Office of the Auditor General
Performance Audit Report

Structure Program Division

Bureau of Bridges and Structures
Michigan Department of Transportation

March 2026

State of Michigan Auditor General
Doug A. Ringler, CPA, CIA

591-0300-25

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.

The auditor general may make investigations pertinent to the conduct of audits.

Article IV, Section 53 of the Michigan Constitution

OAG
Office of the Auditor General

Report Summary

Performance Audit

Structure Program Division (SPD)

Bureau of Bridges and Structures
Michigan Department of Transportation (MDOT)

Report Number:
591-0300-25

Released:
March 2026

SPD is responsible for the maintenance of movable bridges; management and administration of the overall Statewide capital budgets for MDOT bridges; deployment and operation of specialized bridge inspection equipment; deployment of emergency and priority structural response resources; support services for region bridge maintenance crews; fabrication, installation, and upgrade of structural freeway signs and priority sign replacements; and administration of the Bridge Load Rating Unit (BLRU) and the Ancillary Structures Unit (ASU). As of June 30, 2025, Michigan had 11,308 bridges, including approximately 4,500 owned by the State and 6,800 owned by local units of governments and other entities.

Audit Objective			**Conclusion**
Objective 1: To assess the sufficiency of SPD's efforts to preserve and maintain State-owned bridges and structures.			Sufficient, with exceptions
Findings Related to This Audit Objective	**Material Condition**	**Reportable Condition**	**Agency Preliminary Response**
SPD did not establish written maintenance schedules or ensure maintenance staff documented details of completed maintenance for MDOT's 12 movable bridges (Finding 1).		X	Agrees
SPD did not document its inventory of signs and materials to ensure it identified missing or misplaced items, excessive sign stock, and signs and materials in need of replenishment (Finding 2).		X	Agrees
Observations Related to This Audit Objective	**Material Condition**	**Reportable Condition**	**Agency Preliminary Response**
MDOT calculates needing approximately $400 million per fiscal year in additional funding to avoid the potential closure of 1,212 bridges by 2045 (Observation 1).	Not applicable for observations.		

Audit Objective	Conclusion
Objective 2: To assess the effectiveness of selected security and access controls over the ArcGIS Enterprise Portal and Michigan Bridge Management and Inspection System.	Moderately effective

Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
MDOT lacked effective processes for removing access when user accounts were inactive or employees left State employment, ensuring users did not have conflicting user roles, and annually recertifying the appropriateness of users' roles and permissions (Finding 3).		X	Agrees

Audit Objective	Conclusion
Objective 3: To assess the effectiveness of SPD's BLRU.	Effective

Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable.		

Audit Objective	Conclusion
Objective 4: To assess the effectiveness of SPD's ASU.	Effective

Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable.		

Obtain Audit Reports

Online: audgen.michigan.gov

Phone: (517) 334-8050

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

OAG
Office of the Auditor General

Doug A. Ringler, CPA, CIA
Auditor General

201 N. Washington Square, Sixth Floor • Lansing, Michigan 48913 • Phone: (517) 334-8050 • audgen.michigan.gov

March 12, 2026

Heath E. Salisbury, Chair
State Transportation Commission
and
Bradley C. Wieferich, PE, Director
Michigan Department of Transportation
Murray D. Van Wagoner Building
Lansing, Michigan

Chair Salisbury and Director Wieferich:

This is our performance audit report on the Structure Program Division, Bureau of Bridges and Structures, 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* require an audited agency to develop a plan to comply with the recommendations and submit it to the State Budget Office (SBO) upon audit completion. State administrative procedures require the audited agency to develop the plan as early as practicable and within 60 days after the report issuance and submit the plan to the Office of Internal Audit Services (OIAS), SBO. Within 30 days of receipt, OIAS will 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

Doug Ringler
Auditor General

This Page Left Intentionally Blank

TABLE OF CONTENTS

STRUCTURE PROGRAM DIVISION

This Page Left Intentionally Blank

AUDIT OBJECTIVES, CONCLUSIONS, FINDINGS, AND OBSERVATIONS

EFFORTS TO PRESERVE AND MAINTAIN STATE-OWNED BRIDGES AND STRUCTURES

BACKGROUND

The Structure Program Division (SPD) is responsible for the preservation and maintenance of State-owned bridges and structures, and includes:

- Maintenance of movable bridges*. The State owns and maintains 12 movable bridges. SPD is responsible for completing maintenance on the movable bridges which includes applying grease and lubrication to applicable components. The average age of the State's movable bridges is 63 years old.

- Management and administration of the overall Statewide capital budgets for State bridges. SPD allocates over $200 million to State-owned bridges spread across multiple capital budgets on a yearly basis for replacement, rehabilitation, preventive maintenance, and special needs. SPD utilizes calculations based on conditions and square footage of bridges to allocate the replacement, rehabilitation, and preventive maintenance funding to the seven Michigan Department of Transportation (MDOT) regions. Each fall, SPD holds a Request for Action (RFA) project selection meeting to discuss each of the RFA projects submitted by the regions for consideration. Regions are encouraged to submit their highest priority RFAs to the RFA committee.

  The committee determines which RFA projects it agrees to commit Special Needs funding and which projects can wait or use separate funding. Other capital budgets are traditionally based on historical spending and specific bridge needs based on a first come, first-served basis.

- Deployment and operation of specialized bridge inspection equipment, deployment of emergency and priority structural response resources, and support services for region bridge maintenance crews:

  - SPD utilizes MDOT's Michigan Bridge Management and Inspection System* (MiBRIDGE) to log RFAs. RFAs are typically recorded by bridge inspectors describing the effort needed to properly maintain a bridge as well as the priority level to ensure urgent needs are addressed in a timely manner. RFAs may be assigned to region engineers, maintenance staff, or SPD personnel for tracking and completion. Monthly, SPD reviews the outstanding RFAs and conducts a follow-up

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

with the regions for any outstanding Priority Level 1 RFAs.

  - SPD maintains and operates specialized bridge inspection equipment, such as under bridge inspection vehicles; coordinates emergency and priority structural response resources, including the specialized Statewide bridge repair crew, to respond to high-load hits and other forms of structural damage or deterioration to in-service bridges; and coordinates support services for region bridge maintenance crews. SPD management meets monthly to prioritize and schedule deployment of resources.

- Fabrication, installation, and upgrade of structural freeway signs and priority sign replacements. SPD's sign shop produces, maintains an inventory of, and installs highway and priority signs. Sign requests are submitted, logged, and assigned a priority level based on the type of sign requested.

AUDIT OBJECTIVE

To assess the sufficiency of SPD's efforts to preserve and maintain State-owned bridges and structures.

CONCLUSION

Sufficient, with exceptions.

FACTORS IMPACTING CONCLUSION

- SPD generally calculated the allocation of funding to each region's replacement, rehabilitation, and preventive maintenance bridge funding accurately.
- SPD used reasonable criteria and methods to calculate each region's Bridge Priority Preservation Program funding allocations.
- SPD monitored funds allocated for bridge and structure projects.
- SPD monitored bridge RFAs and followed up monthly with regions on outstanding Priority Level 1 RFAs for the months reviewed.
- SPD held meetings to determine the allocation of maintenance staff resources for the months reviewed.
- MDOT maintained documentation of users requiring certifications for sampled employees.
- SPD generally tracked and timely completed requests for signs during the audit period.

- Two reportable conditions* related to improving documentation of movable bridge maintenance and internal control* over sign shop inventory (Findings 1 and 2).

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

FINDING 1

Improvements needed for documentation of movable bridge maintenance.

SPD should improve its documentation of movable bridge cyclical and preventative maintenance schedules and the completed maintenance to help ensure the reliability, operation, and monitoring of the State's 12 movable bridges.

Section 18.1485 of the *Michigan Compiled Laws* requires MDOT to establish and maintain a system of effective and efficient internal control. The U.S. Department of Transportation Federal Highway Administration's 2018 Bridge Preservation Guide provides guidance on establishing or improving existing bridge preservation programs. The Guide identifies developing a list of actions for preservation and establishing rules for the actions (either cyclical or condition-based) as key components of a preservation program.

Our review of MDOT's movable bridges noted SPD did not:

a. Establish written maintenance schedules detailing the type and frequency of maintenance for any of the movable bridges.

   MDOT informed us the maintenance supervisor was aware of and scheduled required cyclical and preventative maintenance; however, other than the logs maintained at each bridge, no written maintenance schedule was maintained.

b. Ensure maintenance staff documented the details of completed maintenance. SPD informed us maintenance is documented manually in logbooks kept on site at each movable bridge. However, our review of the logbooks at three randomly sampled movable bridges disclosed maintenance entries had varying amounts of documented details. Specifically, 79 (53%) of 148 entries recorded generic statements such as "check bridge" or "preventive maintenance" and did not detail the type of checks performed or the specific maintenance work completed.

   MDOT informed us the "check bridge" task is less critical than preventative maintenance and includes a walkthrough of the bridge for items such as dead animals, necessary repairs to the bridge operator building, and other items not necessarily affecting the reliability and operation of the bridge.

RECOMMENDATION

We recommend SPD improve its documentation of movable bridge cyclical and preventative maintenance schedules and the completed maintenance.

AGENCY PRELIMINARY RESPONSE

MDOT agrees with the recommendation.

MDOT agrees that the scheduling (subpart a) and documentation (subpart b) of "cyclical" maintenance activities performed by the statewide bridge crew can be improved. As discussed during the audit and referenced in the report, "check bridge" is not a maintenance activity and does not affect reliability and operation of the bridge. As MDOT shared during the audit, MDOT recently completed a research project aimed at improving the reliability of its movable bridge inventory, and several recommendations from the research, including improving cyclical maintenance records, will be implemented.

FINDING 2

Improved internal control needed over sign shop inventory.

SPD could improve its internal control over the sign shop inventory to ensure it identifies missing or misplaced items, excessive sign stock, and signs and materials in need of replenishment.

Section 18.1485 of the *Michigan Compiled Laws* requires MDOT to establish and maintain a system of effective and efficient internal control. State of Michigan Financial Management Guide (FMG) (Part II, Chapter 12, Section 100) requires agencies to:

- Establish and maintain a supplies and materials inventory control program.
- Maintain an inventory accounting system that provides adequate internal control and an annual physical inventory count to verify the accuracy of periodic and perpetual inventory systems.

SPD's sign shop contains a significant quantity of various inventory items which includes pre-made signs and materials from the MDOT warehouse, internally fabricated adopt-a-highway signs, and raw materials which include, but are not limited to, varying sizes and lengths of aluminum and other sheet metals used to create signs (see Exhibit 1). The sign shop does not keep a documented inventory of items of more than de minimis value and/or susceptible to theft.

SPD informed us it used periodic observations of the inventory to determine when more items were needed.

RECOMMENDATION

We recommend SPD improve its internal control over sign shop inventory.

AGENCY PRELIMINARY RESPONSE

MDOT agrees with the recommendation.

SPD in collaboration with MDOT-Finance will review the sign shop inventory process and associated internal controls utilizing a risk-based approach to determine where updates or enhancements are needed.

OBSERVATION 1

Additional funding needed for bridge preservation and maintenance.

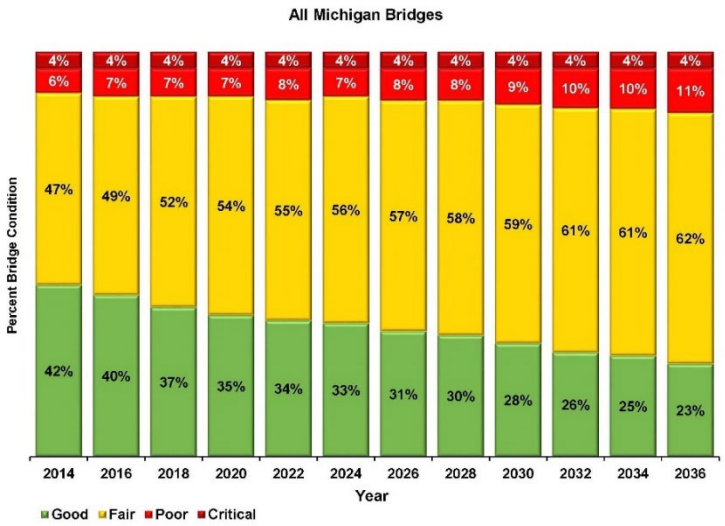
Between calendar years 2021 and 2024, bridge conditions throughout Michigan declined by 6%, indicating the need for funding to repair or replace bridges will likely exceed available resources. In October 2025, Public Acts 16, 17, 18, 19, 20, 23, and 24 of 2025 were enacted to increase road funding. MDOT indicated the majority of the new funding for the next five years will be directed toward local roads. As of January 2026, MDOT indicated it has not yet determined what funding will be allocated for MDOT projects, including bridge preservation and maintenance.

The 2025 Report Card for America's Infrastructure by the American Society of Civil Engineers found, nationally, most bridges have an estimated 50-year service life. As of June 30, 2025, 3,003 (67%) of State-owned bridges were more than 50 years old. Using deterioration modeling, MDOT estimates 159 bridges are at risk of closure by fiscal year 2035 and 1,212 bridges are at risk of closure by fiscal year 2045. At the current cost of $8 million, MDOT can replace on average 10 bridges per year. To avoid future bridge closures, MDOT indicated it would need approximately $400 million per fiscal year in additional funding to replace an additional 50 bridges annually.

As of June 30, 2025, State-owned National Bridge Inventory (NBI) bridges were in the following condition (see Exhibit 2):

Bridge Condition	Number (Percentage) of Bridges
Good	1,020 (23%)
Fair	3,212 (71%)
Poor	236 (5%)
Serious or Critical	36 (1%)
Total	4,504 (100%)

MDOT's Bridge Condition Forecasting System (BCFS) uses current bridge condition information, bridge deterioration rate, project costs, expected inflation, and fixed strategies to estimate the future condition of bridges. Based on current funding levels, BCFS estimates the overall bridge condition in Michigan is expected to decline as follows:



MDOT should continue working with the Legislature and federal government to identify additional funding sources for bridge replacement, rehabilitation, preservation, and maintenance.

SELECTED SECURITY AND ACCESS CONTROLS OVER ArcGIS AND MiBRIDGE

BACKGROUND

Security* controls are the management, operational, and technical controls designed to protect the availability*, confidentiality*, and integrity* of a system and its information.

Access controls* limit or detect inappropriate access to computer resources, thereby protecting the resources from unauthorized modification, loss, and disclosure. For access controls to be effective, they should be properly authorized, implemented, and maintained.

SPD uses ArcGIS Enterprise Portal (ArcGIS) to document ancillary structure inventory, conditions, inspections, and RFAs. The primary users of ArcGIS consist of MDOT employees and contractors. As of June 30, 2025, ArcGIS had 759 active users (722 State and 37 non-State user accounts).

SPD uses MiBRIDGE to document bridge conditions, load rating* information, and RFAs. The primary users of MiBRIDGE consist of MDOT employees, contractors, and local agency (township and city) employees. As of June 30, 2025, MiBRIDGE had 1,616 active users (590 State and 1,026 non-State user accounts).

AUDIT OBJECTIVE

To assess the effectiveness* of selected security and access controls over ArcGIS and MiBRIDGE.

CONCLUSION

Moderately effective.

FACTORS IMPACTING CONCLUSION

- MDOT appropriately granted user access privileges for all 40 sampled ArcGIS and 40 sampled MiBRIDGE user access requests.
- One reportable condition related to improving security and access controls over ArcGIS and MiBRIDGE (Finding 3).

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

FINDING 3

Security and access controls over ArcGIS and MiBRIDGE need improvement.

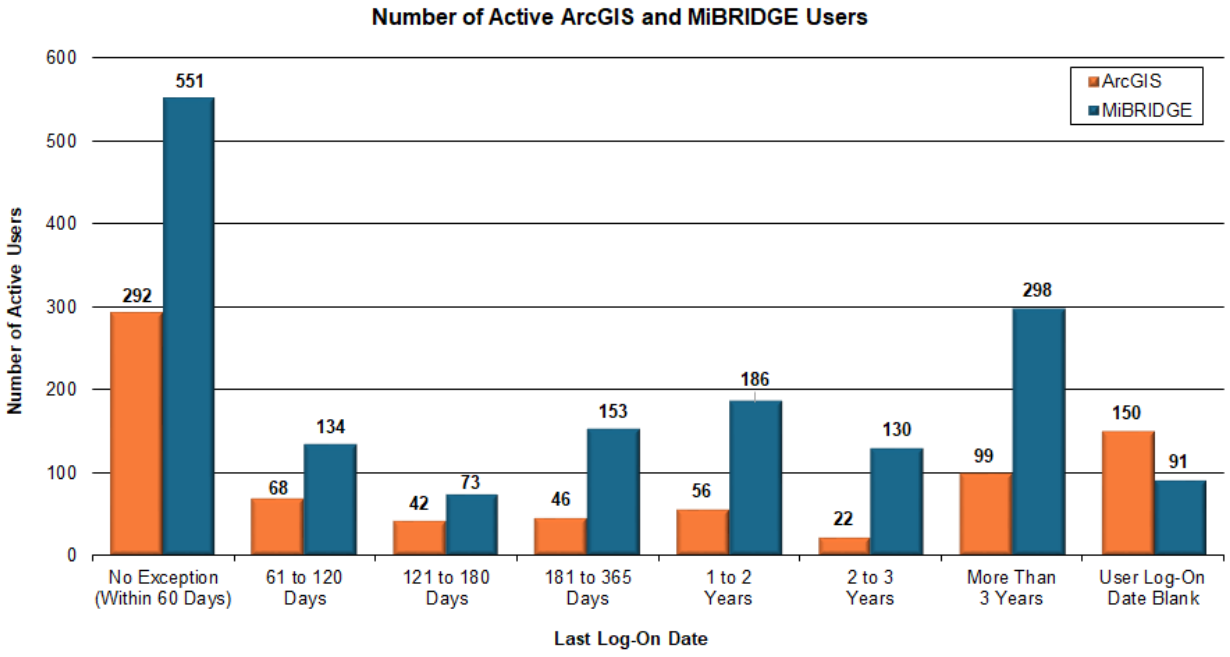
MDOT needs to improve security and access controls over ArcGIS and MiBRIDGE to help prevent and detect inappropriate access and protect bridge and ancillary structure data from unauthorized use, modification, or destruction.

Our review of ArcGIS and MiBRIDGE noted MDOT did not:

a. Disable 390 (365 State and 25 non-State users) (51%) of 759 ArcGIS and 1,065 (346 State and 719 non-State users) (66%) of 1,616 MiBRIDGE user accounts. Of the 1,065 MiBRIDGE user accounts, 116 (11%) were also identified in our performance audit report on the Bridge Inspection Program and MiBRIDGE, MDOT (591-0169-19), issued in January 2021. State of Michigan (SOM) Technical Standard 1340.00.020.01 requires State agencies to disable user accounts inactive for more than 60 days.

   MDOT informed us some MiBRIDGE and ArcGIS users may not have a need to log into the system for long periods of time.

   The following table presents the number of days since 390 ArcGIS and 1,065 MiBRIDGE users accessed their accounts:



b. Ensure ArcGIS and MiBRIDGE user accounts were removed in a timely manner when individuals left State employment. We identified 80 (14%) of 589 MiBRIDGE and 58 (8%) of 726 ArcGIS active State employee accounts belonging to departed employees. Of the 80 MiBRIDGE employee accounts, 12 (15%) were identified

in the prior audit and 11 (14%) were identified in a previous report of terminated employees provided to SPD. SOM Technical Standard 1340.00.020.01 requires MDOT to process access modification/removal requests within three business days when users are terminated or transferred or immediately after employment separation.

c. Ensure MiBRIDGE users did not have conflicting user roles. We identified four departed employees with active State employee and local agency/contractor user accounts in MiBRIDGE, giving the user access to both internal and external roles, including one user with internal system administrator access. Although external access may be appropriate, the internal access allows the users to potentially access data for bridges Statewide instead of only their local area.

d. Implement procedures for annually reviewing and recertifying user accounts to ensure access is still needed. Because ArcGIS and MiBRIDGE users are decentralized across the State, MDOT should coordinate its review with the local agency bridge and ancillary structure owners. SOM Technical Standard 1340.00.020.01 requires MDOT to review all accounts having access to SOM proprietary information for appropriate access annually to validate their continued need.

RECOMMENDATION

We recommend MDOT improve security and access controls over ArcGIS and MiBRIDGE.

AGENCY PRELIMINARY RESPONSE

MDOT agrees with the recommendation.

MDOT agrees with subparts b, c, and d of the finding. BoBS-SPD and Bureau of Transportation Planning, in coordination with the Office of Enterprise Information Management, have either already implemented or will implement oversight and monitoring regarding security management and access controls pertaining to timely removal of user accounts, user conflicting roles, and the annual review and recertification of user accounts.

For subpart a of the finding, MDOT agrees that there were user accounts not disabled after 60 days of inactivity. However, MDOT is accepting the risk due to low financial, operational, or reputational risk and data classification. In addition, for MiBRIDGE, MDOT accepts the risk as opposed to the greater risk of National Bridge Inspection Standards (NBIS) non-compliance by restricting bridge owner access to enter bridge data.

AUDITOR'S COMMENTS TO AGENCY PRELIMINARY RESPONSE*

MDOT's response to part a. does not align with SOM Technical Standard 1340.00.020.01 which requires disabling user accounts after 60 days of inactivity. MDOT's deviation from the Technical Standard during our audit period, and during the previous audit issued in January 2021 without an approved Technical Review Board (TRB) exception, still results in noncompliance even if MDOT accepts the risk.

Therefore, the finding stands as written.

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

BRIDGE LOAD RATING UNIT

BACKGROUND

The Bridge Load Rating Unit (BLRU) administers the MDOT load rating program. The load rating program is responsible for ensuring all bridges are load rated to verify safe load carrying capacity in accordance with the National Bridge Inspection Standards.

BLRU performs load rating capacity evaluations of complex bridges, truss bridges, movable bridges, and all other structures for the approximately 6,000 State-owned inventory of bridges and structures. Load ratings are completed for new bridges; bridges with significant repair, rehabilitation, or reconstruction work; bridges which have incurred damage affecting their structural capacity; bridges with structural deterioration invalidating the previous load rating; and bridges with requests to permit overload vehicle use. Between October 1, 2023 and June 30, 2025, BLRU completed 843 load capacity evaluations.

Also, BLRU is responsible for ensuring local agencies perform load ratings on local agency owned bridges. MDOT contracts with consultants to perform an annual risk-based Quality Assurance and Quality Control* (QA/QC) process Statewide for local agencies. BLRU reviews the results of the QA/QC reports and conducts a follow-up with local agencies as necessary to ensure load rating corrective action.

SPD uses MiBRIDGE to manage its load rating evaluations by documenting load rating summary and assumption forms, load rating calculation documents, and any load posting signage if a sign is erected at the bridge displaying its weight limit(s).

AUDIT OBJECTIVE

To assess the effectiveness of SPD's BLRU.

CONCLUSION

Effective.

FACTORS IMPACTING CONCLUSION

- SPD ensured load ratings were calculated using approved methods and verified by a separate individual for 100% of the sampled load ratings.
- SPD made corrections for State-owned bridges or appropriately followed-up with bridge owners for non-State-owned bridges for 100% of the errors identified in the sampled QA/QC reports.
- SPD updated load ratings as required for 100% of sampled RFAs.

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

- SPD ensured load ratings were documented in MiBRIDGE for 100% of sampled newly constructed bridges.

- SPD ensured State-owned bridges had load ratings posted for the sampled bridges.

ANCILLARY STRUCTURES UNIT

BACKGROUND

SPD's Ancillary Structures Unit (ASU) is responsible for the administration of the Ancillary Structures Program which manages non-bridge structural assets critical to roadway operations. This program provides asset condition data regarding inventory, inspection, and maintenance priorities to maintain safe and efficient public roadway operations in Michigan. There are 15 types of ancillary structures including culverts less than 10 feet, high-mast lighting towers, sign support structures, and noise walls.

SPD contracts with a program management consultant to assist with:

- Data management and reporting.
- Inspection and inventory processes.
- Development of training modules and certification programs.
- Implementation of digital tools, including Geographic Information System based applications and drone-assisted inspections.
- QA/QC to ensure consistency and accuracy across all regions.

SPD's Michigan Ancillary Structures Inspection Manual specifies data required to be documented for ancillary structure inventory, inspection, and condition assessments. As of June 30, 2025, SPD's ArcGIS contained over 45,000 Statewide ancillary structures.

ASU or contractors periodically conduct inspections based on the ancillary structure's documented condition. Between October 1, 2023 and June 30, 2025, ASU or contractors completed 20,596 inspections. For issues identified during an inspection, the inspector submits an RFA and action is taken to mitigate the safety risk.

The program management consultants conduct QA/QC to ensure complete and accurate data is collected by qualified individuals for inventory, inspections, and RFAs. The consultants submit monthly QA/QC reports for ASU to review and, if necessary, follow up to ensure corrective action was completed for identified issues.

AUDIT OBJECTIVE

To assess the effectiveness of SPD's ASU.

CONCLUSION Effective.

FACTORS IMPACTING CONCLUSION

SPD:

- Documented required inventory information for 100% of the sampled ancillary structures.
- Completed timely inspections and contained all necessary elements for 100% of sampled inspections.
- Ensured RFAs identified deficiencies, were appropriately classified, and had timely corrective action for 97% of sampled RFAs.
- Maintained documentation of the Ancillary Structures Program inspectors training and qualifications for all sampled inspectors.
- Obtained monthly QA/QC reports for the sampled months.
- Held weekly meetings with the program management consultant to discuss any deficiencies identified in the monthly QA/QC reports for the sampled weeks.

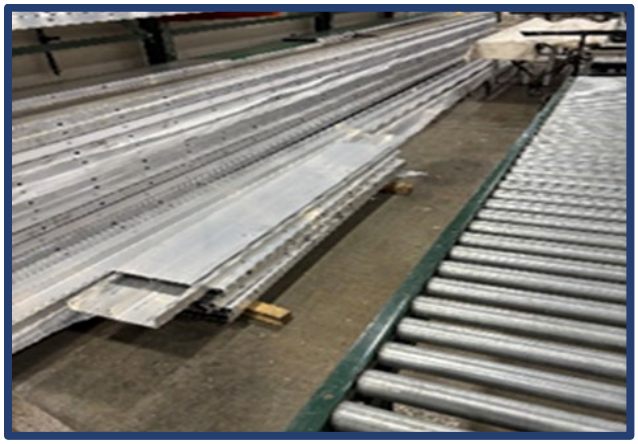
SUPPLEMENTAL INFORMATION

UNAUDITED
Exhibit 1

STRUCTURE PROGRAM DIVISION
Bureau of Bridges and Structures
Michigan Department of Transportation

Photographs of Sign Shop Inventory

Aluminum for Large Signs



Premade Sign Storage

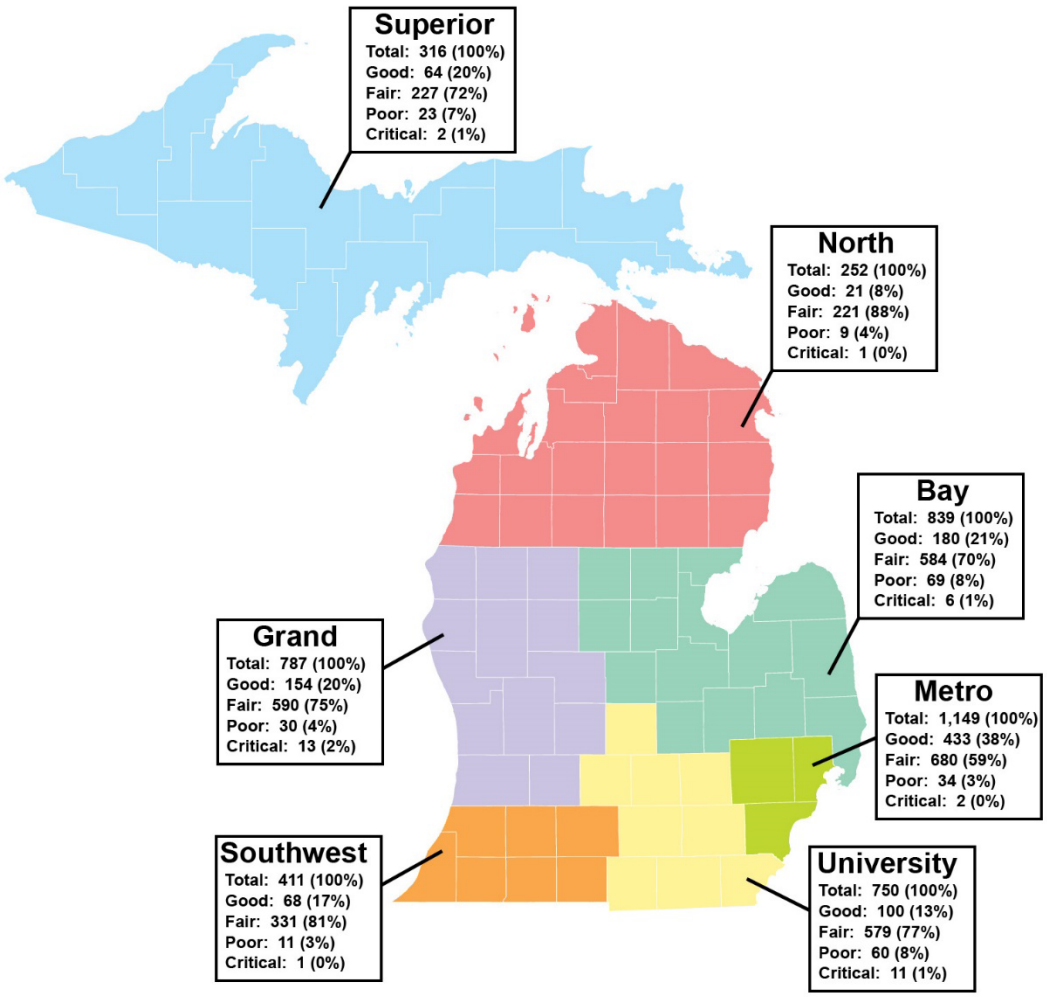
Blank Aluminum Cutouts

Sign In-Process

Source: Photographs were taken by OAG staff at SPD's sign shop.

STRUCTURE PROGRAM DIVISION
Bureau of Bridges and Structures
Michigan Department of Transportation

Map of State-Owned NBI Bridge Conditions by Region
As of June 30, 2025



Source: The OAG prepared this exhibit based on information obtained from MiBRIDGE.

AGENCY DESCRIPTION

MDOT was organized under Sections 16.450 - 16.458 of the *Michigan Compiled Laws* (sections of the Executive Organization Act of 1965). The State Transportation Commission establishes policy for MDOT and is made up of six members who are appointed by the Governor with the advice and consent of the Senate. The MDOT director, who is appointed by the Governor, is responsible for administering and executing the policies established by the State Transportation Commission. MDOT's mission* is serving and connecting people, communities, and the economy through transportation.

SPD, within MDOT's Bureau of Bridges and Structures, is responsible for the overall safety and management of Michigan's structural assets. SPD's focus is on structures already in service and in use by the public. As of June 30, 2025, Michigan had 11,308 bridges, including approximately 4,500 owned by the State and 6,800 owned by local units of government and other entities.

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

AUDIT SCOPE, METHODOLOGY, AND OTHER INFORMATION

AUDIT SCOPE

To examine the records and processes of SPD. 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.

We did not include the National Bridge Inspection Program in the scope of this audit because of recent federal law changes.

As part of the audit, we considered the five components of internal control (control environment, risk assessment, control activities, information and communication, and monitoring activities) relative to the audit objectives and determined all components were significant.

PERIOD

Our audit procedures, which included a preliminary survey, audit fieldwork, report preparation, analysis of agency responses, and quality assurance, generally covered October 1, 2023 through June 30, 2025.

METHODOLOGY

We conducted a preliminary survey of SPD. During our preliminary survey, we:

- Interviewed SPD management and staff to gain an understanding of their organizational structure, responsibilities, and procedures.
- Reviewed applicable sections of the *Michigan Compiled Laws* and MDOT policies and contracts related to SPD.
- Obtained an understanding of and assessed internal control applicable to SPD.

OBJECTIVE 1

To assess the sufficiency of SPD's efforts to preserve and maintain State-owned bridges and structures.

To accomplish this objective, we:

- Randomly selected 3 of 12 movable bridges to determine if SPD maintained logs documenting maintenance conducted between October 1, 2023 and June 30, 2025.

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

- Randomly and judgmentally sampled 13 of 27 SPD maintenance employees as of June 30, 2025 to determine if they had the required welding certifications or commercial driver's licenses, as applicable.

- Analyzed 1,269 sign shop requests received between October 1, 2023 and June 30, 2025 to determine if they were completed in a timely manner.

- Interviewed SPD staff to gain an understanding of the sign shop inventory process.

- Reviewed and recalculated the region replacement, rehabilitation, and preventive maintenance funding allocation comparison workbooks SPD created during our audit period to ensure the reasonableness of SPD's methodology and accuracy of calculations.

- Assessed the reasonableness of and recalculated SPD's Bridge Special Needs funding allocations during the audit period.

- Interviewed SPD staff to gain an understanding of the monitoring process for funds allocated for bridge and structure projects and reviewed SPD's fiscal year 2024 and 2025 monitoring reports for completeness and accuracy.

- Interviewed SPD staff to gain an understanding of the process of allocating maintenance staff resources and randomly selected 4 of 22 months between October 2023 and July 2025 to ensure SPD held monthly staff resource allocation meetings.

- Randomly selected 2 of 9 months between October 2024 and June 2025 to determine if SPD monitored RFAs and followed up with MDOT regions for outstanding Priority Level 1 RFAs.

Our random samples were selected to eliminate bias and enable us to project the results to the entire population. Our judgmental sample was selected based on risk; therefore, we could not project the results to the respective populations.

OBJECTIVE 2

To assess the effectiveness of selected security and access controls over ArcGIS and MiBRIDGE.

To accomplish this objective, we:

- Discussed SOM Technical Standards with SPD, including periodic reviews of user accounts, to determine if they implemented security and access controls.

- Randomly sampled and reviewed 40 of 315 ArcGIS and 40 of 313 MiBRIDGE user accounts created between October 1, 2023 and June 30, 2025 to determine whether:

    - Approval of user access privileges was established and properly documented.

    - Access was appropriate for users' job responsibilities.

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

- Compared 726 ArcGIS and 589 MiBRIDGE State users who had active accounts as of June 30, 2025 with the Human Resources Management Network* (HRMN) employment records to determine whether all active users were current State employees.

- Reviewed last log-in dates for 759 ArcGIS and 1,616 MiBRIDGE State and non-State users active as of June 30, 2025 to verify user accounts were disabled after 60 days of inactivity.

OBJECTIVE 3

To assess the effectiveness of SPD's BLRU.

To accomplish this objective, we:

- Randomly sampled 60 of 843 load ratings completed on State-owned bridges between October 1, 2023 and June 30, 2025 to determine whether the load rating was calculated using approved methods and verified by a separate individual.

- Reviewed the three load rating QA/QC reports received by SPD between October 1, 2023 and June 30, 2025. Of the three reports, we randomly sampled 43 of 419 load ratings identified as having one or more errors to determine whether SPD corrected the errors for State-owned bridges or appropriately followed up with the bridge owner for non-State-owned bridges.

- Randomly sampled 15 of 99 RFAs created between October 1, 2023 and June 30, 2025 which indicated an updated load rating may be necessary and verified SPD completed the update.

- Randomly sampled 12 of 83 bridges constructed between January 1, 2024 and June 30, 2025 to ensure the bridges had a documented load rating in MiBRIDGE.

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

- Randomly sampled 43 of 973 bridges as of June 30, 2025 required to have posted load ratings and determined whether the load ratings were posted accurately.

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

OBJECTIVE 4

To assess the effectiveness of SPD's ASU.

To accomplish this objective, we:

- Interviewed SPD staff to gain an understanding of the ancillary structure process and the ArcGIS software used to catalog the ancillary structure inventory and inspections.

- Randomly sampled 60 of 45,399 ancillary structure inventory assets recorded in ArcGIS as of June 30, 2025 and determined whether SPD documented required asset information.

- Randomly sampled 40 of 20,596 ancillary structure routine and special inspections completed between October 1, 2023 and June 30, 2025 to determine if inspections were completed at the required frequency based on the type and condition of the ancillary structure and the inspections contained all of the necessary elements.

- Randomly sampled 40 of 511 ancillary structure RFAs created between October 1, 2023 and June 30, 2025 to determine if RFAs identified deficiencies, had the appropriate classification, and were completed in a timely manner.

- Randomly sampled 10 of 51 active inspectors between October 1, 2023 and June 30, 2025 to ensure SPD maintained documentation of required training and qualifications.

- Randomly sampled 3 of 25 certified inspectors between January 1, 2025 and June 30, 2025 to ensure SPD maintained training certifications.

- Randomly sampled 4 of 21 monthly QA/QC reports received between October 1, 2023 and June 30, 2025 to verify the accuracy and consistency of inspections across different teams and regions.

- Randomly and judgmentally sampled 10 of 91 weeks between October 1, 2023 and June 30, 2025 to determine if SPD held weekly meetings with the Ancillary Structures Program management consultant to discuss potential ancillary structure issues.

Our random samples were selected to eliminate bias and to enable us to project the results to the entire population. Our judgmental sample was selected based on risk; therefore, we could not project the results to the respective populations.

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 it agrees with all of the recommendations.

The agency preliminary response following 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* requires an audited agency to develop a plan to comply with the recommendations and submit it to SBO upon audit completion. The State of Michigan Financial Management Guide (Part VII, Chapter 3, Section 100) requires the audited agency to develop the plan as early as practicable and within 60 days after report issuance and submit the plan to OIAS, SBO. Within 30 days of receipt, OIAS will either accept the plan as final or contact the agency to take additional steps to finalize the plan.

SUPPLEMENTAL INFORMATION

Our audit report includes supplemental information presented as Exhibits 1 and 2. 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 protecting data from unauthorized modification, loss, or disclosure by restricting access and detecting inappropriate access attempts.
ArcGIS	ArcGIS Enterprise Portal.
ASU	Ancillary Structures Unit.
auditor's comments to agency preliminary response	Comments the OAG includes in an audit report to comply with *Government Auditing Standards*. Auditors are required to evaluate the validity of the audited entity's response when it is inconsistent or in conflict with the findings, conclusions, or recommendations. If the auditors disagree with the response, they should explain in the report their reasons for disagreement.
availability	Timely and reliable access to data and information systems.
BCFS	Bridge Condition Forecasting System.
BLRU	Bridge Load Rating Unit.
confidentiality	Protection of data from unauthorized disclosure.
effectiveness	Success in achieving mission and goals.
Human Resources Management Network (HRMN)	The State's integrated human resources system which processes personnel, payroll, and employee benefits data.
integrity	Accuracy, completeness, and timeliness of data in an information system.
internal control	The plan, policies, methods, and procedures adopted by management to meet its mission, strategic plan, goals, and objectives. Internal control includes the processes for planning, organizing, directing, and controlling program operations. It also includes the systems for measuring, reporting, and monitoring program performance. Internal control serves as a defense in safeguarding assets and in preventing and detecting errors; fraud; violations of laws, regulations, and provisions of contracts and grant agreements; or abuse.

load rating	The analysis to determine the safe vehicular live load carrying capacity of a bridge using bridge plans and supplemented by measurements and other information gathered from an inspection.
material condition	A matter, in the auditor's judgment, which 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 Bridge Management and Inspection System (MiBRIDGE)	A web-based structure management application allowing bridge owners, engineers, inspectors, consultants, and managers to view and enter information for bridge and culvert assets across the State of Michigan.
mission	The main purpose of a program or an entity or the reason the program or the entity was established.
movable bridge	A bridge across a navigable waterway, or other travel way, that has at least one span which can be temporarily moved to increase the vertical clearance for objects passing underneath.
NBI	National Bridge Inventory.
observation	A commentary highlighting certain details or events which may be of interest to users of the report. An observation may not include all of the attributes (condition, effect, criteria, cause, and recommendation) presented in an audit finding.
OIAS	Office of Internal Audit Services.
performance audit	An audit which 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.

Quality Assurance and Quality Control (QA/QC)	The process of verifying compliance of structure load ratings including, but not limited to, independent reviews of load rating calculations, posting status, structure inventory and appraisal coding, and rating engineer credentials.
reportable condition	A matter, in the auditor's judgment, less severe than a material condition and falls within any of the following categories: a deficiency in internal control; noncompliance with provisions of laws, regulations, contracts, or grant agreements; opportunities to improve programs and operations; or fraud.
RFA	Request for Action.
SBO	State Budget Office.
security	Safeguarding an entity's data from unauthorized access or modification to ensure its availability, confidentiality, and integrity.
SOM	State of Michigan.
SPD	Structure Program Division.

This Page Left Intentionally Blank

This Page Left Intentionally Blank

This Page Left Intentionally Blank

Report Fraud/Waste/Abuse

Online: audgen.michigan.gov/report-fraud

Hotline: (517) 334-8070