



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

KIRK T. STEUDLE
DIRECTOR

May 11, 2018

Mr. Richard Lowe, Director
Office of Internal Audit Services
Office of the State Budget
George W. Romney Building
111 South Capitol Avenue, Sixth Floor
Lansing, Michigan 48913

Dear Mr. Lowe:

In accordance with the State of Michigan Financial Management Guide, Part VII, following is a summary table identifying our response and a corrective action plan. This addresses the recommendation contained within the Office of Auditor General's performance audit report of the Michigan Department of Transportation's Pavement Operations, covering the period of October 1, 2014 through July 31, 2017 (Project 591-0310-17). The Office of Internal Audit Services and Office of the State Budget approve distribution of the plan.

Questions regarding the summary table or corrective action plan should be directed to either Jason J. Gutting, Administrator, Construction Field Services Division, at 517-322-1085 or Jack Cotter, CPA, CGMA, Commission Auditor, at 517-373-1500.

Sincerely,

Signature Redacted

Kirk T. Steudle
Director

Enclosures

cc: Executive Office
Office of the Auditor General
Senate Fiscal Agency
Senate Transportation Appropriations Subcommittee
Senate Transportation Standing Committee
House Fiscal Agency
House Transportation Appropriations Subcommittee
House Transportation Standing Committee
State Transportation Commission Chair
MDOT Bureau of Field Services, Construction Field Services Division
Office of Commission Audits

Michigan Department of Transportation
Summary Table of Agency Responses to Recommendations
Audit Period October 1, 2014 through June 30, 2017

A. Audit recommendations the agency has complied with:

None.

B. Audit recommendations the agency agrees with and will comply:

Finding 1.

C. Audit recommendations the agency partially agrees with:

None.

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A. Audit recommendations the agency has complied with:

None.

B. Audit recommendations the agency agrees with and will comply:

AUDIT FINDING

- 1. MDOT has not quantified the performance and/or cost-effectiveness of its pavement demonstration projects to allow determined benefits to be implemented in future projects.**

RECOMMENDATION

We recommend that MDOT quantify the performance and cost-effectiveness of its pavement demonstration projects.

AGENCY RESPONSE

MDOT concurs with the recommendation.

In general, to measure performance of MDOT's highway network, MDOT uses Distress Index (DI) values that MDOT had collected every other year since 1992 for the MDOT road network (30,000 lane miles). At an appropriate time, MDOT plots the DI as a function of age for the projects of a fix type. MDOT then fits a logistic growth curve to the data to determine the fix life, or the time the pavement fix type is expected to last without maintenance. When plotted for demonstration projects, this curve, coupled with maintenance information, can be used to compare and contrast to standard types of fixes, which may or may not exist for a particular type of demonstration project.

As of the audit period and as described in the audit finding, MDOT had not yet used DI data to evaluate and analyze the pavement performance of the referenced demonstration projects. The ages of the projects, in conjunction with the technical type of projects, are recently at a point which MDOT can begin DI plotting. After the issue was discussed as part of the LCCA process updates, MDOT began developing the DI life cycle curves for two of the demonstration projects (M-1 and M-3) that, eventually, might lead to a new standard MDOT fix.

For three of the demonstration projects (M-84, I-96, and I-75 Cheboygan County), however, early data would likely provide unrealistic performance characteristics. These three demonstration projects were constructed with a 40-year design life, which will take additional evaluation time. Therefore, for these projects, predictions of long-term performance using DI efforts may not be possible until additional data is available.

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Also, relative to compliance with law, MDOT has documented its visual/qualitative evaluations of the conditions of pavement demonstration projects. The results of these evaluations are reported annually to the legislature. The 2017 legislative report incorporated a brief qualitative statement on performance of each demonstration project.

By August 1, 2018 MDOT will evaluate and quantitatively analyze the performance of the three remaining demonstration projects (I-75 Ogemaw County, M-13, and M-99) not referenced above, to ascertain if performance trends can be determined and, if appropriate, determine applicability as a standard fix.

MDOT will develop a process for evaluating demonstration projects to determine applicability into design standard practice by August 1, 2018.

C. Audit recommendations the agency partially agrees with:

None.