

Office of the Auditor General
Performance Audit Report

Maintenance Services Section
Michigan Department of Transportation

December 2018

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



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Office of the Auditor General

Report Summary

Performance Audit

Maintenance Services Section

Michigan Department of Transportation (MDOT)

Report Number:
591-0160-18

Released:
December 2018

MDOT is responsible for the maintenance of Michigan's 9,669-mile State trunkline, which is composed of all Michigan, interstate, and U.S. routes. MDOT's Maintenance Services Section provides highly specialized skills, technical support, and training assistance to MDOT regional offices, transportation service centers, and maintenance garages in an effort to provide a safe roadway for the traveling public and to maintain the serviceability of the highway system and support facilities while preserving the State's investment in its transportation infrastructure. For fiscal years 2016 and 2017, MDOT incurred annual maintenance expenditures of \$298.8 million and \$298.5 million, respectively.

Audit Objective			Conclusion
Objective #1: To assess the effectiveness of MDOT's efforts in processing accident damage claims.			Moderately effective
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
Eleven (55%) of 20 sampled damage claims were canceled without explanation. These claims allow MDOT to recoup monies from individuals or insurance companies when damage occurs to State property as a result of car crashes (Finding #1).		X	Agrees
MDOT did not maintain documentation that any of the required damage claim reminder letters were sent for 37% of the invoices, it closed 63% of the claims reviewed before the statute of limitations expiration, and it did not maintain documentation that unpaid invoices were sent to the Department of Attorney General for collection (Finding #2).		X	Agrees
Within the Property Damage Reclamation Process system, 162 (65%) of 248 users were unnecessarily assigned update capability and access for 29% of users should have been disabled (Finding #3).		X	Agrees

Audit Objective			Conclusion
Objective #2: To assess the sufficiency of MDOT's efforts to maintain the State's transportation infrastructure.			Sufficient
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable.		
Observations Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
Of the State's 165 pump stations, 85 (52%) are generally in poor condition and will remain so for the foreseeable future (<u>Observation #1</u>).	Not applicable for observations.		
Of 189 salt storage facilities owned by counties, 90 (48%) are generally in poor condition (<u>Observation #2</u>).			

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Office of the Auditor General
201 N. Washington Square, Sixth Floor
Lansing, Michigan 48913

Doug A. Ringler, CPA, CIA
Auditor General

Laura J. Hirst, CPA
Deputy Auditor General



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Doug A. Ringler, CPA, CIA
Auditor General

December 27, 2018

Mr. Todd Wyett, Chair
State Transportation Commission
and
Mark A. Van Port Fleet, PE, Director
Michigan Department of Transportation
Murray D. Van Wagoner Building
Lansing, Michigan

Dear Mr. Wyett and Mr. Van Port Fleet:

This is our performance audit report on the Maintenance Services Section, Michigan Department of Transportation.

We organize our findings and observations by audit objective. Your agency provided preliminary responses to the recommendations at the end of our fieldwork. The *Michigan Compiled Laws* and administrative procedures require an audited agency to develop a plan to comply with the recommendations and to submit it within 60 days of the date above 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.

We appreciate the courtesy and cooperation extended to us during this audit.

Sincerely,

Doug Ringler
Auditor General

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AUDIT OBJECTIVES, CONCLUSIONS, FINDINGS, AND OBSERVATIONS

PROCESSING OF ACCIDENT DAMAGE CLAIMS

BACKGROUND

Property Damage Reclamation Process (PDRP) is a system used by the Michigan Department of Transportation (MDOT) to track crashes that resulted in damage to State property such as traffic signs or signals, guardrails, median cable barriers, fences, and bridges. When damage is identified, MDOT attempts to recover the cost of the repairs from the individuals responsible for the crash or their insurance company. Money collected through PDRP damage claims is used by MDOT for highway and maintenance operations.

Crash data is interfaced daily to PDRP from the Michigan Department of State Police Traffic Crash Reporting System. Crash data is reviewed by the Maintenance Services Section (MSS) damage claims coordinator to determine whether there is potential damage to State property. The damage claim is assigned to the appropriate region, transportation service center (TSC), or facility for investigation.

After an investigation is completed and damage to State property is identified, the associated repair costs are documented and the information is returned to MSS to be verified. Once verified, the damage claim is forwarded to the MDOT Financial Operations Division (FOD) to pursue recovery of the damage costs.

AUDIT OBJECTIVE

To assess the effectiveness* of MDOT's efforts in processing accident damage claims.

CONCLUSION

Moderately effective.

FACTORS IMPACTING CONCLUSION

- MDOT collected approximately \$9.3 million in reimbursements for damage claims invoiced between October 2015 and September 2017.
- MDOT investigated and closed approximately 10,000 damage claim assignments between October 2015 and April 2017.
- Reportable conditions* related to development and implementation of a process to review the appropriateness of damage claim assignments, improved controls over the processing of damage claims, and improved access controls* over PDRP (Findings #1 through #3).

* See glossary at end of report for definition.

FINDING #1

Improvements needed over damage claim assignments.

MDOT did not develop and implement a process to review the appropriateness of "canceled - no response - facility" damage claim assignments to help ensure that MDOT maximizes the recovery of repair costs for damage to State property.

In PDRP, canceled - no response - facility is an option that can be selected by employees within MSS, regional offices, TSCs, and garages to document the disposition of damage claim assignments. This option is selected when the assigned facility has not responded and the work has not been completed.

Our review of 11,725 assigned damage claims disclosed that 1,744 (15%) had a status of canceled - no response - facility in PDRP.

We randomly sampled 20 of the claims with a canceled - no response - facility status and determined that 11 (55%) were canceled without an explanation in PDRP prior to the expiration of the 12-month statute of limitations from the date of the crash.

After our review, MDOT evaluated 492 of the 1,744 claims with a canceled - no response - facility status and provided explanations for 94 (19%) of the claims. Some examples of the explanations that MDOT provided included "no damage" and "not completed for submission." MDOT did not determine whether the remaining 1,650 damage claim assignments with a canceled - no response - facility status were investigated by the assigned facility.

Although MDOT may not have been able to recover damage costs for all of the 1,744 damage claim assignments, MDOT should ensure that PDRP reflected the accurate damage claim status or that the damage claim was investigated. Without an investigation, MDOT cannot determine whether State property had been damaged and costs could be recovered.

Section 500.3145(2) of the *Michigan Compiled Laws* allows MDOT up to 12 months from the date of an accident to identify and notify the vehicle owners or their insurance company for assessed highway repair costs. Repair costs not assessed by the State within 12 months cannot be recovered.

RECOMMENDATION

We recommend that MDOT develop and implement a process to review the appropriateness of canceled - no response - facility damage claim assignments to help ensure that MDOT maximizes the recovery of repair costs for damage to State property.

AGENCY PRELIMINARY RESPONSE

MDOT provided us with the following response:

MDOT agrees with the recommendation.

MDOT will pursue system enhancements through DTMB so that MDOT can implement a process to review the appropriateness of canceled - no response - facility damage claim assignments.

Also, as part of a future risk-based approach to resolving damage recoveries, MDOT will analyze the cost effectiveness of enhancing recovery efforts. There are instances where a) the administrative costs to recover damages exceed damage costs and b) the probability of cost recovery is low, especially for instances where the driver was uninsured. Additionally, there will be costs to improve and maintain applicable information technology systems.

For example, MDOT has estimated the potential value of unrecovered damage costs associated with the cancelled-no response assignment in the PDRP system. Although missed opportunities certainly occurred, MDOT's assessment is that the missed opportunities during the audit period are conservatively valued (i.e., actual probably being lower than the estimate) at less than \$600,000 per year, or approximately 0.17 percent of the \$339 million maintenance budget for fiscal year 2018-19.

**AUDITOR'S
COMMENTS TO
AGENCY
PRELIMINARY
RESPONSE**

We question the accuracy of MDOT's \$600,000 estimate, considering that over 1,700 claims were not responded to by the assigned MDOT facility and our sample showed that over half of those claims were canceled without explanation. Also, without an improved process for reviewing the appropriateness of damage claim assignments, MDOT cannot be assured that it will fully recover repair costs or that future canceled claims will continue to be immaterial, as it contends in its response.

Therefore, the finding stands as written.

FINDING #2

Improvements needed over collection efforts.

MDOT did not establish effective controls over the processing of damage claims to recover costs incurred to repair damage to State property.

Section 500.3145(2) of the *Michigan Compiled Laws* requires an action for recovery for damage repair costs to be commenced with the vehicle owner's insurance company no later than 12 months from the date of the accident. Damage repair costs not assessed within 12 months are not legally recoverable.

Section 600.5805 (10) allows an action for recovery to be commenced within 3 years from the date of the crash for damage repair costs caused by an uninsured motorist.

The MDOT FOD issues invoices for damage to State property to either the vehicle owner's insurance company or the vehicle owner, if the owner claims to be uninsured. If an invoice is not paid or a payment plan is not established, FOD sends reminder letters at 45 and 90 days after the original invoice to the vehicle owner's insurance company or at 30, 60, and 90 days to the vehicle owner. The Accounts Receivable Collection Procedure Guidance Document suggests that FOD refer all unpaid invoices, sent to the vehicle owner, to the Department of Attorney General (AG) after 110 days. If the AG does not file a lawsuit within 90 days after the referral (and the invoice is over the one-year statute of limitations for insured motorists), FOD writes off or closes the invoice.

We randomly sampled 19 unpaid invoices during our audit period. Our review of the process for recovering costs for damages disclosed that FOD:

- a. Did not maintain documentation that it sent all required reminder letters to the vehicle owners or their insurance company. We noted:
 - 7 (37%) of 19 sampled invoices had no reminder letters sent.
 - 8 (42%) of 19 sampled invoices had some reminder letters sent.

The amount for these invoices totaled \$11,834.

FOD indicated that the Michigan Cashiering and Receivable System (MiCaRS) does not maintain historical records of when reminder letters were sent, and FOD did not keep copies of the letters.

- b. Did not maintain a record of the invoices that it referred to the AG for action.

FOD was unable to provide documentation that it sent unpaid invoices to the AG for all 19 sampled invoices (7 insured and 12 uninsured).

FOD began maintaining a record of invoices sent to the AG beginning in fiscal year 2018.

- c. Did not fully pursue the collection of invoices during the entire statute of limitations period.

FOD closed 12 (63%) of the 19 sampled invoices prior to the expiration of the three-year statute of limitations. On average, FOD wrote off or closed invoices 24 months prior to the expiration of the statute of limitations. The total amount of the 12 closed invoices was \$12,748.

FOD informed us that it stops collection efforts on invoices sent to uninsured vehicle owners 90 days after sending the invoices to the AG, regardless of whether the AG is pursuing collection or not (see part d. (2)).

- d. Should improve its process with the AG for the recovery of damage claims. For example:

- (1) MDOT did not provide invoices to the AG in a timely manner. The AG identified an example of an invoice received from MDOT in April 2018 for a crash that occurred in December 2016. Therefore, the AG was unable to file an action for the claim in the amount of \$8,096.

- (2) MDOT did not provide the AG with sufficient documentation to pursue damage claims. For example, the AG had to contact MDOT TSCs or garages to obtain the supporting information needed to process claims, including material and labor costs to repair the damage, correspondence with insurance companies, and photographs of the damage. Providing this information to the AG would assist the AG in pursuing claims within the statutory time limit.

- (3) FOD did not monitor the claims that the AG is pursuing. The AG identified some claims written off by FOD; however, the AG had payment plans set up or payments had been received. Communicating with the AG regarding claims that are being pursued will help ensure the accuracy of MDOT's records.

- (4) FOD did not inform the AG of claims that had been paid. Without knowledge of payments received, the AG will unnecessarily continue pursuing a claim. The AG informed us of instances in which it pursued claims against an insurance company after the company had already made payment.

RECOMMENDATION

We recommend that MDOT establish effective controls over the processing of damage claims to recover costs incurred to repair damage to State property.

AGENCY PRELIMINARY RESPONSE

MDOT provided us with the following response:

MDOT agrees with the recommendation.

- a. As of October 1, 2018, MDOT began recording a note within MiCaRS, within the description field of the invoice, noting the date that each reminder letter is sent for both insured and uninsured claims.*
- b. On October 1, 2018, MDOT created a tracking tool for all invoices referred to the AG.*
- c. MDOT will review its procedures to determine whether it will be cost effective to pursue the collection of uninsured invoices through the expiration of the three-year statute of limitations.*
- d. (1) MDOT will modify its process for providing billing information to FOD through PDRP to help ensure that the AG receives all invoices in a timely manner.*
 - (2) MDOT will work with the AG to help ensure that all available documentation is provided to them.*
 - (3) As of October 1, 2018, MDOT updated its procedures to help ensure that MDOT informed the AG of all written-off claims.*
 - (4) As of October 1, 2018, MDOT updated its procedures and maintains with the AG a shared tracking tool that contains all payments that MDOT has received for invoices referred to the AG.*

FINDING #3

Improved access controls needed over PDRP.

MDOT, in conjunction with the Department of Technology, Management, and Budget (DTMB), did not fully establish access controls over PDRP, diminishing MDOT's assurance that crash damage claims were properly processed.

The Federal Information System Controls Audit Manual (FISCAM) states that end users should be assigned authorization sufficient, but not excessive, to perform their duties in the application, and system owners and security managers should periodically monitor user access.

We noted:

- a. MDOT, in conjunction with DTMB, did not employ the principle of least privilege*. According to DTMB Technical Standard 1340.00.020.01, least privilege allows only the access necessary for users to accomplish their assigned tasks in accordance with their roles and responsibilities.

According to the PDRP manual, the reporting, finance, and facility coordinator user roles should have read-only capability; however, the roles were programmed to allow update capability:

User Role	Job Task	Access Capability
Reporting	View PDRP reports.	Read-only
Finance	View Statewide data for completed reclamations*.	Read-only for completed reclamations
Facility coordinator	Review the users' facility-assigned reclamations.	Read-only

We identified 162 (65%) of 248 PDRP users who were assigned the finance and facility coordinator roles who did not require update capability in PDRP. We also identified 10 (4%) of 248 PDRP users who were assigned the reporting role who did not require system update capability. With these three roles, users had the ability to edit, create, upload, and save data within PDRP that was not necessary for their job responsibilities. Having these capabilities could allow the users to perform inappropriate tasks such as completing or canceling an assigned reclamation.

MSS indicated that ensuring the appropriate level of access in PDRP is the responsibility of DTMB. MSS was unaware that the level of access allowed by the user roles was inappropriate.

* See glossary at end of report for definition.

After bringing this matter to management's attention, MDOT immediately requested that DTMB modify the reporting role to allow users only to view data.

- b. MDOT, in conjunction with DTMB, did not automatically disable inactive user accounts after 60 days in accordance with DTMB Technical Standard 1340.00.020.01. We identified 53 (29%) of 180 users with a "last access date" in excess of 60 days. The average number of days past the 60-day time frame was 96 days.
- c. MDOT did not periodically review PDRP user access rights every 120 days in accordance with DTMB Technical Standard 1340.00.020.01. MSS informed us that, unless notified that a user no longer requires access, it does not inactivate a user's PDRP access.

RECOMMENDATION

We recommend that MDOT, in conjunction with DTMB, fully establish access controls over PDRP.

AGENCY PRELIMINARY RESPONSE

MDOT provided us with the following response:

MDOT agrees with the recommendation.

MDOT will work with DTMB to establish access controls over PDRP.

MAINTENANCE OF THE TRANSPORTATION INFRASTRUCTURE

BACKGROUND

MDOT employs several types of strategies to improve and maintain the State trunkline* (see Exhibit #2). MSS is responsible for providing Statewide maintenance services for winter operations, roadway safety, and roadside facilities, which include roadway maintenance and support as well as roadside operations. MSS also oversees and provides Statewide maintenance support for the Adopt-A-Highway Program and 14 welcome centers, 63 rest areas, 85 roadside parks, 20 table sites, and 23 scenic turnouts.

Roadway maintenance includes salting, guardrail construction and maintenance, mowing, snowplowing, and overseeing rest areas, pump stations, and movable bridges. Roadway support includes training MDOT employees and contractors in snowplowing, salting, guardrail installation, pothole filling, and salt storage facility maintenance. Roadside operations include vegetation control, tree trimming and removal, rest area maintenance, and roadside park upkeep.

MDOT contracts with 64 county road commission agencies and 170 municipalities for roadway maintenance, roadside support, and roadside operations of the State trunkline. There are 19 direct force* counties where MDOT employees at State-owned garages perform the roadway and roadside maintenance and vegetation management. Four counties use a combination of contract and direct force staff.

The Local Agency Payment System (LAPS) is used by local contracted agencies to submit monthly billings to MDOT for reimbursement.

For fiscal years 2016, 2017, and 2018, the Legislature has appropriated approximately \$310 million annually to maintain the State trunkline. Winter expenditures account for approximately 30% of the total maintenance expenditures each year (see Exhibits #3 and #4).

AUDIT OBJECTIVE

To assess the sufficiency of MDOT's efforts to maintain the State's transportation infrastructure.

CONCLUSION

Sufficient.

FACTORS IMPACTING CONCLUSION

- The 10 pump-station maintenance logs that we reviewed disclosed that maintenance checks were completed in a timely manner and sufficiently documented.

* See glossary at end of report for definition.

- Our review of active users and their access levels in LAPS disclosed no exceptions.
- Meetings held with regional office and TSC staff disclosed that MSS provided sufficient technical support and training related to maintenance operations.
- Observations* related to the condition of pump stations and salt storage facilities (Observations #1 and #2).

** See glossary at end of report for definition.*

OBSERVATION #1

Condition of pump stations.

Pump stations in the State of Michigan are generally in poor condition and will remain so for the foreseeable future.

Pump stations are key components of the State trunkline infrastructure that expel surface water runoff from depressed sections of the roadway to help prevent flooding and road closures. Pump stations that are in poor condition are prone to failure during high-volume usage caused by heavy or prolonged rain. Pump station failure will likely result in the flooding of the roadway. Flooded roadways can temporarily reduce the number of traffic lanes and cause the full closure of a roadway.

There are 165 pump stations located throughout the State, with 119 (72%) of the stations located in Wayne County. All pump stations are maintained by MSS except for those located in Wayne County. MDOT's responsibility is to ensure that the pump stations are in good condition, allowing highway operations to continue through extreme weather events to prevent roadway closures and traffic incidents. MDOT estimated the cost to rehabilitate each pump station at \$1.3 million.

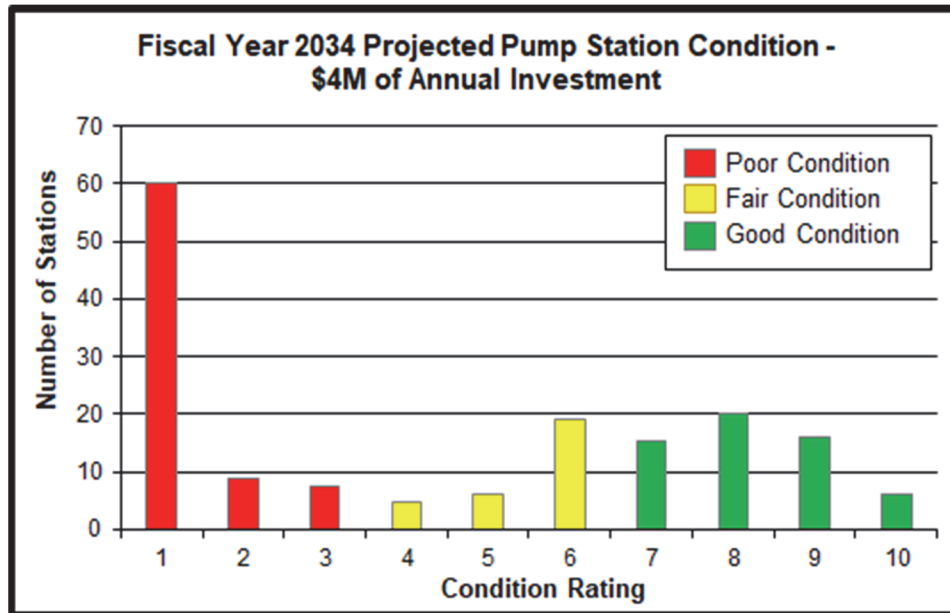
Pump stations are rehabilitated using funding from the federal Surface Transportation Block Grant Program. This Program is part of the continuous federal funding of Michigan's infrastructure and can be used by MDOT to fund any federal-aid eligible project. The State is required to fund 18% of the rehabilitation cost, with federal funds making up the other 82%. Beginning in 2006, MDOT was allocated \$4 million annually for pump station rehabilitation. This amount of funding allowed MDOT to rehabilitate 2 or 3 pump stations per year.

In 2013, MDOT completed an initial ratings analysis of all 165 pump stations and is currently completing this assessment in 2018. The most current MDOT ratings data showed that 85 (52%) of the 165 pump stations are in poor condition. MDOT estimated that, by the year 2034 at the current funding level, 77 (47%) of the 165 pump stations will be in poor condition, with 60 of the pump stations at the lowest condition rating of 1 out of 10.

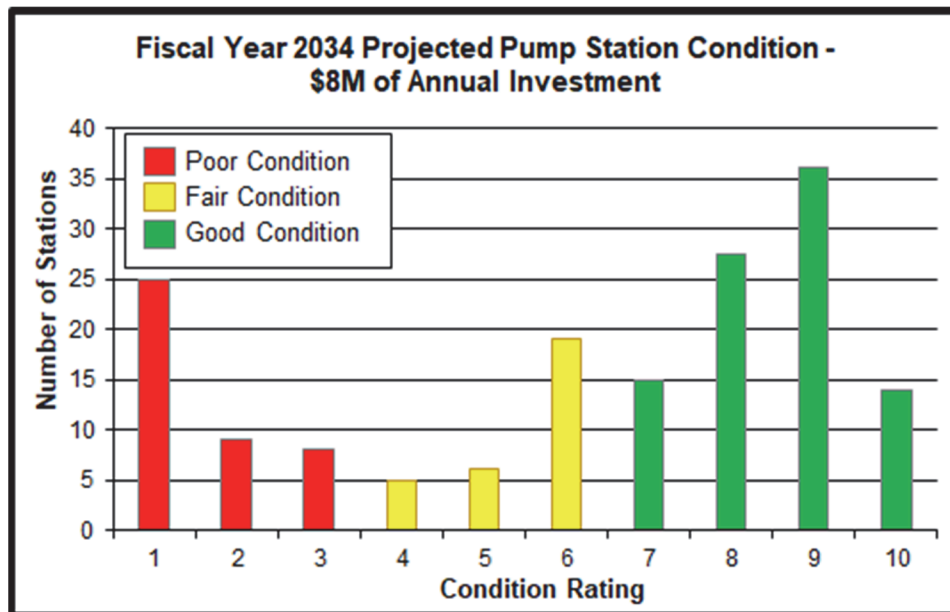
MDOT's recommended investment strategy is to spend \$8 million annually for each of the next 14 years, beginning in 2020. This amount of funding will support 4 to 5 pump station rehabilitations per year, bringing 74% of the pump stations to good or fair condition by the year 2034. In the Pump Station Capital Rehabilitation Program report, MDOT indicated that "This upfront financial investment will save MDOT time and money in the long run."

The following charts compare the projected pump station condition status by fiscal year 2034, at the current (\$4 million annually) and recommended (\$8 million annually) funding levels:

Expected Pump Station Condition Status by 2034 at the Current Funding Level



Expected Pump Station Condition Status by 2034 at the Recommended Funding Level



Source: Unaudited MDOT Fiscal Year 2014 Strategic 20-Year Plan Pump Station Capital Rehabilitation Program report.

Photographs of a Pump Station

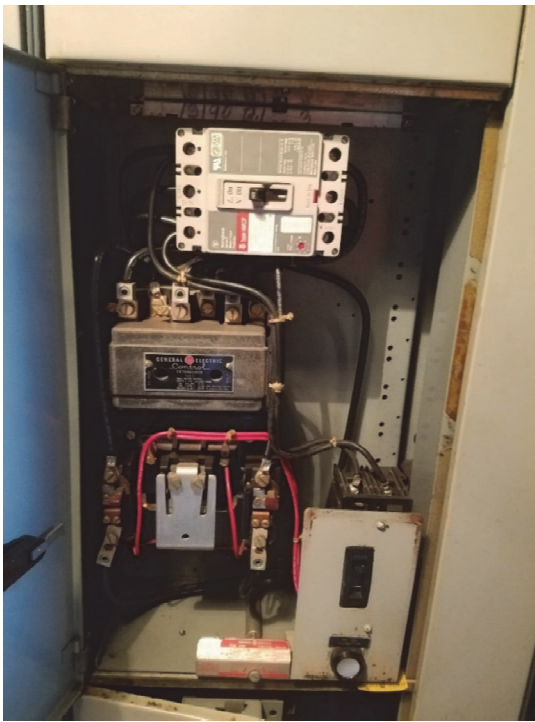


Source: Photographs obtained from MDOT's Fiscal Year 2014 Strategic 20-Year Plan, Pump Station Capital Rehabilitation Program Report.

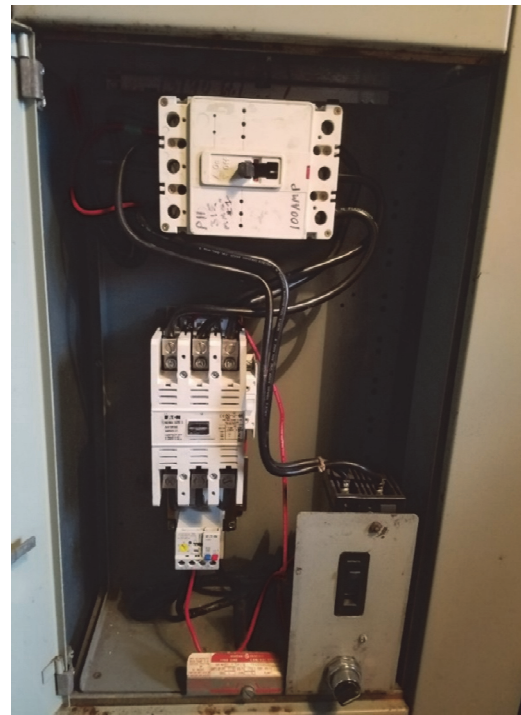
Photographs of Pump Stations Taken During OAG Site Visits



Exterior view of a pump station.



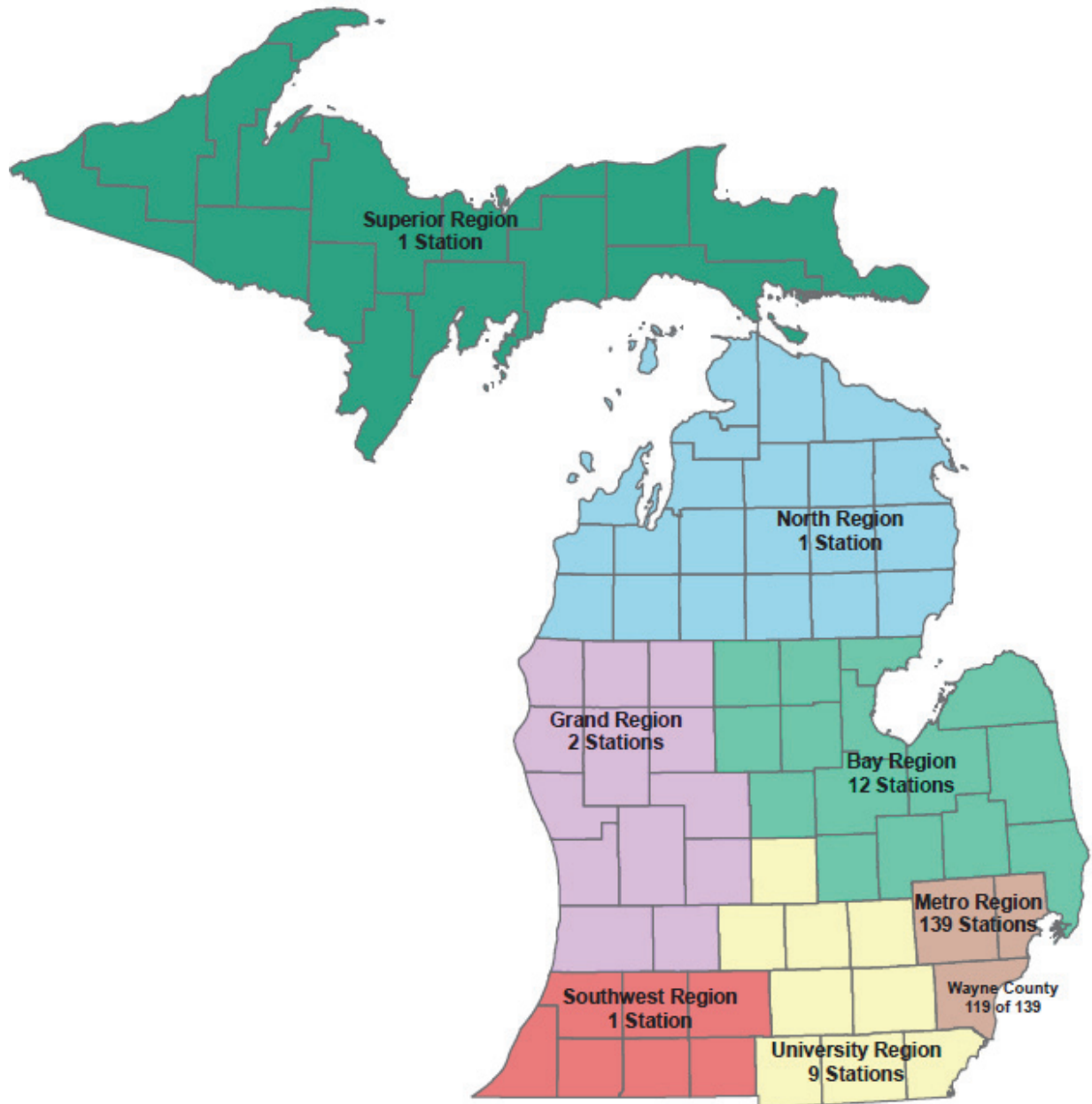
Original outdated pump station electrical box.



Rehabilitated pump station electrical box.

MAINTENANCE SERVICES SECTION
Michigan Department of Transportation

Map of Pump Stations by Region



Source: Information obtained from MDOT.

OBSERVATION #2

Condition of salt storage facilities.

Salt storage facilities owned by counties in the State of Michigan are generally in poor condition.

In 64 of Michigan's 83 counties, MDOT contracts with county road commissions to conduct maintenance operations on the State trunkline. Salt storage facilities contain the road salt used to melt snow and ice during winter operations. A portion of the salt stored in each facility is dedicated for use on MDOT roads, with the remaining portion for use on county roads.

Proper storage is needed to protect the salt from the elements and to protect the environment. The addition of water to salt creates salt brine which, if not contained, may cause detrimental effects to the environment. Salt storage facilities that are not structurally sound could be a safety concern to employees. Salt storage facilities that are not fully accessible and functional could impair winter maintenance operations, which may have a downstream effect on the safety of the traveling public.

During the winter months of fiscal year 2018, MSS conducted a condition assessment of the 189 county-owned salt storage facilities that store salt used on MDOT roads. MDOT estimated the cost to rehabilitate 152 of the facilities at approximately \$4.7 million, ranging from \$500 to \$228,000 per facility. MDOT also estimated the cost to replace 71 of the facilities at approximately \$61 million.

The following table identifies the current condition of the salt storage facilities by region:

Region	Good	Fair	Poor	Critical	Non-Functional	Total
Bay	16	3	22	0	0	41
Grand	14	2	10	1	1	28
Metro	6	8	12	0	0	26
North	20	3	17	0	0	40
Southwest	2	1	0	0	0	3
Superior	12	3	23	0	0	38
University	7	0	6	0	0	13
Statewide	77	20	90	1	1	189
Statewide %	41%	11%	48%	>1%	>1%	100%

MSS is in the process of conducting a condition assessment of the municipal salt facilities.

Although the storage facilities are owned by the counties, MDOT participates in the funding of their upkeep and rehabilitation. The level of MDOT participation is determined on a pro rata basis by the percentage of salt stored in the facility that is used on MDOT-owned roads in comparison with total salt used in each facility. MDOT, in conjunction with the counties, is responsible for determining how those funds will be expended.

In 2018, MDOT received a line item appropriation for salt storage facility rehabilitation of \$2.5 million. For fiscal year 2019, MDOT also received an appropriation of \$2.5 million. Prior to fiscal year 2018, the most recent funding received for salt storage facilities was in fiscal year 2009.

With the cooperation of the counties, MDOT intends to use the entirety of these funds to rehabilitate the facilities to help ensure that they are safe and structurally sound.

Salt Storage Facility Photographs



Exterior and interior of Wayne County salt storage facility in Taylor, Michigan.

Source: Photographs taken by OAG staff.

SUPPLEMENTAL INFORMATION

UNAUDITED
Exhibit #2

MAINTENANCE SERVICES SECTION Michigan Department of Transportation

MDOT Mix of Fixes

MDOT uses a "mix of fixes" to improve or maintain the State trunkline. This mix of fixes includes reconstruction, rehabilitation, capital preventive maintenance (CPM), routine maintenance, and reactive maintenance.

Reconstruction is the entire rebuilding of the roadway. A reconstruction project in an urbanized area, on average, costs \$2 million per lane mile on the freeway. Therefore, reconstructing a 1-mile segment of a freeway that has two lanes in each direction would cost, on average, \$8 million. Reconstruction projects have a design life of 20 years or more.

Rehabilitation is the application of structural enhancements that improve the roadway. Examples include concrete patching and diamond grinding, bituminous overlays, and unbonded concrete overlays. Rehabilitation projects have a design life of 10 to 20 years.

CPM applies lower cost treatments to slow the deterioration rate, maintain or improve the condition, and extend the pavement's service life. CPM projects are aimed at preventing small problems from becoming critical. Examples include crack sealing, diamond grinding, and concrete patching. CPM can extend pavement life from 5 to 10 years.

MSS is responsible for providing oversight, guidance, and Statewide maintenance support for the following:

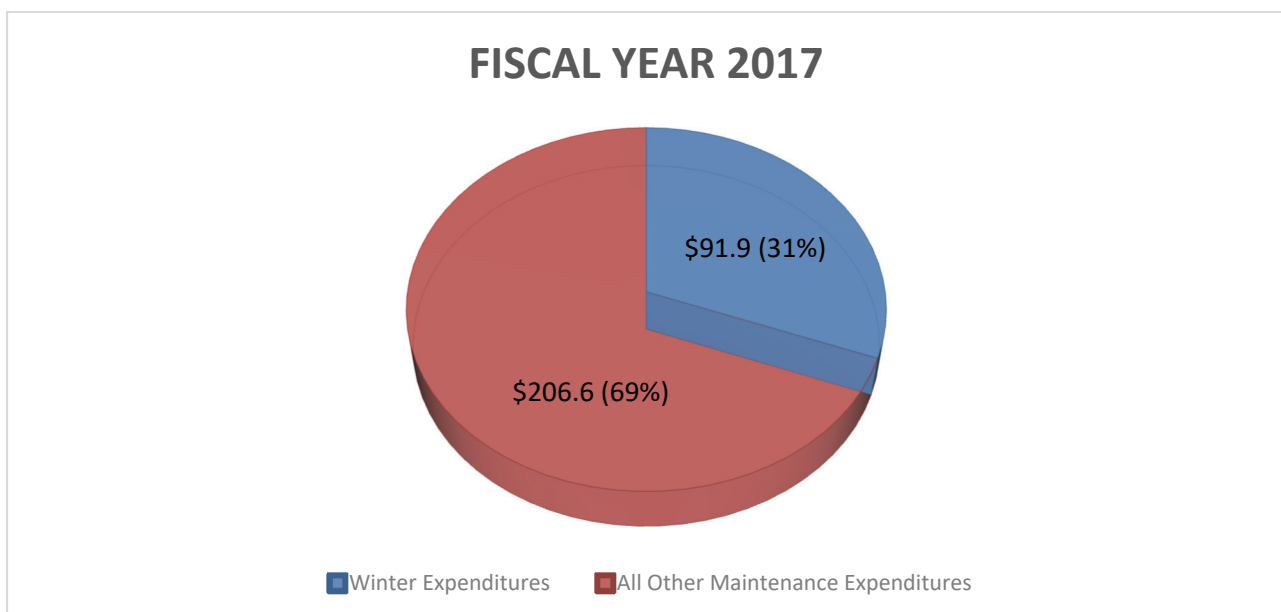
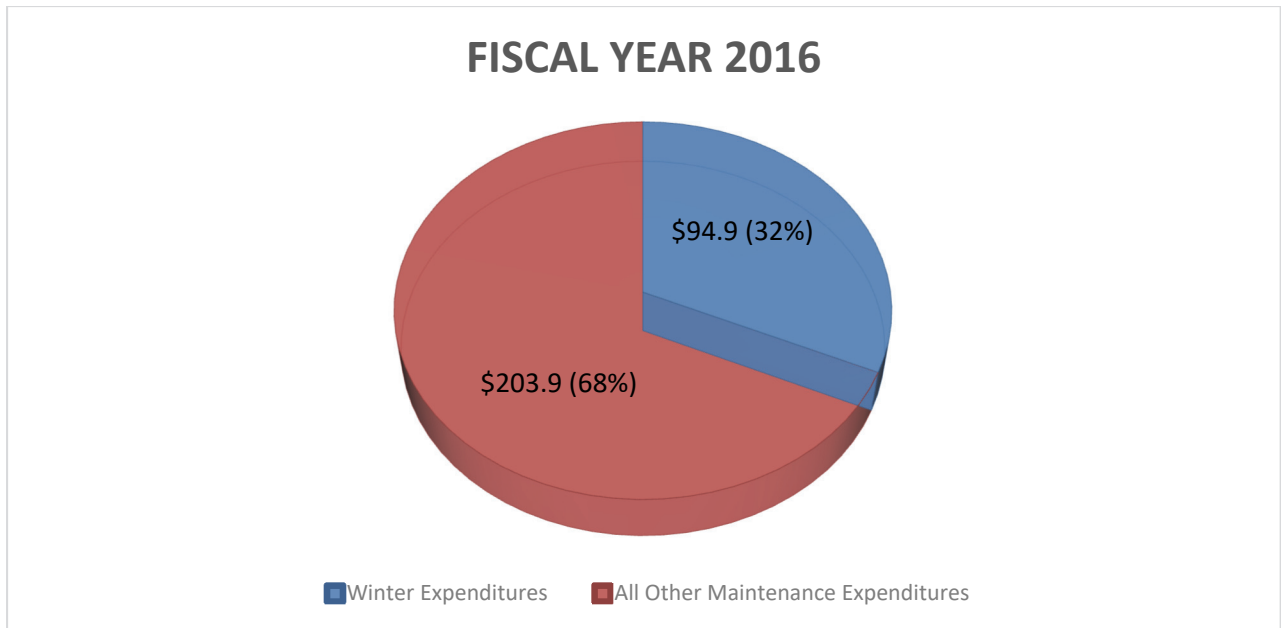
- Routine maintenance is the day-to-day maintenance activities that are scheduled or whose timing is within the control of maintenance personnel. Examples include filling cracks in pavement, painting pavement markings, or cleaning ditches.
- Reactive maintenance is activities that must be done in response to events beyond the control of MDOT. Reactive maintenance activities cannot be scheduled because they occur without warning and often must be immediately addressed. Examples include pothole patching, removing and patching pavement blowups, or unplugging drainage facilities.

MDOT uses these mix of fixes in an attempt to meet its goal of having 95% of freeways in fair or good condition within 10 years and 85% of non-freeway roads in fair or good condition.

Source: The OAG prepared this exhibit with information from the MDOT Web site.

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Michigan Department of Transportation

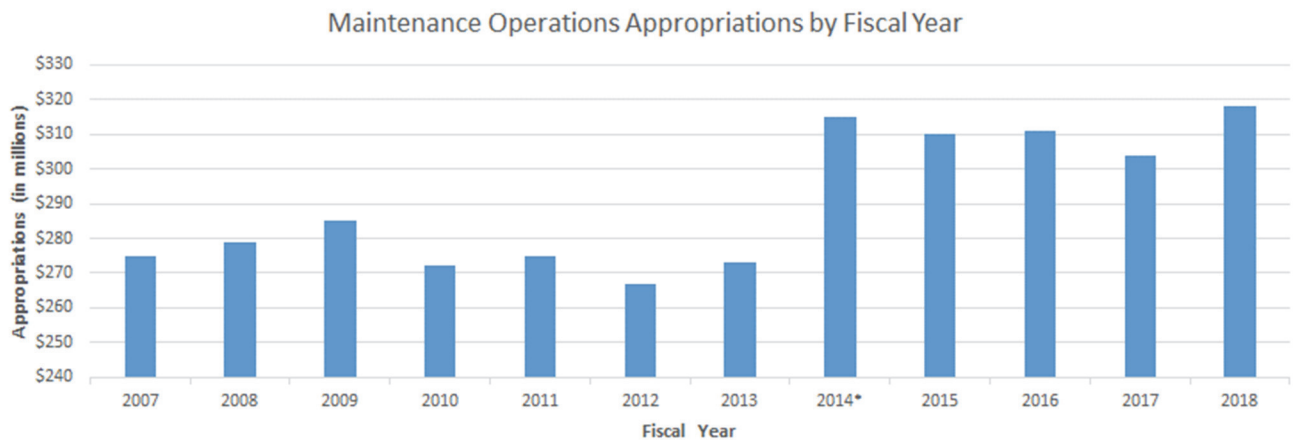
Winter Operation Expenditures as a Part of Maintenance Expenditures
For Fiscal Years 2016 and 2017
(In Millions)



Source: The OAG prepared this exhibit using data obtained from the Michigan Administrative Information Network (MAIN) and MDOT.

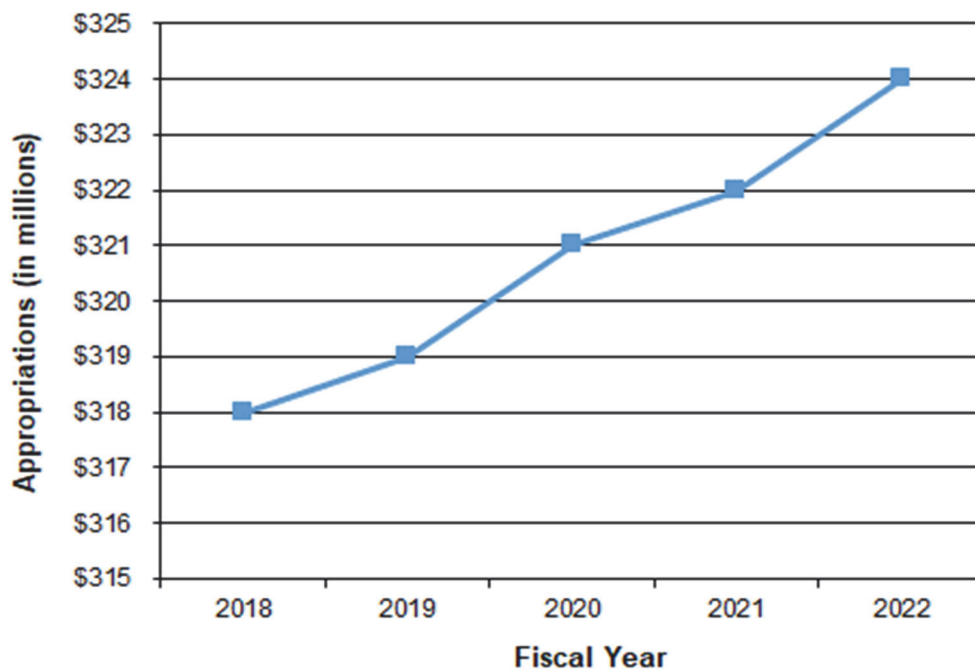
MAINTENANCE SERVICES SECTION
Michigan Department of Transportation

Maintenance Operations Appropriations by Fiscal Year
Fiscal Years 2007 Through 2018



* Appropriation amounts for fiscal year 2014 included original and supplemental appropriations.

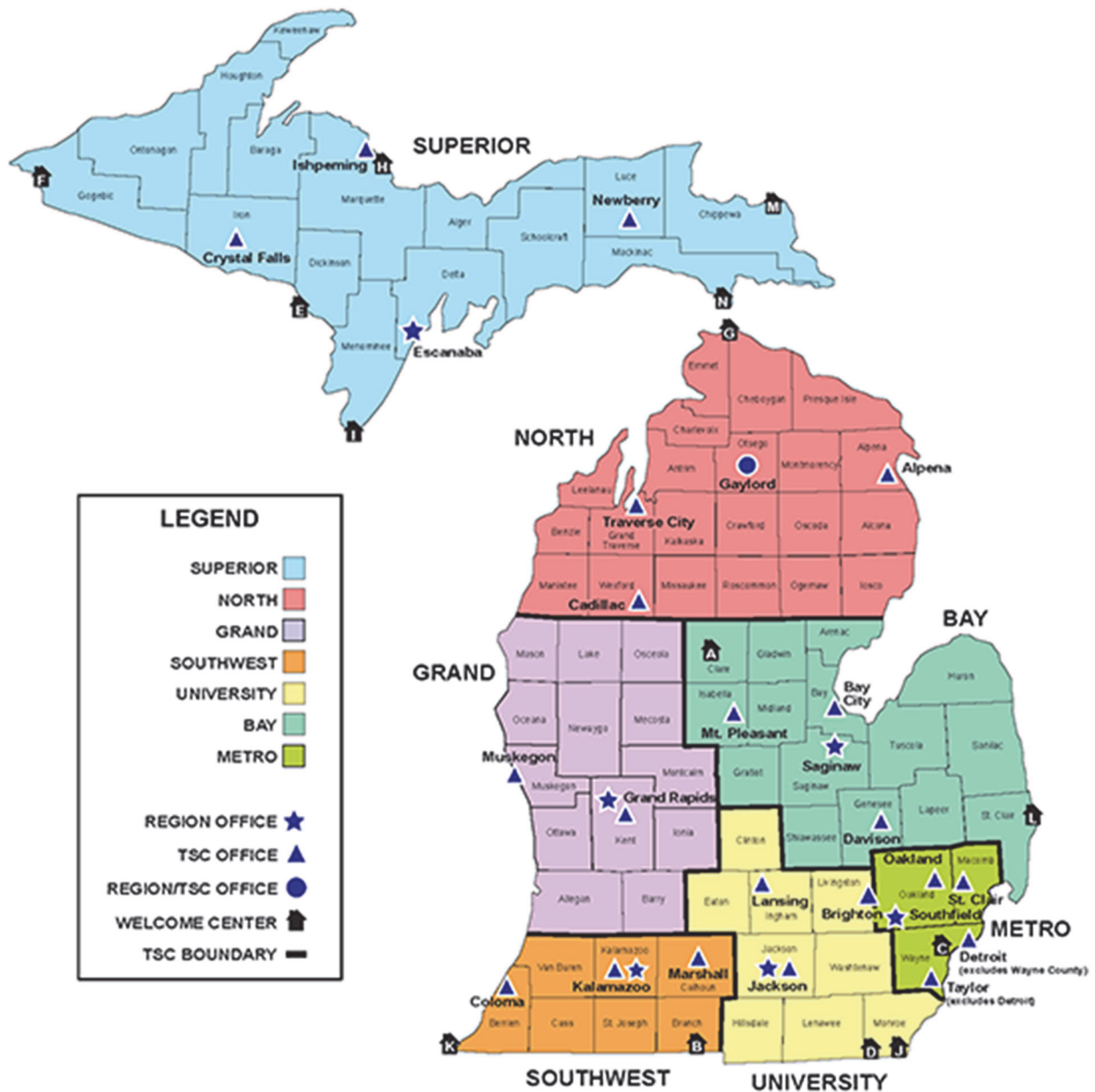
Estimated Appropriations Needed for Routine Maintenance
Fiscal Years 2018 Through 2022



Source: The OAG prepared this exhibit using data obtained from MDOT.

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Michigan Department of Transportation

MDOT Region Map



Source: Information obtained from MDOT's Web site.

DESCRIPTION

Public Act 51 of 1951 declared MDOT responsible for maintaining the State highway system, commonly known as the State trunkline. MDOT has direct jurisdiction over Michigan's 9,669-mile State trunkline, which is composed of all Michigan*, interstate*, and U.S.* routes. The State trunkline encompasses 8% of road miles but carries 53% of all traffic.

MDOT has seven regional offices (Bay, Grand, Metro, North, Southwest, Superior, and University) that oversee transportation-related maintenance within their geographical boundaries and 22 TSCs that are designed to respond to the transportation needs of local communities (see Exhibit #5).

MSS provides highly specialized skills, technical support, and training assistance to the regions in an effort to provide a safe roadway for the traveling public and to maintain the serviceability of the highway system and support facilities while preserving the State's investment in the transportation infrastructure.

MDOT incurred maintenance expenditures totaling \$298.8 million, \$298.5 million, and \$159.8 million in fiscal years 2016, 2017, and 2018 (as of March 2018), respectively. As of December 2017, MSS had 24 full-time employees.

** See glossary at end of report for definition.*

AUDIT SCOPE, METHODOLOGY, AND OTHER INFORMATION

AUDIT SCOPE

To examine the program and other related records of MSS. We conducted this performance audit* in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

PERIOD

Our audit procedures, which included a preliminary survey, audit fieldwork, report preparation, analysis of agency responses, and quality assurance, generally covered October 1, 2015 through March 31, 2018.

METHODOLOGY

We conducted a preliminary survey to gain an understanding of MSS in order to establish our audit objectives, scope, and methodology. During our preliminary survey, we:

- Interviewed MSS, regional office, and TSC staff and analyzed applicable information to obtain an understanding of operations, responsibilities, and activities.
- Reviewed selected MDOT policies and procedures and State and federal laws.
- Reviewed and analyzed MSS expenditure data.
- Reviewed various access controls over LAPS.
- Reviewed MDOT's 2018 - 2022 5-Year Transportation Program and 2016 Annual Report.

OBJECTIVE #1

To assess the effectiveness of MDOT's efforts in processing accident damage claims.

To accomplish this objective, we:

- Obtained a list of approved PDRP users and assessed whether MDOT:
 - Followed the principle of least privilege when assigning roles and privileges to users.
 - Reviewed user access for assurance that PDRP automatically revoked user access after a period of inactivity.

* See glossary at end of report for definition.

- Monitored PDRP user access rights every 120 days.
- Interviewed MSS, regional office, and TSC personnel to obtain an understanding of the PDRP claim process.
- Randomly selected 20 of 1,744 canceled - no response - facility damage claims from October 2015 through April 2017 to determine whether:
 - MDOT investigated the claims.
 - Explanations were given for canceling the damage claim.
 - Claims were canceled prior to the expiration of the statute of limitations.
- Randomly selected 19 of 1,094 closed damage claim invoices from October 2015 through September 2017, for which the State did not receive reimbursement, to determine whether:
 - Periodic reminder letters were sent to the individuals that caused property damage.
 - Unpaid invoices were forwarded to the AG.
 - Repayment was pursued throughout the statute of limitations period.

Our random samples were selected to eliminate any bias and enable us to project the results to the population.

OBJECTIVE #2

To assess the sufficiency of MDOT's efforts to maintain the State's transportation infrastructure.

To accomplish this objective, we:

- Reviewed annual work plans, Statewide operations and management alignment team notes, and monthly budget meetings to gain an understanding of the backlog of maintenance items and best practices.
- Obtained and reviewed an inventory of MDOT pump stations and the pump station condition reports to determine their current status.
- Randomly selected 10 of 165 pump stations, as of March 2018, to assess if maintenance logs were maintained and maintenance was completed at reasonable intervals. Our random sample was selected to eliminate any bias and enable us to project the results to the entire population.

- Judgmentally selected 4 of 189 county salt storage facility evaluation forms, prepared during fiscal years 2017 and 2018, and compared these with MDOT's salt storage facility evaluation spreadsheet for completeness and accuracy. Because this selection was judgmental, we could not project the results to the entire population.
- Obtained a listing of 711 MDOT drivers and determined whether there was a valid CDL license or medical clearance listed. Our review noted one driver with an invalid medical clearance; however, remedial action was taken and the medical clearance was updated prior to our review.
- Reviewed a listing of 103 snowplow truck driver accidents to assess whether accidents may have occurred because of a lack of training.
- Reviewed MDOT's Performance Based Maintenance Program and quality assurance reporting completed by MSS.
- Reviewed pooled fund studies pertaining to maintenance operations to confirm MDOT's involvement in improving maintenance practices.
- Interviewed regional office and TSC personnel to ensure that MSS provided technical support and training regarding maintenance operations.

CONCLUSIONS

We base our conclusions on our audit efforts and any resulting material conditions* or reportable conditions.

When selecting activities or programs for audit, we direct our efforts based on risk and opportunities to improve State government operations. Consequently, we prepare our performance audit reports on an exception basis.

AGENCY RESPONSES

Our audit report contains 3 findings and 3 corresponding recommendations. MDOT's preliminary response indicates that it agrees with all 3 recommendations.

The agency preliminary response that follows each recommendation in our report was taken from the agency's written comments and oral discussion at the end of our fieldwork. Section 18.1462 of the *Michigan Compiled Laws* and the State of Michigan Financial Management Guide (Part VII, Chapter 4, Section 100) require an audited agency to develop a plan to comply with the recommendations and to submit it within 60 days after release of the audit report to the Office of Internal Audit Services, State Budget Office. Within 30 days of receipt,

* See glossary at end of report for definition.

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.

**PRIOR AUDIT
FOLLOW-UP**

Following is the status of the reported findings from our January 2013 performance audit of the Maintenance Services Section, Michigan Department of Transportation (591-0160-12):

Prior Audit Finding Number	Topic Area	Current Status	Current Finding Number
1	Monitoring of Contract County Maintenance Billings	Complied	Not applicable
2	Local Agency Payment System (LAPS) User Access	Complied	Not applicable
3	Unrecovered Damage Costs to Highway Property	Rewritten*	1

**SUPPLEMENTAL
INFORMATION**

Our audit report includes supplemental information presented as Exhibits #2 through #5. Our audit was not directed toward expressing a conclusion on this information.

* See glossary at end of report for definition.

GLOSSARY OF ABBREVIATIONS AND TERMS

access controls	Controls that protect data from unauthorized modification, loss, or disclosure by restricting access and detecting inappropriate access attempts.
AG	Department of Attorney General.
CPM	capital preventive maintenance.
direct force	MDOT employees who perform the maintenance services on State trunklines or State trunkline right-of-way.
DTMB	Department of Technology, Management, and Budget.
effectiveness	Success in achieving mission and goals.
FOD	Financial Operations Division.
interstate routes	The Dwight D. Eisenhower National System of Interstate and Defense Highways consisting of controlled-access freeways numbered within the United States and signed with an interstate route shield.
LAPS	Local Agency Payment System.
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. Our assessment of materiality is in relation to the respective audit objective.
MDOT	Michigan Department of Transportation.
Michigan routes	The Michigan State Highway System consisting of roads numbered within the State of Michigan and signed with an M-route shield.
MSS	Maintenance Services Section.

observation	A commentary that highlights certain details or events that may be of interest to users of the report. An observation may not include the attributes (condition, effect, criteria, cause, and recommendation) that are presented in an audit finding.
PDRP	Property Damage Reclamation Process.
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.
principle of least privilege	The practice of limiting access to the minimal level that will allow normal functioning. Applied to employees, the principle of least privilege translates to giving people the lowest level of user access rights that they can have and still do their jobs. The principle is also applied to things other than people, including programs and processes.
reclamation assignment	A State of Michigan traffic crash report in PDRP assigned to a region, TSC, or facility prior to being investigated.
reportable condition	A matter that, in the auditor's judgment, is less severe than a material condition and falls within any of the following categories: an opportunity for improvement within the context of the audit objectives; all instances of fraud; illegal acts unless they are inconsequential within the context of the audit objectives; significant violations of provisions of contracts or grant agreements; and significant abuse that has occurred or is likely to have occurred.
rewritten	The recurrence of similar conditions reported in a prior audit in combination with current conditions that warrant the prior audit recommendation to be revised for the circumstances.
State trunkline	All roads under MDOT jurisdiction, including Michigan routes, interstate routes, U.S. routes, interstate business loops and spurs, U.S. business routes, Michigan business routes, connector routes, and unsigned State trunkline.
TSC	transportation service center.
U.S. routes	The United States numbered highway system consisting of roads numbered within the contiguous United States and signed with the U.S. route shield.



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