

Office of the Auditor General
Follow-Up Report on Prior Audit Recommendations

**Monitoring of Warranties and
Road and Bridge Construction Projects**
Michigan Department of Transportation

July 2016

The auditor general shall conduct post audits of financial transactions and accounts of the state and of all branches, departments, offices, boards, commissions, agencies, authorities and institutions of the state established by this constitution or by law, and performance post audits thereof.

Article IV, Section 53 of the Michigan Constitution



*Follow-Up Report
Monitoring of Warranties and
Road and Bridge Construction Projects
Michigan Department of Transportation
(MDOT)*

**Report Number:
591-0210-14F**

**Released:
July 2016**

We conducted this follow-up to determine whether MDOT had taken appropriate corrective measures in response to the three material conditions noted in our February 2015 audit report.

Prior Audit Information	Follow-Up Results		
	Conclusion	Finding	Agency Preliminary Response
<p>Finding #1 - Material condition</p> <p>Improved monitoring of warranties that require contractors to complete corrective action needed.</p> <p>Agency agreed.</p>	Complied	Not applicable	Not applicable
<p>Finding #2 - Material condition</p> <p>Improvement needed to ensure timely inspections of warrantied road and bridge construction projects.</p> <p>Improved maintenance of warranty documentation needed.</p> <p>Agency agreed.</p>	Complied	Not applicable	Not applicable

Prior Audit Information
<p>Finding #3 - Material condition</p> <p>Improvement needed to ensure the completeness and accuracy of information recorded in the Statewide Warranty Administration Database.</p> <p>Agency agreed.</p>

Follow-Up Results		
Conclusion	Finding	Agency Preliminary Response
Complied	Not applicable	Not applicable

A copy of the full report can be obtained by calling 517.334.8050 or by visiting our Web site at: www.audgen.michigan.gov

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July 27, 2016

Mr. Todd Wyett, Chair
State Transportation Commission
and
Kirk T. Steudle, PE, Director
Michigan Department of Transportation
Murray Van Wagoner Transportation Building
Lansing, Michigan

Dear Mr. Wyett and Mr. Steudle:

I am pleased to provide this follow-up report on the three material conditions (Findings #1 through #3) and four corresponding recommendations reported in the performance audit of the Monitoring of Warranties and Road and Bridge Construction Projects, Michigan Department of Transportation (MDOT). That audit report was issued and distributed in February 2015. Additional copies are available on request or at www.audgen.michigan.gov.

Our follow-up disclosed that MDOT had complied with our recommendations regarding monitoring contractors' completion of corrective action, completing inspections in a timely manner, maintaining warranty documentation, and recording complete and accurate information in the Statewide Warranty Administration Database.

We appreciate the courtesy and cooperation extended to us during our follow-up. If you have any questions, please call me or Laura J. Hirst, CPA, Deputy Auditor General.

Sincerely,

A handwritten signature in dark ink that reads "Doug Ringler". The signature is written in a cursive, flowing style.

Doug Ringler
Auditor General

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INTRODUCTION, PURPOSE OF FOLLOW-UP, AND AGENCY DESCRIPTION

INTRODUCTION

This report contains the results of our follow-up of the three material conditions* (Findings #1 through #3) and four corresponding recommendations reported in our performance audit* of the Monitoring of Warranties and Road and Bridge Construction Projects, Michigan Department of Transportation (MDOT), issued in February 2015.

PURPOSE OF FOLLOW-UP

To determine whether MDOT had taken appropriate corrective measures to address our corresponding recommendations.

AGENCY DESCRIPTION

Section 247.661(2) of the *Michigan Compiled Laws* provided that MDOT shall, where possible, secure full replacement warranties of not less than five years on State trunkline* projects. Also, MDOT appropriations acts direct MDOT to work with the road construction industry to develop performance warranties* and materials and workmanship warranties* for construction projects. The length and type of warranties vary from two- to three-year performance warranties on bridge painting projects and pavement capital preventive maintenance* projects to five-year materials and workmanship warranties on most pavement reconstruction* and rehabilitation* projects.

MDOT's warranties are limited to applicable items within a contract, such as asphalt, concrete, or bridge painting which represent a portion of total contract costs. Also, the cost to perform corrective action represents only a portion of the warranted cost because the corrective action required is generally a less costly alternative, such as crack filling.

In 2003, MDOT implemented the Statewide Warranty Administration Database (SWAD) as its tool for monitoring warranted construction projects. SWAD was designed to enable management to track warranties and to identify when warranties were due to expire, thus allowing MDOT to schedule final inspections of warranted projects and help MDOT ensure that contractors complete any needed corrective action in a timely manner.

* See glossary at end of report for definition.

PRIOR AUDIT FINDINGS AND RECOMMENDATIONS, AGENCY PLAN TO COMPLY, AND FOLLOW-UP CONCLUSIONS

FINDING #1

Audit Finding Classification: Material condition.

Summary of the February 2015 Finding:

MDOT did not consistently ensure that contractors completed corrective action or completed it timely for warrantied projects identified as needing repairs. Without effective monitoring, the responsibility for the cost of road repairs may shift from the contractor to the State. Contractors are required to provide performance warranties and materials and workmanship warranties for certain road and bridge construction projects. Prior to the warranty expiration, MDOT staff inspect the project to identify the need for any corrective action and notify the contractor of the deficiencies needing repair.

Recommendation Reported in February 2015:

We recommended that MDOT ensure that contractors complete corrective action and complete it timely for warrantied projects identified as needing repairs.

AGENCY PLAN TO COMPLY*

On April 21, 2015, MDOT indicated that it had developed an action plan and had already taken, or planned to take, the following steps to address the contractors' completion of corrective action:

- MDOT provided senior management with warranty-report information for appropriate and corrective action, as necessary; and senior management had a standing warranty agenda item at its monthly Region/Bureau Management Team meetings. MDOT also implemented a Warranty Improvement Team, which took the lead on updating guidelines for administering warranties and applicable user guides. In addition, warranty improvements and efforts were reviewed, discussed, and addressed at the department's Statewide Alignment Construction Team meetings. Furthermore, a department performance factor was established to ensure that 100% of the warranty inspection work is completed and that the warranty database is updated to reflect the completed activities.
- MDOT had already established an expectation that, within 15 months, corrective action would occur, and MDOT continued the effort of resolving corrective actions outstanding. With respect to the 48 warranties with corrective action outstanding identified in the audit, 18 (38%) had received the appropriate warranty work;

* See glossary at end of report for definition.

14 (29%) were being scheduled for warranty work where MDOT and the contractor had agreed on the corrective action required; and for the remaining 16 (33%), MDOT, in coordination with the Department of Attorney General, was pursuing corrective action outstanding.

- By October 2015, MDOT, in coordination with the Department of the Attorney General, planned to develop a procedure for non-responsive contractors that had been notified to perform warranty work.
- By March 2016, MDOT planned to review and strengthen the oversight and monitoring process to ensure that contractors completed warranty work when required by the warranty provisions. For future warranties, MDOT planned to require its staff to obtain SWAD system administrator approval for not performing corrective action unless it was the result of a Conflict Resolution Team decision.

FOLLOW-UP CONCLUSION

MDOT complied.

Our follow-up noted:

- a. Complied. MDOT properly notified contractors of deficiencies identified during inspections and the needed corrective action prior to the warranty expiration for each of the 16 warranties that expired during the period March 1, 2015 through April 30, 2016, and corrective action was still pending. None of the contractors for these 16 warranties had exceeded MDOT's 15-month expectation for completion of corrective action for warrantied projects at the time of our review.
- b. Complied. MDOT ensured that contractors had completed the needed corrective action within 15 months for each of the 16 warrantied projects that MDOT inspected during the period March 1, 2015 through April 30, 2016, and the corrective action was complete at the time of our review.

FINDING #2

Audit Finding Classification: Material condition.

Summary of the February 2015 Finding:

MDOT did not ensure that staff inspected or timely inspected all warrantied road and bridge construction projects. Also, MDOT did not maintain documentation to support its inspection activities.

Recommendations Reported in February 2015:

We recommended that MDOT ensure that staff inspect or timely inspect warrantied road and bridge construction projects.

We also recommended that MDOT maintain documentation to support initial acceptance of warrantied projects, interim and final inspections, and notifications to the contractor that the warranty period was complete.

AGENCY PLAN TO COMPLY

On April 21, 2015, MDOT indicated that it had developed an action plan and had already taken, or planned to take, the following steps to address performance of inspections for warrantied projects and maintenance of inspection documentation:

- To ensure alignment of warranty program responsibilities, MDOT provided applicable staff Statewide with direction requiring follow-up and documentation that identified specifically who was responsible for each part of the warranty process.
- As part of MDOT's documentation management initiatives, each warranty project was required to have an electronic warranty folder to ensure enhanced organization, coordination, and retention of warranty correspondence and files.
- MDOT provided senior management with warranty-report information for appropriate action, as necessary; and senior management had a standing warranty agenda item at its monthly Region/Bureau Management Team meetings. MDOT also implemented a Warranty Improvement Team, which took the lead on updating guidelines for administering warranties and applicable user guides. In addition, warranty improvements and efforts were reviewed, discussed, and addressed at the department's Statewide Alignment Construction Team meetings. Furthermore, a department performance factor was established to ensure that 100% of the warranty inspection work is completed and that the warranty database is updated to reflect the completed activities.
- By May 2015, MDOT planned to provide direction to MDOT personnel for final inspections when warranties had expired prior to inspection. The inspections were to

be completed by MDOT personnel and were to ensure accuracy in SWAD.

- By March 2016, MDOT planned to further strengthen its policies and procedures to ensure that required warranty inspections are completed timely and documented prior to warranty expirations. MDOT also planned to include a full review of the alignment between documentation requirements and operating procedures.

**FOLLOW-UP
CONCLUSION**

MDOT complied.

Our follow-up noted:

- a. Complied. MDOT completed 180 (98%) final inspections prior to the warranty expiration for the 183 warranties that expired between March 1, 2015 and April 30, 2016.
- b. Complied. MDOT maintained documentation of the initial acceptance form for all of the 12 randomly selected warranties that we tested from the 169 warranties that started between March 1, 2015 and April 30, 2016.
- c. Complied. MDOT retained documentation of the interim inspections for all of the 5 randomly selected warranties that we tested from the 84 with interim inspection completion dates between March 1, 2015 and April 30, 2016. In addition, MDOT retained documentation of final inspections for all of the 9 randomly selected warranties that we tested from the 229 warranties with final inspection completion dates between March 1, 2015 and April 30, 2016.
- d. Complied. MDOT maintained documentation that it notified the contractor prior to the end of the warranty period whether or not claims were pending for 10 (91%) of the 11 randomly selected warranties that we tested from the 229 warranties with final inspection completion dates between March 1, 2015 and April 30, 2016. We determined that there were no pending warranty claims for the warranty where the contractor received notification after warranty expiration.

FINDING #3

Audit Finding Classification: Material condition.

Summary of the February 2015 Finding:

MDOT did not ensure the completeness and accuracy of the information recorded in SWAD. MDOT utilizes SWAD to track and monitor all road and bridge projects with warranties, including warranty inspection dates, warranty expiration dates, the status of roads and bridges in need of corrective action, and the corrective action completed.

Recommendation Reported in February 2015:

We recommended that MDOT ensure the completeness and accuracy of the information recorded in SWAD.

AGENCY PLAN TO COMPLY

On April 21, 2015, MDOT indicated that it had developed an action plan and had already taken, or planned to take, the following steps to address the completeness and accuracy of SWAD:

- Starting January 2015, MDOT enhanced the monthly auto-generated "warranties approaching expiration" reports. After this enhancement, the report showed "warranties approaching and past expiration," and contained both the warranties that would be expiring in the next 90 days that had not had a final inspection date entered on the report, as well as projects that had expired with no final inspection date entered on the report.
- MDOT provided senior management with warranty-report information for appropriate action, as necessary; and senior management had a standing warranty agenda item at its monthly Region/Bureau Management Team meetings. MDOT also implemented a Warranty Improvement Team, which took the lead on updating guidelines for administering warranties and applicable user guides. In addition, warranty improvements and efforts were reviewed, discussed, and addressed at the department's Statewide Alignment Construction Team meetings. Furthermore, a department performance factor was established to ensure that 100% of the warranty inspection work is completed and that the warranty database is updated to reflect the completed activities.
- MDOT had reviewed all warranties in SWAD that expired after January 1, 2005, and, as a consequence, the respective updates to SWAD had been accordingly performed.
- By March 2016, Construction Field Services Division, in cooperation with Contract Services Division, planned to develop and implement a process to ensure that MDOT populated SWAD with all projects let with a road or bridge

warranty. The process included a time frame for initially entering project data into SWAD.

- MDOT planned to develop a process to close entries in SWAD for past projects that required, but had not received, corrective action so that these projects did not continue to appear as open or outstanding. This process was to further ensure the accuracy of both current and historical warranty statistics and reporting.

**FOLLOW-UP
CONCLUSION**

MDOT complied.

Our follow-up noted:

- a. Complied. MDOT had recorded in SWAD 138 (99%) of the 140 finalized warrantied projects let between March 1, 2015 and February 29, 2016. In addition, MDOT recorded in SWAD 1 of the 2 remaining projects after our notification to MDOT that the project was not in SWAD. MDOT informed us that it had not added the last project to SWAD because SWAD would not accept the project's alphanumeric identification number. MDOT was monitoring this project outside of SWAD.
- b. Complied. MDOT had documented in SWAD the final inspection dates for all of the 183 warranties that expired between March 1, 2015 and April 30, 2016.
- c. Complied. MDOT had updated its SWAD user role permissions to allow only the Statewide system administrator and the region system administrators the ability to modify the corrective action required status in SWAD.

FOLLOW-UP SCOPE AND PERIOD

FOLLOW-UP SCOPE

- We interviewed MDOT personnel and reviewed the results of MDOT's corrective action plan to determine the status of compliance with the recommendations related to the material conditions.
- We examined MDOT's SWAD data and identified 32 projects that expired during the period March 1, 2015 through April 30, 2016 and required warrantied corrective action. We reviewed supporting documentation for 16 projects with completed corrective action and 16 projects with pending corrective action at the time of our review to determine whether:
 - MDOT notified contractors of deficiencies prior to warranty expiration.
 - Contractors completed the required corrective action in a timely manner.
- We identified 183 warrantied road and bridge construction projects that expired during the period March 1, 2015 through April 30, 2016 and required a final inspection, and we reviewed the related MDOT records for the projects to determine whether MDOT conducted the inspections in a timely manner.
- We randomly selected warranty records to determine whether MDOT maintained appropriate documentation. We selected:
 - 12 warranties to review initial acceptance forms.
 - 5 warranties to review interim inspection reports.
 - 9 warranties to review final inspection reports.
 - 11 warranties to review notifications to the contractor that the warranty period was complete.
- We compared the information that MDOT recorded in SWAD with the source documentation to verify the accuracy of selected warranty data fields within the database. In addition, we judgmentally selected 20 of the 187 projects identified by MDOT's Contract Services Division as not having warranties and verified that the contract proposal for each of the selected projects did not contain a warranty provision to determine that the project was appropriately excluded from SWAD.
- We obtained a list of warrantied projects let from MDOT's Contract Services Division and traced the 140 projects that MDOT finalized between March 1, 2015 and February 29, 2016 to verify that each project was recorded in SWAD.

PERIOD

Our follow-up was performed during April and May 2016.

GLOSSARY OF ABBREVIATIONS AND TERMS

agency plan to comply	The response required by Section 18.1462 of the <i>Michigan Compiled Laws</i> and the State of Michigan Financial Management Guide (Part VII, Chapter 4, Section 100). The audited agency is required to develop a plan to comply with Office of the Auditor General audit recommendations and submit the plan within 60 days after release of the audit report to the Office of Internal Audit Services, State Budget Office. Within 30 days of receipt, the Office of Internal Audit Services is required to review the plan and either accept the plan as final or contact the agency to take additional steps to finalize the plan.
capital preventive maintenance	Cost-effective treatment to an existing road system that preserves or improves the condition of the system without significantly increasing structural capacity.
material condition	A matter that, in the auditor's judgment, is more severe than a reportable condition and could impair the ability of management to operate a program in an effective and efficient manner and/or could adversely affect the judgment of an interested person concerning the effectiveness and efficiency of the program.
materials and workmanship warranty	A road and bridge construction warranty in which the contractor is responsible for correcting defects in work elements within the contractor's control (materials and workmanship) during the warranty period.
MDOT	Michigan Department of Transportation.
performance audit	An audit that provides findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.
performance warranty	A warranty on pavement construction in which the contractor assumes full responsibility for pavement performance during the warranty period and is responsible for materials selection, workmanship, and certain aspects of design. The contractor is responsible for deficiencies under his or her control.

reconstruction	Complete removal and replacement of the existing pavement structure. Reconstruction may include new and/or recycled materials.
rehabilitation	Structural enhancements that extend the service life of an existing pavement and/or improve its load-carrying capability. Pavement rehabilitation techniques include restoration treatments and structural overlays.
State trunkline	The network of road types (interstate, Michigan, and U.S. routes) that supports the State's commercial activities.
SWAD	Statewide Warranty Administration Database.

