

PERFORMANCE AUDIT
OF THE
MOTOR CARRIER DIVISION
MICHIGAN DEPARTMENT OF STATE POLICE
August 2001

EXECUTIVE DIGEST

MOTOR CARRIER DIVISION

INTRODUCTION

This report, issued in August 2001, contains the results of our performance audit* of the Motor Carrier Division (MCD), Michigan Department of State Police.

AUDIT PURPOSE

This performance audit was conducted as part of the constitutional responsibility of the Office of the Auditor General. Performance audits are conducted on a priority basis related to the potential for improving effectiveness* and efficiency*.

BACKGROUND

The mission* of MCD is to provide the public with a safe motoring environment and protect the highway infrastructure by promoting compliance with commercial vehicle laws through education and enforcement. MCD enforces the Michigan Vehicle Code, the Pupil Transportation Act, and other laws that pertain to motor carriers which transport commodities by truck and trailer and school buses.

Michigan is divided into eight MCD districts. Each district manages the operation of the weigh stations and road patrols within the district.

For fiscal year 1999-2000, MCD was appropriated approximately \$16.3 million and received additional contingency transfers of \$1.9 million. As of June 30, 2000, MCD had 172 employees.

* See glossary at end of report for definition.

AUDIT OBJECTIVE,
CONCLUSION, AND
NOTEWORTHY
ACCOMPLISHMENTS

Audit Objective: To assess the effectiveness and efficiency of MCD in meeting its mission to provide the public with a safe motoring environment and protect the highway infrastructure by promoting compliance with commercial vehicle laws through education and enforcement.

Conclusion: We concluded that MCD was generally effective and efficient in meeting its mission. However, we noted reportable conditions* related to effectiveness of operations, the continuous quality improvement* process, recruiting efforts, and the Bus Inspection Unit (Findings 1 through 4).

Noteworthy Accomplishments: MCD is a pilot state in developing the federally sponsored Commercial Vehicle Information Systems Network (CVISN). CVISN will provide for the networking of several State agencies involved in furnishing credentials and supplying enforcement pertaining to commercial vehicles. CVISN will provide the industry with "one-stop shopping" and will facilitate deployment of Intelligent Transportation Systems in Michigan.

MCD has developed and implemented a commercial vehicle fatal crash causation study (F.A.C.T.). This program, implemented in 1996, is the first of its kind and serves as a model for other states.

MCD has been proactive in the training of local law enforcement officers in commercial vehicle enforcement. MCD trained 593 local officers during 1998 and an additional 127 officers in 1999. To keep local officers up-to-date on changes in laws and regulations, MCD began

* See glossary at end of report for definition.

publishing a quarterly commercial enforcement bulletin in January 2000.

MCD designed and constructed a unique cargo tank training trailer. The trailer, consisting of cargo tanks with working valves designed to transport various types of hazardous materials, has been used to train firefighters, law enforcement officers, and other emergency responders throughout Michigan.

MCD has implemented advanced automation systems. Each weigh station and patrol vehicle is equipped with a computer used for recording and reporting vehicle safety inspection data. Software is under development that will enable patrol officers to complete commercial vehicle law citations and the officers' daily log on a computer at the roadside and to electronically transmit this data to courts and the central office. Field supervisors will be able to retrieve data from remote sites.

**AUDIT SCOPE AND
METHODOLOGY**

Our audit scope was to examine the program and other records of the Motor Carrier Division. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Our methodology included the testing of records primarily covering the period October 1, 1997 through June 30, 2000. We conducted a preliminary survey of MCD operations to gain an understanding of the activities and to form a basis for selecting certain operations for audit. This included discussions with staff regarding their functions and responsibilities and reviews of program records and annual reports.

We examined program activity data and methodology for assigning weigh station, road patrol, and Specialized Transportation Enforcement Team staff. We reviewed weighing and inspection activities during field visits and summarized and analyzed reports of these Statewide activities. We reviewed the process of identifying companies and school districts that have a history of safety violations, and we analyzed the results of school bus inspections. Also, we conducted surveys (see supplemental information) requesting feedback from holders of commercial driver licenses and from school districts about their experiences and satisfaction with MCD activities.

**AGENCY RESPONSES
AND PRIOR AUDIT
FOLLOW-UP**

Our audit report includes 4 findings and 4 corresponding recommendations. MCD's preliminary responses indicated that MCD agrees with all 4 recommendations.

MCD complied with 4 of the 9 prior audit recommendations included within the scope of our current audit. The other 5 recommendations were rewritten for inclusion in this report.

August 28, 2001

Colonel Michael D. Robinson, Director
Michigan Department of State Police
714 South Harrison Road
East Lansing, Michigan

Dear Colonel Robinson:

This is our report on the performance audit of the Motor Carrier Division, Michigan Department of State Police.

This report contains our executive digest; description of agency; audit objective, scope, and methodology and agency responses and prior audit follow-up; background; comment, findings, recommendations, and agency preliminary responses; analysis of overweight trucks, description of surveys, and summaries of survey responses, presented as supplemental information; and a glossary of acronyms and terms.

The agency preliminary responses were taken from the agency's responses subsequent to our audit fieldwork. The *Michigan Compiled Laws* and administrative procedures require that the audited agency develop a formal response within 60 days after release of the audit report.

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

AUDITOR GENERAL

This page left intentionally blank.

TABLE OF CONTENTS

MOTOR CARRIER DIVISION MICHIGAN DEPARTMENT OF STATE POLICE

INTRODUCTION

	<u>Page</u>
Executive Digest	1
Report Letter	5
Description of Agency	9
Audit Objective, Scope, and Methodology and Agency Responses and Prior Audit Follow-Up	10
Background	12

COMMENT, FINDINGS, RECOMMENDATIONS, AND AGENCY PRELIMINARY RESPONSES

Effectiveness and Efficiency in Meeting Mission	14
1. Effectiveness of Operations	15
2. CQI Process	18
3. Recruiting Efforts	20
4. Bus Inspection Unit	21

SUPPLEMENTAL INFORMATION

Analysis of Overweight Trucks - Month of June 2000	25
Description of Surveys	26
Summaries of Survey Responses	
Exhibit A - Enforcement of Commercial Vehicle Weight and Safety Laws	27
Exhibit B - Enforcement of Hazardous Materials Safety Laws	31
Exhibit C - Safety Inspection Program for School Buses	33

GLOSSARY

Glossary of Acronyms and Terms

36

Description of Agency

The mission of the Motor Carrier Division (MCD) is to provide the public with a safe motoring environment and protect the highway infrastructure by promoting compliance with commercial vehicle laws through education and enforcement. MCD enforces the Michigan Vehicle Code (Sections 257.1 - 257.923 of the *Michigan Compiled Laws*), the Pupil Transportation Act (Sections 257.1801 - 257.1877 of the *Michigan Compiled Laws*), and other laws that pertain to motor carriers which transport commodities by truck and trailer and to school buses. These laws address the weight, length, and width of trucks and trailers and the condition of commercial motor vehicles and school buses.

Michigan is divided into eight MCD districts. Each district manages the operation of the weigh stations and road patrols within the district. MCD also has three specialized units: Bus Inspection, Hazardous Materials, and Management Audit and Investigation.

Most of MCD's funding is from the State Trunkline Fund, Michigan Truck Safety Fund, Federal Motor Carrier Safety Administration grants, and certificate fees collected by the Michigan Public Service Commission for commercial vehicles operating in Michigan.

Motor carriers who violate the Michigan Vehicle Code are charged a penalty which the carrier, driver, or vehicle owner pay to local courts for the benefit of local libraries.

For fiscal year 1999-2000, MCD was appropriated approximately \$16.3 million and received additional contingency transfers of \$1.9 million. As of June 30, 2000, MCD had 172 employees.

Audit Objective, Scope, and Methodology and Agency Responses and Prior Audit Follow-Up

Audit Objective

The objective of our performance audit of the Motor Carrier Division (MCD), Michigan Department of State Police, was to assess the effectiveness and efficiency of MCD in meeting its mission to provide the public with a safe motoring environment and protect the highway infrastructure by promoting compliance with commercial vehicle laws through education and enforcement.

Audit Scope

Our audit scope was to examine the program and other records of the Motor Carrier Division. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Audit Methodology

Our audit procedures were conducted from April through September 2000 and included the testing of records primarily covering the period October 1, 1997 through June 30, 2000. We conducted a preliminary survey of MCD operations to gain an understanding of the activities and to form a basis for selecting certain operations for audit. This included discussions with staff regarding their functions and responsibilities and reviews of program records and annual reports.

We examined program activity data and methodology for assigning weigh station, road patrol, and Specialized Transportation Enforcement Team staff. We reviewed weighing and inspection activities during field visits and summarized and analyzed reports of these Statewide activities. We reviewed the process of identifying companies and school districts that have a history of safety violations, and we analyzed the results of school bus inspections. Also, we conducted surveys (see supplemental information) requesting feedback from holders of commercial driver licenses and from school districts about their experiences and satisfaction with MCD activities.

Agency Responses and Prior Audit Follow-Up

Our audit report includes 4 findings and 4 corresponding recommendations. MCD's preliminary responses indicated that MCD agrees with all 4 recommendations.

The agency preliminary response which follows each recommendation in our report was taken from the agency's written comments and oral discussion subsequent to our audit fieldwork. Section 18.1462 of the *Michigan Compiled Laws* and Department of Management and Budget Administrative Guide procedure 1280.02 require the Michigan Department of State Police to develop a formal response to our audit findings and recommendations within 60 days after release of the audit report.

MCD complied with 4 of the 9 prior audit recommendations included within the scope of our current audit. The other 5 recommendations were rewritten for inclusion in this report.

Background

Permanent Weigh Stations

The Motor Carrier Division (MCD) operates 22 permanent weigh stations at 14 locations throughout Michigan. Eighteen of these stations are located on interstate highways and 4 are on major noninterstate highways. Officers monitor vehicles for compliance with size and weight requirements and monitor other nonweight issues by performing safety inspections on vehicles; verifying driver requirements to ensure compliance with the Motor Carrier Safety Act; and enforcing other regulations, such as those covering hauling-for-hire, travel logs, licensing requirements, and payment of appropriate fees. All vehicles that enter the stations are weighed. Vehicles that are overweight or operating in an unsafe condition are stopped and evaluated. As of June 30, 2000, there were 46.5 full-time equated officers assigned to duty at weigh stations.

MCD provided us with the most recent information regarding commercial vehicles weighed and other enforcement activity at the weigh stations for three fiscal years:

	Fiscal Year		
	1998-99	1997-98	1996-97
Total Vehicles Weighed	2,337,649	2,867,892	3,268,424
Overweight Violations	1,545	1,309	1,438
Total Violations	8,176	7,752	8,056

Road Patrols

MCD's road patrol function is directed toward providing commercial vehicle enforcement in areas that do not have weigh stations and in metropolitan areas that have numerous major freeways that allow drivers to bypass truck scale locations. Each patrol unit is equipped with portable scales. A patrol officer is responsible for enforcing the same weight and nonweight issues as an officer assigned to a weigh station; however, patrol officers are also expected to take enforcement action for moving violations, such as speeding and improper lane usage. As of June 30, 2000, there were 49.5 full-time equated officers assigned to patrol duties.

MCD provided us with the most recent information regarding road patrol activities for three fiscal years:

	Fiscal Year		
	1998-99	1997-98	1996-97
Total Vehicles Stopped	32,349	30,809	37,249
Total Vehicles Weighed	3,638	3,904	3,969
Overweight Violations	1,873	1,778	1,857
Total Violations	22,278	19,490	22,842

Bus Inspection Unit

The Bus Inspection Unit is responsible for annually inspecting approximately 17,000 public and nonpublic school buses. Section 257.1839 of the *Michigan Compiled Laws* requires each school bus to be inspected annually. MCD reviews and approves installation of optional equipment. As of June 30, 2000, there were 16 full-time equated employees assigned to the Bus Inspection Unit.

Inspections result in each bus receiving a green, yellow, or red decal. A green decal indicates that the bus has passed the inspection. A yellow decal results from minor safety defects, such as headlights that are excessively out of adjustment; mirrors that are cracked, are broken, or provide a limited view; metal that is protruding on the exterior of the bus, etc. Although a yellow tagged bus is allowed to carry passengers, the defects are still required to be repaired. A red decal results from serious safety defects, such as defective brakes, excessive tire wear, a broken window, failure of rear doors to operate manually, etc. A red tagged bus is placed out of service and is not allowed to carry passengers until the defects have been repaired.

MCD provided us with the following information on bus inspection activities for the past three school years:

	School Year		
	1999-2000	1998-99	1997-98
Total School Districts	820	802	789
Total Buses Inspected	17,818	17,090	16,308
Buses With Yellow Decals	1,048	1,295	1,160
Buses With Red Decals	1,809	2,467	2,114

COMMENT, FINDINGS, RECOMMENDATIONS, AND AGENCY PRELIMINARY RESPONSES

EFFECTIVENESS AND EFFICIENCY IN MEETING MISSION

COMMENT

Audit Objective: To assess the effectiveness and efficiency of the Motor Carrier Division (MCD) in meeting its mission to provide the public with a safe motoring environment and protect the highway infrastructure by promoting compliance with commercial vehicle laws through education and enforcement.

Conclusion: We concluded that MCD was generally effective and efficient in meeting its mission. However, we noted reportable conditions related to effectiveness of operations, the continuous quality improvement (CQI) process, recruiting efforts, and the Bus Inspection Unit.

Noteworthy Accomplishments: MCD is a pilot state in developing the federally sponsored Commercial Vehicle Information Systems Network (CVISN). CVISN will provide for the networking of several State agencies involved in furnishing credentials and supplying enforcement pertaining to commercial vehicles. CVISN will provide the industry with "one-stop shopping" and will facilitate deployment of Intelligent Transportation Systems in Michigan.

MCD has developed and implemented a commercial vehicle fatal crash causation study (F.A.C.T.). This program, implemented in 1996, is the first of its kind and serves as a model for other states.

MCD has been proactive in the training of local law enforcement officers in commercial vehicle enforcement. MCD trained 593 local officers during 1998 and an additional 127 officers in 1999. To keep local officers up-to-date on changes in laws and regulations, MCD began publishing a quarterly commercial enforcement bulletin in January 2000.

MCD designed and constructed a unique cargo tank training trailer. The trailer, consisting of cargo tanks with working valves designed to transport various types of

hazardous materials, has been used to train firefighters, law enforcement officers, and other emergency responders throughout Michigan.

MCD has implemented advanced automation systems. Each weigh station and patrol vehicle is equipped with a computer used for recording and reporting vehicle safety inspection data. Software is under development that will enable patrol officers to complete commercial vehicle law citations and the officers' daily log on a computer at the roadside and to electronically transmit this data to courts and the central office. Field supervisors will be able to retrieve data from remote sites.

FINDING

1. Effectiveness of Operations

MCD should more effectively utilize the systems available for identifying overweight trucks.

Section 257.724 of the *Michigan Compiled Laws* allows MCD officers to weigh vehicles they believe are overweight.

One of MCD's goals is to minimize damage to the Michigan infrastructure by maintaining a comprehensive, dynamic, and highly effective program for size and weight enforcement.

In our review of operations, we noted:

- a. MCD did not utilize 21 weigh-in-motion (WIM) sensors installed by the Michigan Department of Transportation (MDOT) in various highways throughout Michigan. In addition to their use as a traffic counter, these sensors monitor axle weight of all trucks as they pass over them. Technology exists to allow MCD to use laptop computers to monitor these weights. However, MCD did not utilize this technology but instead relied on permanent weigh stations and road patrols to detect overweight trucks.

There were two types of WIM sensors installed by MDOT. According to the manufacturers, these provided accuracy rates of 80% and 90% - 95% when properly installed. We obtained information from MDOT for these sensors for June 2000 for trucks with 6 axles and above. The sensors showed a total of 181,000 trucks with 6 or more axles passed over the sensors that month. Of

these, 69,000 (38%) were shown as overweight either by axle, tandem, or in total. The percentage of overweight trucks was considerably lower for those with 5 axles and below.

We reviewed MCD citations issued for overweight trucks Statewide for June 2000. During that month, MCD issued a total of 361 citations for trucks being overweight. Of these, 140 were issued from the permanent weigh stations and 221 by road patrol cars. (See the Analysis of Overweight Trucks, presented as supplemental information.)

- b. MCD did not ensure the accuracy of WIM scales at four permanent weigh station locations. The WIM scales are used as a screening tool to identify those trucks that may be in violation of Michigan weight laws.

We visited these four locations and requested scale operators to weigh a sample of trucks over WIM and static scales. The Department of Agriculture tests and certifies static scales for accuracy and the static scales are used as the basis for issuing overweight citations. Our tests disclosed that WIM scales at all four locations were overweighing some truck axles between 2,140 and 3,730 pounds and were underweighing other truck axles between 2,140 and 5,760 pounds. One location did not provide a reading for 51 of 100 consecutive vehicles passing over the scale. MCD did not routinely compare WIM and static scale readings.

The net weight difference at the four locations between the WIM and static scales for all truck axles weighed was as follows:

Location	Trucks	Axles	Static Weight	WIM Weight	Net Weight Difference	Percentage Difference
1	10	69	806,840	638,000	168,840	20.9%
2	7	47	591,540	513,687	77,853	13.2%
3	10	53	518,820	461,028	57,792	11.1%
4	4	21	339,360	332,900	6,460	1.9%

- c. MCD did not utilize 39 (60%) of 65 permanent intermittent truck weigh stations (PITWSs) to weigh vehicles because they were in need of repair, were located

in unsafe areas, or were located on slanted surfaces making weighing inaccurate. The use of PITWSs reduces the time it takes to weigh vehicles. MDOT is responsible for the installation and maintenance of PITWSs.

Failure to establish an effective program for weight enforcement increases the risk of causing damage to State highways by overweight trucks. The Weight Enforcement and Safety Inspection Implementation Plan prepared by MDOT and MCD, approved by the MDOT Highway Steering Committee in May 1992, stated that it has been estimated that overweight vehicles cause over \$54 million worth of damage to Michigan's federal aid highways annually.

RECOMMENDATION

We recommend that MCD more effectively utilize the systems available for identifying overweight trucks.

AGENCY PRELIMINARY RESPONSE

MCD has attempted to utilize mainline WIM sites to detect overweight vehicles. These attempts have had minimal success due to the fact that the WIM sites are frequently nonoperational and, when operational, WIM equipment is not accurate or reliable. While the manufacturer may claim accuracy rates of 80% and 90% - 95%, this is dependent upon proper installation, maintenance, and calibration. The accuracy of these sites is also greatly affected by temperature changes. MCD continues to work with MDOT to improve the effectiveness of this enforcement tool.

MCD agrees that it has not checked the accuracy of WIM equipment at weigh stations on a regular basis, but should. MCD will develop a procedure to monitor the accuracy of WIM scales.

MCD considers PITWSs to be a highly effective and preferred enforcement tool. MCD has not utilized PITWSs more because the majority of the PITWSs have fallen into disrepair and cannot legitimately be used for weight enforcement. MCD will continue to utilize PITWSs that are operational and will continue to encourage MDOT to provide more operational PITWS sites.

FINDING

2. CQI Process

MCD's CQI process lacked some elements which resulted in reduced effectiveness in monitoring and improving MCD's activities.

MCD's mission is to provide the public with a safe motoring environment and protect the highway infrastructure by promoting compliance with commercial vehicle laws through education and enforcement.

A CQI process should include: performance indicators* for measuring outputs* and outcomes*; performance standards* that describe the desired level of outputs and outcomes; a management information system to accurately gather output and outcome data; a comparison of the data with desired outputs and outcomes; a reporting of the comparison results to management; and proposals of program modifications to improve effectiveness.

MCD had incorporated parts of such a CQI process. For example, MCD established an overall mission, strategic plan, and goals* and objectives* for meeting its mission. However, we noted:

- a. MCD had not established specific goals and objectives with quantified outcomes for motor carrier size and weight enforcement and hazardous materials inspections and follow-up.

- b. MCD had not developed an information system to gather output and outcome data. For example, MCD did not accumulate data from its PITWSs to evaluate effectiveness and efficiency. PITWSs are notches in the pavement large enough to hold the portable scales used by road patrol units. These are generally safer because they are located in rest stops, in car pool lots, and on side roads, rather than on busy highways. Although the use of PITWSs reduces the time it takes to weigh a vehicle, MCD did not determine whether there was a corresponding increase in weight enforcement effectiveness and efficiency.

* See glossary at end of report for definition.

- c. MCD had not conducted a comparison of actual outcome data with desired outcomes. For example, MCD scheduled weekend enforcement coverage at a lower level than weekday coverage. However, MCD had not determined whether there was a relationship between limited enforcement coverage on weekends and the number of overweight vehicles or other traffic enforcement on the highways during weekends.

We noted a similar finding involving quantified goals and objectives in the prior two audits. MCD concurred with the finding and its preliminary response indicated that it would address quantified goals through a strategic planning process.

RECOMMENDATION

We recommend that MCD add elements to its CQI process to increase effectiveness in monitoring and improving MCD's activities.

AGENCY PRELIMINARY RESPONSE

MCD agrees that it has not established performance measures to evaluate the effectiveness of the weight enforcement program. MCD and MDOT have agreed to work collaboratively to develop quantitative performance measures by October 1, 2001.

As part of Michigan's Commercial Vehicle Safety Plan, MCD has developed performance measures related to its traffic enforcement, safety inspection program, and hazardous materials inspection program. MCD will strive to refine these measures to help ensure its overall effectiveness.

MCD agrees that its means of collecting and analyzing output and outcome data should be more effective. MCD is in the process of developing an automated officer daily system that will provide for much better collection of such data.

MCD does compare actual outcome data with desired outcomes and then adjusts deployment of resources accordingly. For example, MCD schedules weekend coverage based upon several factors, including crash statistics, commercial vehicle traffic volume, and the ability to provide an intermittent and unpredictable enforcement presence.

FINDING

3. Recruiting Efforts

MCD should further evaluate the effectiveness and efficiency of its recruiting and training efforts to maintain a full motor carrier enforcement staff.

As of April 1999, MCD had 36 vacancies among the 135 appropriated positions for motor carrier enforcement officers.

We examined the results of the April 1999 recruit school and noted:

- a. There was an initial pool of approximately 800 potential recruits for MCD positions. However, the recruit school produced only 12 graduates and, as of June 2000, only 7 remained as MCD officers.

The primary reasons given by potential recruits for not pursuing the motor carrier positions were to pursue trooper positions with the Michigan Department of State Police, other law enforcement agencies, or the Department of Natural Resources. MCD should consider enhancements to positions to be more competitive with these other positions.

- b. The MCD recruit school extended for 16 weeks at a cost of \$542,000 (approximately \$34,000 per week) and is similar to the trooper recruit school. However, the motor carrier enforcement section of the school accounts for only approximately 3 weeks of the 16 total weeks. In addition to motor carrier enforcement, the school curriculum includes sections for general police, police physical skills, traffic, patrol techniques, legal, criminal investigation, crime scene processing, and administrative.

MDC should consider alternatives to the format of the recruit school, including the possibility of shortening the school and placing more emphasis on motor carrier enforcement activities. Some of the activities could be incorporated into on-the-job training.

- c. The initial pool of approximately 800 potential recruits was invited to attend an orientation for motor carrier officers. As a result of those attending the orientation, MCD started 210 background investigations at a cost of \$203,000

for those interested in positions. However, only 27 of these potential recruits started the recruit school.

Completed background investigations range from 40 to 200 hours per applicant and average 80 hours to complete. Delaying the background investigations until later in the process would reduce these costs considerably.

RECOMMENDATION

We recommend that MCD further evaluate the effectiveness and efficiency of its recruiting and training efforts to maintain a full motor carrier enforcement staff.

AGENCY PRELIMINARY RESPONSE

MCD agrees that more should be done to enhance the motor carrier officer position and continues to seek ways to do so.

MCD has one recruit school scheduled to begin on July 8, 2001 and another on January 27, 2002. The format and curriculum for this school has been changed significantly. Greater emphasis will be placed on scenario-based training. The training will be less regimented than traditional recruit training.

MCD has implemented a prescreening interview prior to conducting the background investigation. This has been effective in identifying unacceptable applicants prior to investing considerable resources in the background investigation.

MCD has recently developed an aggressive and effective recruiting process. Innovative approaches include elimination of the residency requirement and regional job fairs with on-site civil service testing. These initiatives appear to be enhancing the overall effectiveness of the motor carrier recruiting program.

FINDING

4. Bus Inspection Unit

MCD should improve its Bus Inspection Unit operations and reporting methods.

Sections 257.1839 and 257.715a of the *Michigan Compiled Laws* require the Michigan Department of State Police to annually inspect each public school bus

and pupil transportation vehicle and each school bus or vehicle with a seating capacity of 12 or more that is owned, leased, or used by a nonpublic school, religious organization, nonprofit youth organization, nonprofit rehabilitation facility, or senior citizen center for transportation of passengers.

Section 257.1841 of the *Michigan Compiled Laws* states that, upon inspection, a vehicle determined to be unsafe for further operation shall not be used in the transportation of any passengers until the condition is corrected. Reinspection must take place within 60 days after the original inspection.

We noted:

- a. MCD did not identify the number of school buses and pupil transportation vehicles in school districts that are required to be inspected at least annually.

We obtained from the Department of Education a list of registered school buses owned by school districts within the State for the 1999-2000 school year. Included on this list were 549 public school districts with a total of 14,332 buses. We compared this list with inspections done by MCD during the 1999-2000 school year. We noted that school buses owned by 5 school districts had not been inspected. These districts had a total of 30 buses. We also noted an additional 485 buses in the other 544 districts that had not been inspected by MCD. MCD informed us that these school buses were not used by the school districts and that other buses leased by the school districts were inspected.

- b. MCD did not provide the results of its school bus inspections to its primary stakeholders, the parents, the public, and the school boards in a timely manner.

To ensure children's safety and provide adequate bus maintenance, the results of bus inspections should be available to all parties as quickly as possible. MCD provides a copy of the bus inspection to the director of transportation or the head mechanic upon completion of the inspection. However, MCD did not post the results of inspections by school district on the MCD web site until it completed inspections of all school districts for the year. As a result, as of September 2000, the most current inspection information was for the period September 1, 1998 through August 31, 1999. Also,

because the web site does not mention the time period of its information, users may be misled into believing that the data is for the current school year. The web site does not contain any reinspection information.

To measure the effectiveness and efficiency of operations and ensure bus safety, MCD should establish procedures to identify buses to be inspected and post bus inspection results in a timely manner (i.e., quarterly for the current school year and by completed school year for prior years) rather than waiting for all inspections to be completed for the current school year.

RECOMMENDATION

We recommend that MCD improve its Bus Inspection Unit operations and reporting methods.

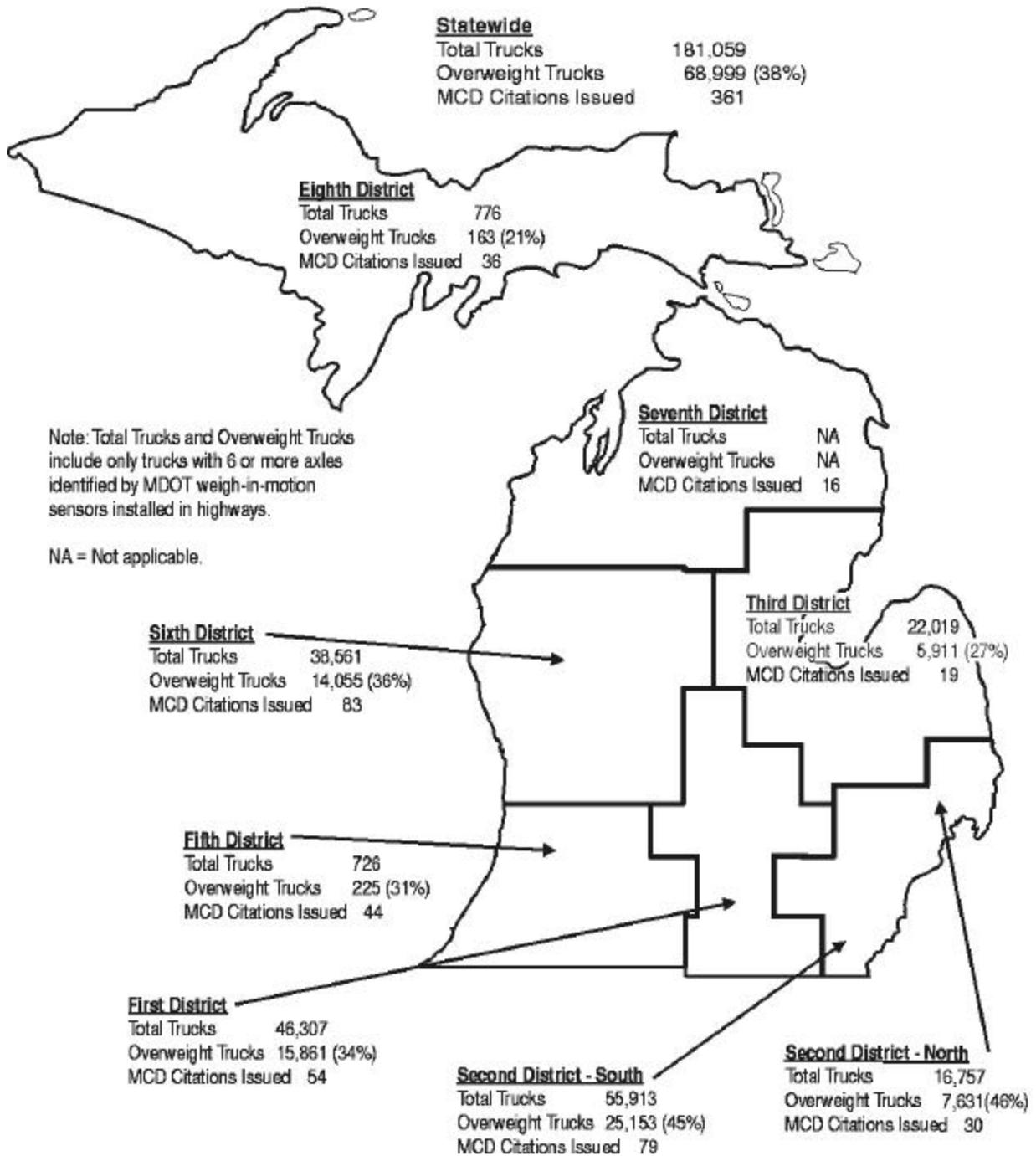
AGENCY PRELIMINARY RESPONSE

MCD utilizes both its inspection data from the previous year and information provided by the Department of Education to identify buses requiring an annual inspection. Also, MCD requires school districts and bus manufacturers to report all new bus deliveries and to submit those buses for inspection prior to placing them in service.

MCD agrees that school bus inspection results must be made available to the public in a timely manner. As a result of this finding, MCD now posts inspection results on the Internet quarterly rather than annually. Beginning this year, MCD will be issuing a certificate of achievement to any school district achieving a 100% passing rate during the initial inspection.

SUPPLEMENTAL INFORMATION

MOTOR CARRIER DIVISION
 Michigan Department of State Police
 Analysis of Overweight Trucks
 Month of June 2000



Note: Total Trucks and Overweight Trucks include only trucks with 6 or more axles identified by MDOT weigh-in-motion sensors installed in highways.

NA = Not applicable.

Description of Surveys

We developed three surveys (Exhibits A through C) requesting feedback from various individuals and entities related to activities within their respective communities and their satisfaction with the focus and effectiveness of Motor Carrier Division (MCD) activities:

1. Enforcement of Commercial Vehicle Weight and Safety Laws (Exhibit A)

We mailed 250 surveys to holders of commercial driver licenses with an "A" (operating a vehicle or towing trailers weighing from 10,001 pounds to 26,000 pounds) or "B" (operating a vehicle or towing trailers weighing 26,001 pounds or more) endorsement. We received a total of 55 responses, which are summarized in Exhibit A. A review of the responses indicated that most drivers were satisfied with the activities of MCD and thought that most enforcement came from patrol cars. They also thought that the weigh stations were opened occasionally and that they saw patrol cars on the road occasionally.

2. Enforcement of Hazardous Materials Safety Laws (Exhibit B)

We mailed 150 surveys to holders of commercial driver licenses with an "H" (operating a vehicle carrying hazardous materials) endorsement. We received a total of 27 responses, which are summarized in Exhibit B. A review of the responses indicated that most drivers were satisfied with the activities of MCD; however, very few of the drivers had encountered a temporary enforcement operation to check vehicles transporting hazardous materials.

3. Safety Inspection Program for School Buses (Exhibit C)

We mailed 200 surveys to school districts. We received a total of 113 responses, which are summarized in Exhibit C. A review of the responses indicated that most school districts were satisfied with the activities of MCD. Respondents indicated that inspectors did not always return to the districts to inspect buses receiving yellow or red decals signifying safety defects and that school districts were allowed to self-inspect these buses.

MOTOR CARRIER DIVISION
 Michigan Department of State Police
 Enforcement of Commercial Vehicle Weight and Safety Laws
Summary of Survey Responses

Surveys Distributed	250
Responses (N=)	55
Response Rate	22%

The total number of responses for each item may not agree with the number of responses noted above because some respondents provided more than one response to an item and other respondents did not answer all items.

1. What type(s) of commercial vehicle do you operate?

- 30 Single vehicles with a gross vehicle weight (GVW) of 26,001 pounds or more.
- 32 Combination vehicles towing a trailer or other vehicle with a GVW over 10,000 pounds.
- 16 Vehicles having a combination GVW of 26,001 pounds or more towing trailers or other vehicles not more than 10,000 pounds.
- 1 Vehicles designed to carry 16 or more people, including the driver.
- 1 Vehicles carrying 15 or fewer people transporting children to or from school and home on a regular basis for compensation.
- 0 Vehicles carrying hazardous materials in amounts requiring placarding.

2. How many years have you held a commercial driver license (CDL)?

An average of 16 years (50 respondents)

3. Approximately how many miles do you operate a commercial vehicle each year?

An average of 33,000 miles (53 respondents)

4. Approximately what percentage of these miles are traveled in Michigan?

 An average of 87% (54 respondents)

5. What hours of the day do you generally operate the commercial vehicle(s)?

Most are operated between 6 a.m. and 6 p.m.

6. When you pass permanent Michigan weigh stations, how often are they open?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
0	15	31	4	2

7. When you travel Michigan roads that do not have permanent weigh stations, how often do you see Motor Carrier Division patrol cars?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
1	9	33	8	2

8. Have there been instances when you were stopped by these patrol cars?

 26 Yes Approximately how many times? 72

 28 No

9. Have you ever been stopped in Michigan by a patrol car and the officers did not weigh your vehicle?

 25 Yes Approximately how many times? 41

 25 No

If you were not weighed, were there instances when you suspected that you were overweight?

 3 Yes 41 No

10. Have you ever encountered a temporary weigh station set up in a rest stop or off to the side of the highway in Michigan?

24 Yes 29 No

11. While in Michigan, have you ever been found to be overweight on certain axles and required to adjust your load before being allowed to proceed?

8 Yes 45 No

Have you ever been found to be overweight on certain axles and not required to adjust your load before being allowed to proceed?

6 Yes 46 No

12. If you had to adjust your load, how often was a citation issued?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
2	2	1	3	21

13. Do you feel that the fines levied on overweight vehicles are substantial enough to deter overweight violators?

29 Yes 8 No

14. If you were traveling overweight in Michigan, what do you think is the likelihood that you would be detected?

<u>Very Likely</u>	<u>Likely</u>	<u>Equally Between Likely and Unlikely</u>	<u>Unlikely</u>	<u>Very Unlikely</u>
3	12	21	10	4

15. Where do you feel this enforcement would come from?

<u>20</u>	permanent weigh stations
<u>10</u>	temporary weigh stations
<u>32</u>	patrol cars

16. In comparison with other states, Michigan's enforcement of weight and safety laws is:

<u>Much Stricter</u>	<u>Somewhat Stricter</u>	<u>About the Same</u>	<u>Less Strict</u>	<u>Considerably Less Strict</u>
3	7	21	4	1

MOTOR CARRIER DIVISION
 Michigan Department of State Police
 Enforcement of Hazardous Materials Safety Laws
Summary of Survey Responses

Surveys Distributed 150
 Responses (N=) 27
 Response Rate 18%

The total number of responses for each item may not agree with the number of responses noted above because some respondents provided more than one response to an item and other respondents did not answer all items.

1. What type of hazardous materials (HM) do you usually haul?

16 Flammable liquid
6 Combustible liquid
2 Liquefied petroleum
10 Corrosive liquid
3 Compressed gases
6 Other

2. How many years have you been licensed to haul HM?

An average of 12 years (26 respondents)

3. Approximately how many miles do you operate an HM vehicle each year?

An average of 19,300 miles (26 respondents)

4. Approximately what percentage of these miles are traveled in Michigan?

An average of 73% (26 respondents)

5. What hours of the day do you generally operate the HM vehicle?

Most are operated between 6 a.m. and 6 p.m.

6. When you travel Michigan roads, how often do you see Motor Carrier Division patrol cars?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
4	9	10	3	0

7. Have there been instances when you were stopped by these patrol cars?

15 Yes Approximately how many times? 30

12 No

8. Have you ever encountered a temporary enforcement operation set up to specifically check HM components and subcomponents?

3 Yes 24 No

If you answered "Yes" to Question 8, how many times have you encountered such an operation and, as a result, how many citations were issued?

9 How many times have you encountered temporary enforcement operations?

2 How many citations were issued?

MOTOR CARRIER DIVISION
 Michigan Department of State Police
 Safety Inspection Program for School Buses
Summary of Survey Responses

Surveys Distributed 200
 Responses (N=) 113
 Response Rate 57%

The total number of responses for each item may not agree with the number of responses noted above because some respondents did not answer all items.

1. How many school buses do you have within your school district?

75	25 or fewer
21	26 to 50
8	51 to 75
4	76 to 100
5	Over 100

2. How often during a school year (September 1 through August 31) does an inspector from the Motor Carrier Division of the Michigan Department of State Police inspect buses within your school district?

Three or More Times	Two Times	One Time	Never	Unknown
2	5	105	0	1

3. In your last inspection, how many buses within your school district were yellow tagged?

40	None
71	1 to 10
0	11 to 25
0	26 to 50
0	Over 50

4. In your last inspection, how many buses within your school district were red tagged?

<u>49</u>	None
<u>59</u>	1 to 10
<u>2</u>	11 to 25
<u>0</u>	26 to 50
<u>0</u>	Over 50

5. What level of priority do you assign bus inspections?

<u>High Priority</u>	<u>Moderate Priority</u>	<u>Low Priority</u>	<u>Not a Priority</u>
108	5	0	0

6. How satisfied are you with the thoroughness of the bus inspections?

<u>Highly Satisfied</u>	<u>Somewhat Satisfied</u>	<u>Satisfied</u>	<u>Somewhat Dissatisfied</u>	<u>Highly Dissatisfied</u>
89	11	10	2	0

7. How often are you notified of the results of the bus inspections?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
98	7	3	0	4

8. Within how many days from the completion of the inspection do you receive results?

<u>Within 1 Day</u>	<u>Within 3 Days</u>	<u>Within 1 Week</u>	<u>Within 1 Month</u>	<u>Over 1 Month</u>
91	4	3	2	5

9. How satisfied are you with the accuracy of the inspection results?

<u>Highly Satisfied</u>	<u>Somewhat Satisfied</u>	<u>Satisfied</u>	<u>Somewhat Dissatisfied</u>	<u>Highly Dissatisfied</u>
81	12	18	1	0

10. How often do you comply with the inspector's findings?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
103	8	0	0	0

11. Does the inspector normally return to inspect buses receiving yellow or red tags?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
27	13	27	11	28

12. Is the school district allowed to self-inspect the buses receiving yellow or red tags?

<u>Always</u>	<u>Almost Always</u>	<u>Occasionally</u>	<u>Almost Never</u>	<u>Never</u>
57	16	14	5	14

13. How satisfied are you with the level of communication between the school district and the Motor Carrier Division?

<u>Highly Satisfied</u>	<u>Somewhat Satisfied</u>	<u>Satisfied</u>	<u>Somewhat Dissatisfied</u>	<u>Highly Dissatisfied</u>
69	18	15	9	0

Glossary of Acronyms and Terms

CDL	commercial driver license.
continuous quality improvement (CQI)	A system that defines the vision and mission of an organization and focuses on the needs and expectations of internal and external customers. It normally includes performance indicators and standards for measuring outputs and outcomes, the collection of data to measure performance in relation to the standards, and the use of the data to make modifications to improve program effectiveness and efficiency. It has an underlying philosophy that is team oriented and open to making changes on a continuous basis to improve processes.
CVISN	Commercial Vehicle Information Systems Network.
effectiveness	Program success in achieving mission and goals.
efficiency	Achieving the most outputs and outcomes practical for the amount of resources applied or minimizing the amount of resources required to attain a certain level of outputs or outcomes.
goals	The agency's intended outcomes or impacts for a program to accomplish its mission.
GVW	gross vehicle weight.
HM	hazardous materials.
MCD	Motor Carrier Division.
MDOT	Michigan Department of Transportation.

mission	The agency's main purpose or the reason that the agency was established.
objectives	Specific outputs that a program seeks to perform and/or inputs that a program seeks to apply in its efforts to achieve its goals.
outcomes	The actual impacts of the program. Outcomes should positively impact the purpose for which the program was established.
outputs	The products or services produced by the program. The program assumes that producing its outputs will result in favorable program outcomes.
performance audit	An economy and efficiency audit or a program audit that is designed to provide an independent assessment of the performance of a governmental entity, program, activity, or function to improve public accountability and to facilitate decision making by parties responsible for overseeing or initiating corrective action.
performance indicators	Information of a quantitative or qualitative nature indicating program outcomes, outputs, or inputs. Performance indicators are typically used to assess achievement of goals and/or objectives.
performance standards	A desired level of output or outcome as identified in statutes, regulations, contracts, management goals, industry practices, peer groups, or historical performance.
PITWS	permanent intermittent truck weigh station.
reportable condition	A matter coming to the auditor's attention that, in the auditor's judgment, should be communicated because it represents

either an opportunity for improvement or a significant deficiency in management's ability to operate a program in an effective and efficient manner.

WIM

weigh-in-motion.