC according to the Policy for Collection of Inventory and Condition Data; a standalone policy document developed by the Bridge Committee to describe the policy and procedures for collecting the physical inventory and condition data of culverts owned by Public Act 51 agencies within Michigan.

The draft Michigan Non-NBI Culvert Inspection Guide was presented following the draft Policy for Collection of Culvert Inventory and Condition Data (Attachment 9 in meeting agenda) at the January 6<sup>th</sup> TAMC Meeting. This draft document will serve as the template for Task 1. CTT will provide technical writing services to the Bridge Committee for editing the draft document and completing areas where the template describes content that was not finalized.

The TAMC Bridge Committee chose to accept the AASHTO method for condition evaluation but discussed a desire to re-organize the reporting of condition data by combining and simplifying

data reporting categories. It is expected that the TAMC Bridge Committee will finalize these reporting categories and any unresolved data collection procedures and policy before the CTT technical writer begins this task.

## **Task 2: Update and Provide Culvert Condition Assessment Training**

The CTT developed training for the 2018 TAMC Culvert Pilot. This training has been offered subsequently but has not been updated. The purpose of this task is to update the existing TAMC Culvert Condition Assessment training program to follow the Michigan Non-NBI Culvert Inspection Guide (Task 1).

This task includes presentation of four webinar sessions of approximately two to 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 two 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 3: Update Roadsoft Culvert Module for TAMC Culvert Inspection Guide**

Roadsoft is used by the majority of local agencies in the State of Michigan for collecting, storing, and analyzing data associated with transportation infrastructure. The Roadsoft Culvert Module was updated in 2018 to accommodate the TAMC Culvert Pilot.

In this task CTT will rebuild the Roadsoft Culvert Module for consistency with the Michigan Non-NBI Culvert Inspection Guide (Task 1). Updates to the module will include the following:

- Data dictionary will be updated to be consistent with the MI Non-NBI Culvert Inspection Guide

- The module will be updated to reflect the updated data dictionary. Old fields will be retired as read-only until a future date when they will be removed.
- A conversion tool will be written to provide an interface for the user to transfer data from old fields into the new data dictionary fields where possible.
- Updates to the data dictionary will require updates to Filters, Legends, Import/Export, Reports, Laptop Data Collector, and Roadsoft Mobile.
- Upload of culvert data to the CSS web service will be updated to reflect the revised data dictionary.

### Task 4: Final Report

A final report will serve as the project deliverable for this work plan. The final report will contain a summary of previous work as contained in the Michigan Local Agency 2018 Culvert Inventory Pilot Evaluation Report and the 2020 TAMC Culvert Condition Assessment Final Report and tie in findings from the proposed work plan.

The final report will complete the findings of the TAMC Culvert Pilot by including the update of the pilot training materials and reporting tools (Roadsoft). Recommendations from the previous work resulted in the adoption of a new condition evaluation method based on the AASHTO Culvert & Storm Drain System Inspection Guide and detailed in the Michigan Non-NBI Culvert Inspection Guide (Task 1).

Agencies who participate in the training and/or data collection will be asked to complete a survey to gather their thoughts on the updated training, the new collection method, and the updated Roadsoft culvert module used to collect the data. This information will be summarized in the final report.

The final report appendices will contain the Michigan Non-NBI Culvert Inspection Guide (Task 1), training materials (Task 2), and the Roadsoft culvert data dictionary (Task 3).

### Anticipated Schedule:

2021 TAMC Culvert Condition Assessment	2021												2022								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Task 1: Provide Technical Writing and Editing for the TAMC Culvert Inspection Guide																					
Task 2: Update and Provide Culvert Condition Assessment Training																					
Task 3: Update Roadsoft Culvert Module for TAMC Culvert Inspection Guide																					
Task 4: Final Report																					

## **4.0 KEY PERSONNEL**

Chris Gilbertson, PhD, PE, Associate Director – PI

Tim Colling, PhD, PE, Director – Co-PI

Nick Koszykowski – Co-PI

### **Names of Employees and Positions for this Service**

Scott Bershing, Technical Specialist

Tim Colling, PhD, PE, Director – PI

Zach Fredin, PE, Research Engineer

Chris Gilbertson, PhD, PE, Associate Director

Nick Koszykowski – Senior Software Architect – Co-PI

Luke Peterson, Principal Programmer/Analyst

Victoria Sage, MS, Technical Writer/Training Coordinator

Lindsey Wells, User Interface/User Experience Specialist



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

The signed MDOT Priced Proposal is attached to this proposal as a separate document.

# Appendix B: Payroll Verification

# PAYROLL VERIFICATION

## Michigan Department of Transportation

*" 2021 TAMC Culvert Condition Assessment "*

Principal Investigator: Christopher Gilbertson

<u>Personnel</u>	<u>Current Hourly/Annual Rate:</u>
Scott Bershing	\$30.05 / \$ 62,513
Timothy Colling	\$67.30 / \$139,974
Zachary Fredin	\$31.30 / \$ 65,100
Christopher Gilbertson	\$49.55 / \$103,057
Nicholas Koszykowski	\$47.05 / \$ 97,866
Luke Peterson	\$45.09 / \$ 93,792
Victoria Sage	\$28.73 / \$ 59,750
Lindsey Wells	\$21.00 / \$ 43,680



01/29/2021

Roxanne Barrette  
Payroll Supervisor, Payroll Services  
Michigan Technological University