

Michigan Department of Transportation (MDOT)
FY 2021 Appropriation Reporting - Public Act 166 of 2020, Section 661

INNOVATIVE ROAD MATERIALS, ROAD AND BRIDGE DESIGN, AND
CONSTRUCTION SPECIFICATIONS

April 1, 2021

I. REPORTING REQUIREMENTS

Per Section 661 of P.A. 166 of 2020, the department shall perform the following:

- A. Establish a collaborative stakeholder group to review innovative road materials and innovative road and bridge design and construction specifications.
- B. Report quarterly on the activities of the collaborative stakeholder group.
- C. Describe innovative materials and innovative road and bridge design and construction specifications submitted for review.
- D. Describe the innovative materials and innovative road and bridge design and construction specifications submitted for review, the submissions recommended for adoption by the department and the submissions not recommended for adoption by the department.

II. REPORTING ACTIVITIES

A. Collaborative Stakeholder Group

The Michigan State Transportation Innovation Council (MI-STIC) is a collaborative stakeholder group representing various levels of the transportation community to comprehensively and strategically consider all sources of transportation. Please see the MI-STIC website for the current roster at the following link:

https://www.michigan.gov/mdot/0,4616,7-151-9623_61313-507811--,00.html

MDOT has also established a New Product Steering Committee to establish a consistent process by which new materials and products are evaluated. New materials and products must be commercially available with research and development previously completed by the manufacturer with examples of applications comparable to typical highway infrastructure applications as used by MDOT. All materials and products that are market-ready are defined as products in this evaluation process. Vendors are encouraged to submit new materials and products at the following link:

https://www.michigan.gov/mdot/0,4616,7-151-9623_26663_27303_66829---.00.html

B. Collaborative Stakeholder Group Quarterly Activities

Starting in FY 2021, MI-STIC made a change for future meetings by meeting monthly instead of quarterly. Under this structure, every other meeting will be a

business meeting and the corresponding meetings will be presentation meetings where each of the agencies will take the lead to present what they are working on in the innovation arena. Each year will also incorporate STIC Highlight meetings and workshops twice a year led by MDOT to share innovations. For the current reporting period, MI-STIC meetings were held on December 4, 2020, January 4, 2021, February 22, 2021, and March 26, 2021, and those minutes are posted on the following website link: [MDOT - MI-STIC: Council Information \(michigan.gov\)](https://www.michigan.gov/mdot/0,4616,7-151-9623_61313-507811-00.html). The following items represent an overview of the MI-STIC activities for the reporting period:

- i. MDOT continued development of an innovation website. This innovation website will serve as an external interface tool demonstrating department accomplishments in deploying innovation statewide. The current focus is MDOT firsts, research, work zones, new materials, innovative contracts, and technology. It can be found at the following link:
https://experience.arcgis.com/experience/59af39d6725d499d9ce15c41dd082133?data_id=dataSource_1-MDOT_Innovations_9473%3A34
 - ii. The MI-STIC continues solicitation for the MI-STIC Incentive Program, which offers technical assistance and up to \$100,000 in federal funding per STIC, per year, to support costs of standardizing innovative practices in a state transportation agency or other public sector STIC stakeholder. The proposals must be submitted to FHWA as referenced in the following links for FY 2021:
 - a. MI-STIC website:
https://www.michigan.gov/mdot/0,4616,7-151-9623_61313-507811-00.html
 - b. National STIC website:
<https://www.fhwa.dot.gov/innovation/stic/>
- To date, FHWA approval has been obtained for the "Develop Local Agency Emergency Response Playbook" for 2021 in the amount of \$53,600.
- iii. "Every Day Counts – 6" has begun for the next two years, and Michigan adopted the following innovation initiatives: Digital As-Builts, e-Ticketing, Targeted Overlay Pavement Solutions, Ultra High-Performance Concrete, Virtual Public Involvement.
 - iv. Road and Bridge 3D models and how they benefit the Public Involvement Management Application (PIMA) was presented at the February 22, 2021 MI-STIC meeting led by the American Council of Engineering Companies (ACEC).
 - v. Six presentations took place at the March 17, 2021 STIC Highlight Workshop on the following topics:
 - a. SELFLEVEL Castings
 - b. Improving Geotechnical Site Characterization with Cone Penetration Testing

- c. EMergency Integrated LanYard (EMILY) Inspection Device Named the American Society of Civil Engineers (ASCE) Gamechanger
 - d. Soft Binder, Fiber-Reinforced Micro-Surfacing
 - e. Driving Aviation Safety Improvements at Michigan's Airports via Aerial Data Collection
 - f. Cold Pourable Pavement Repair
- vi. The status of new material and qualified product submittals is tracked monthly. The most recent status report is attached.
- vii. The next MI-STIC meeting is scheduled for April 19, 2021.

C. Submissions Presented for Review

Accomplishments for the reporting period in FY 2021 are noted in Section IIB above.

D. Submission Recommendations

Submissions adopted/not adopted by the department

Accomplishments for the reporting period in FY 2021 are noted in Section IIB above.

New Materials Status Report																
Rolling 12 month Data												Summary Data per Calendar Year				
	Mar-2020	Apr-2020	May-2020	Jun-2020	Jul-2020	Aug-2020	Sep-2020	Oct-2020	Nov-2020	Dec-2020	Jan-2021	Feb-2021		2019	2020	2021
Submittals Received	2	3	1	0	3	1	3	1	0	4	1	0	Submittals Received	36	20	1
Submittals Accepted	1	0	0	0	0	0	0	0	0	0	0	0	Submittals Accepted	1	1	0
Submittals Not Accepted	1	0	0	0	0	1	1	0	0	0	0	0	Submittals Not Accepted	1	4	0

Biannual QPL Revisions			
MSG/QPL Revision	Products Approved/Additions	Products Rejected	Products Removed*
March 2017	9	0	5
October 2017	18	1	0
March 2018	15	0	11
October 2018	18	0	11
March 2019	15	2	4
October 2019	23	0	14
March 2020	6	0	23
August 2020	12	0	14
January 2021	10	0	2

*Products may be removed from the QPL list due to, but not limited to, the following; Producer no longer in business, product no longer being produced, new model has been implemented, failure to resubmit required documentation timely as defined , product conformance deficiencies, etc. Products are removed at the request of either the manufacturer or the MDOT QPL Manager.

Definitions:

New Materials: A "New Material" is a material which has not been adopted by the Michigan Department of Transportation (MDOT) and has no current specification requirements per the 2012 Standard Specifications for Construction, nor a defined basis of acceptance.

Qualified Products: A "Qualified Product" is a material which has a current basis of acceptance and is published on the Qualified Products List (QPL) in the Materials Source Guide (MSG). These materials must meet MDOT's current specifications and requirements for the product described in its respective Qualification Procedure found in the Materials Quality Assurance Procedures Manual (MQAP).