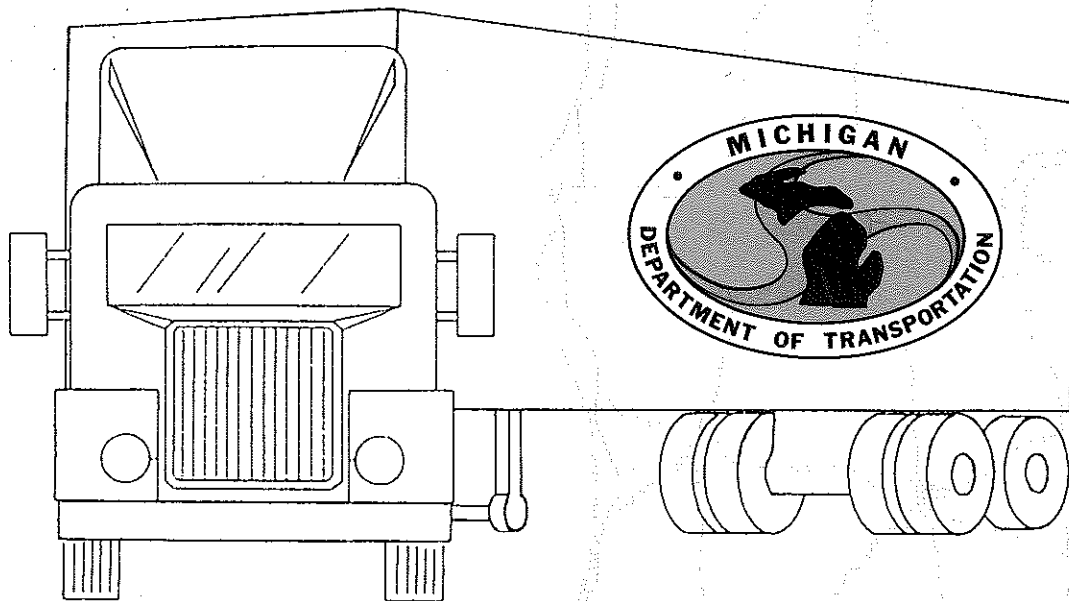


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EXECUTIVE SUMMARY
FOR THE
**TRUCK WEIGHT ENFORCEMENT
AND
SAFETY INSPECTION
STUDY**

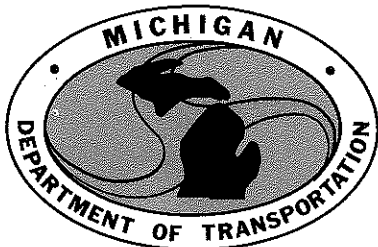


Prepared For:

**The State of Michigan
Department of Transportation**

Prepared By:

Wilbur Smith Associates



EXECUTIVE SUMMARY

Wilbur Smith Associates (WSA) was selected by the Michigan Department of Transportation (MDOT) to study the current truck weight enforcement and safety inspection programs and to make recommendations for the improvement of the overall program efficiency. A contract was executed and a notice to proceed issued by MDOT on July 24, 1990. In accordance with Section II of the Request For Proposal, an adjusted Technical Work Plan was submitted following discussions with MDOT staff. The only significant change made involved expansion of the activity involved in the National Survey.

Shortly after execution of the contract WSA entered into a subconsultant agreement with Coleman and Associates, Lansing, Michigan, for the collection of scale operation data and to assemble the historical background of State and Federal laws and regulations governing weight enforcement.

A schedule was made a part of the approved contract which was based on starting the work shortly after receipt of a notice to proceed (7/24/90) and completing the study and submittal of the final report by mid-July, 1991. WSA was able to concentrate its staffing on the project during the months of December, 1990 and January, February and March, 1991. This increased effort enabled the Consultant to complete the Draft Final Report by April 1, 1991. The final report was submitted following receipt of MDOT comments. 75 copies of Volume I, 25 copies of Volume II and 100 copies of this Executive Summary were provided.

The Technical Work Plan provided for the research and compilation of vast amounts of data relative to the weight enforcement and safety programs of the State of Michigan. The Consultant was also required to obtain similar data from states which share portions of Michigan's boundary line including the Canadian Province of Ontario. In addition, following receipt of responses to a National Survey Questionnaire, detailed information was obtained from several other states which are considered leaders in the area of truck weight enforcement and safety inspection activities. Data was also collected and analyzed with regard to the issuance of permits for overweight/oversize vehicles, scale maintenance and scale recertification following repairs.

Michigan is unique among most states which responded to the National Survey Questionnaire concerning truck weight limits and the disposition of revenue generated by fines for weight and size violations. The Consultant therefore examined the practices of other states and compared them with those of the State of Michigan.

Fine revenue from overweight/oversize violations cannot be used by MDOT for financing the weight enforcement and safety inspection programs but is assigned to the Library System of the county in which the citations was issued. Several of the recommendations of this study will, if implemented, result in a dramatic increase in citations and fine revenue along with some increase in cost. The Consultant therefore examined alternative methods for funneling at least a portion of fine revenue to DOT to fund additional costs of enforcement as well as to defray a portion of the cost of repairing and/or rehabilitating highways and bridges.

The Consultant Team found that all states and provinces are concerned with truck weight and safety laws. The importance of highway transportation is well known, not only to transportation agencies, but to the public. Highways play a crucial role in the nation's economic health and their preservation is a growing concern throughout the country. Truck weight laws have been enacted to protect the huge public investment in highways and truck safety laws have been enacted to help reduce heavy vehicle accidents caused by mechanical failure and/or driver error.

Effective weight enforcement and safety inspection in Michigan will help to control the cost of pavement and bridge repair and improve highway safety for the public. The short and long range goals included in this report were developed after careful examination of data obtained from Michigan State Agencies, several other states and a number of reports developed for other states and the Federal Government.

The following subjects were examined in detail:

- Michigan's current truck law enforcement program
- Permanent weigh station locations
- Permanent weigh station and road patrol data
- Motor Carrier Division activities
- Programs of other states
- Alternative enforcement approaches

This data was assembled and analyzed by the Consultant prior to developing conclusions and recommendations as prescribed in the Technical Work Plan. The conclusions and recommendations were to address the following:

- Future utilization of existing weigh stations
- Possible upgrading of existing weigh stations
- Potential closure of existing weigh stations
- Possible construction of new weigh stations
- Operational levels for fixed stations and other truck law enforcement programs
- Agency and legislative actions that may be required

The Consultant found a high level of interest and cooperation by the involved Michigan Agencies. This was generally true of the other states contacted for information. Perhaps the biggest hurdle encountered was a lack of information concerning citation revenue, truck traffic data, trucks weighed, trucks inspected, amount of scale downtime and causes. It appears that with few exceptions there was a lack of sophisticated record keeping. While the information may have been available it was not in a form that was readily usable for analysis.

In addition to the data collected from Michigan, a National Survey and interviews with other states, the Consultant visited several scale facilities to gain first hand knowledge of their operation and the concerns of the attending officers.

This report contains both short and long range recommendations, all of which were developed following analysis of available data. They are designed to improve the overall truck law enforcement program and to expand the current data collection capabilities of the agencies involved with the Michigan program.

OVERVIEW

Michigan's weight enforcement and truck safety plan, in the consultant's opinion, should follow the "port of entry" (POE) concept. Michigan's geography combined with the historical transportation gateways provides an opportunity to monitor a very large percentage of entering truck traffic by using a small number of fixed facilities.

Intense operation of "state-of-the-art" fixed weigh stations on the three inbound southern interstate routes as well as the Canadian gateway at Port Huron (I-69) will

result in monitoring most of the inbound vehicles. These facilities will have weigh-in-motion and safety inspection buildings and will be operated 24 hours, 7 days a week.

The three interior fixed weigh stations located on Interstates surrounding the Detroit Metropolitan area will remain as fixed scale house sites and be operated on a regular week day basis.

Weight enforcement strategy in the Detroit Metropolitan area is addressed as follows:

- Regularly operated weigh stations surrounding the metro area will monitor trucks entering and leaving the area on major highways.
- Weighing trucks on busy interstates is very dangerous. PITWS's should be strategically installed on surface streets and on the Interstate system as feasible.

Intermittent operation of the existing interior weigh stations will serve as an effective deterrent to intrastate trucking operations.

"Plug-in" scale operations should be installed on the highly traveled by-pass routes on or near Michigan's border. A plug-in scale operation is a low cost, highly mobile method of weight enforcement used in other states.

As the remaining interior fixed weigh stations require major capital expenditures it is recommended that plug-in's be used to replace the fixed scale house concept.

Michigan's PITWS program has merit and should be continued. The pavement notches used for Motor Carrier Division's portable scales reduces the time needed to weigh a large truck. These notches are very cost effective. PITWS locations on by-pass routes would be reviewed periodically, upgrading to "plug-in's" if projected fine revenues, based on historical data, would make the location economically feasible.

Road Patrol should be continued. Michigan's STET (Specialized Transportation Enforcement Teams) is effective in many types of safety and weight enforcement operations. In many areas in Michigan, (sparsely populated and Detroit Metro) road patrol is the most efficient method of weight and safety enforcement.

Short range recommendations 1, 2, 4 and 5 are based on an evaluation of hours of operation (planned v. actual), citations issued and the resulting fine revenue, the number of trucks using the highways on which scales are located but not checked, pavement damage due to overweight vehicles and fine revenue lost. If implemented they will also increase the number of truck safety inspections and reduce accidents resulting from mechanical failure and driver error.

Short range recommendation #3 would authorize the use of a portion of fine revenue to fund enforcement activities and the repair and rehabilitation of highways.

SHORT RANGE RECOMMENDATION #1

Operate the truck scales located on I-75 NB, Erie; I-94 EB, New Buffalo; and I-69, Coldwater continuously. Construct a state-of-the-art facility on I-94 WB at Port Huron and operate it continuously. Replace existing mechanical scales with electronic scales at New Buffalo, and add WIM to New Buffalo and Coldwater facilities.

SHORT RANGE RECOMMENDATION #2

Operate the truck scales located on I-94, Grass Lake (EB & WB); I-96, Fowlerville (EB & WB); and I-75, Pontiac (NB & SB) continuously on weekdays, and continue operation as fixed facility locations. Replace the mechanical scales at the Pontiac and Fowlerville sites with electronic scales.

SHORT RANGE RECOMMENDATION #3

Request legislation authorizing a portion of fine revenue to be deposited in the State Trunkline Fund and be used to fund enforcement and highway repair.

SHORT RANGE RECOMMENDATION #4

De-emphasize the presently planned operation of the New Baltimore scale when the Port Huron scale is operable. Use the New Baltimore scale on a limited basis to minimize the bypass problem.

SHORT RANGE RECOMMENDATION #5

Operate the scales at Ionia, Bridgeport, Cambridge Junction and Powers on a limited flexible schedule of 40 hours per week.

SHORT RANGE RECOMMENDATION #6

Continue to operate the southbound I-75 at Erie as in the past.

Stop further construction of the westbound I-94 facility at New Buffalo pending implementation of higher priority recommendations contained in this study. This site should be used as a plug-in scale location for use as a high volume location and in STET operations until such time as the fixed facility is completed.

SHORT RANGE RECOMMENDATION #7

Continue the current enforcement practice at Sault Ste. Marie and Mackinac. Increase STET operations at these locations as manpower is available.

SHORT RANGE RECOMMENDATION #8

Enforcement of truck weight via Road Patrols using portable scales should be continued. Evaluate the potential for installing Plug-in scales in some existing and planned Permanent-Intermittent Truck Weigh Stations.

SHORT RANGE RECOMMENDATION #9

Obtain authorization for scale service companies to recertify scales following repairs, and establish a preventive scale maintenance program.

LONG RANGE RECOMMENDATION #1

Develop state-of-the-art ports-of-entry on I-75 NB, Erie; I-94 EB, New Buffalo; I-69 NB, Coldwater; and I-94 WB, Port Huron.

LONG RANGE RECOMMENDATION #2

Include plug-in scales at Powers, New Baltimore, Cambridge Junction, Ionia, Bridgeport in long range plans for modernizing Michigan's truck weight enforcement. The long range plans should also consider the installation of plug-in scales in planned PITWS sites as deemed appropriate.

LONG RANGE RECOMMENDATION #3

Determine locations in the Metropolitan Detroit area where turnouts (PITWS) can be constructed and portable or plug-in scales used to enforce weight limits.

LONG RANGE RECOMMENDATION #4

Request legislation authorizing DOT to charge permit fees (overweight/oversize vehicles) which relate to the amount of weight and accompanying pavement damage.

LONG RANGE RECOMMENDATION #5

Consider entering into joint-usage agreements with Indiana, Ohio and Ontario.

LONG RANGE RECOMMENDATION #6

Determine the appropriateness of consolidating responsibilities for enforcement, scale construction and maintenance, safety inspections and issuance of oversize/overweight permits.

LONG RANGE RECOMMENDATION #7

Establish a committee to develop an effective data collection system. The committee should include membership from DOT, MCD, One Stop Shopping and specialist in electronic data collection and transmittal.

COST ESTIMATES

RECOMMENDATION

Short Range #1

Initial Cost

\$2,162,000

Additional Staffing Cost/Year

\$756,000 per year

Short Range #2

Initial Cost

\$36,000

Additional Staffing Cost/Year

\$356,000 per year

Short Range #3 (Administrative/Indirect Cost)

Short Range #4

Initial Cost

NA

Additional Staffing Cost Savings/Year

\$89,000 savings per year

Short Range #5

Initial Cost

NA

Additional Staffing Cost Savings/Year

\$265,000 savings per year

Short Range #6

No Change in Cost

Short Range #7

No Change In Cost

Short Range #8

No Additional Cost

Short Range #9 \$5,200 per year

Long Range #1

Initial Cost

\$3,000,000

Additional Staffing Cost/Year

\$178,000

Long Range #2

Initial Cost

\$100,000

Long Range #3

Initial Cost

\$1,800,000

Long Range #4 (Administrative/Indirect Cost)

Long Range #5 (Administrative/Indirect Cost)

Long Range #6 (Administrative/Indirect Cost)

Long Range #7 (Administrative/Indirect Cost)

Both short and long range recommendations are the result of a significant amount of data analysis, discussions with key staff and reviews of programs in other states. The objective of all recommendations is to maximize the efficiency and effectiveness of the weight enforcement and safety inspection programs. Effective programs will result in the preservation of the highway system in Michigan and safeguarding the huge public investment. If implemented, this expansion of effort will result in increased fine revenue which can be used to fund the increased cost of enforcement and also to help fund the repair and rehabilitation of the highway system.