



STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

GLORIA J. JEFF
DIRECTOR

September 2, 2005

The Honorable Shirley M. Johnson, Chair
Senate Appropriations Subcommittee on Transportation
Michigan State Senate
P. O. Box 30036
Lansing, Michigan 48909

The Honorable Judson Gilbert II, Chair
Senate Transportation Committee
Michigan State Senate
P. O. Box 30036
Lansing, Michigan 48909

The Honorable Shelley Taub, Chair
House Appropriations Subcommittee on Transportation
Michigan House of Representatives
P. O. Box 30014
Lansing, Michigan 48909

The Honorable Philip LaJoy, Chair
House Transportation Committee
Michigan House of Representatives
P. O. Box 30014
Lansing, Michigan 48909

Dear Senator Johnson, Senator Gilbert, Representative Taub, and Representative LaJoy:

Enclosed is the report which addresses the requirement of Section 352 of Public Act 162 of 2003, the Fiscal Year 2004 Appropriations Bill for the Michigan Department of Transportation, as signed into law by Governor Granholm on August 11, 2003.

For fiscal year 2004, Section 352 requires:

“(1) Each county road commission, or in the case of a charter county with a population of 2,000,000 or more with an elected county executive that does not have a board of county road commissioners, the county executive, shall prepare, and present to the department, a map illustrating the all-season county road network under its jurisdiction. The county road commissions shall record this information on an official county highway map provided to them by the department. The department shall provide each county road commission with 3 official copies of their county road highway map on or before October 1, 2004.”

“(2) After compiling this information for all Michigan counties, the department shall prepare a report on the current all-season road network within the state. This report shall illustrate the current all-season road network under state and county control, identify contiguity gaps in this network, and suggest ways to improve connectivity on the current all-season network. This report shall be presented to the house and senate appropriations subcommittees on transportation, the house and senate transportation policy committees, and the house and senate fiscal agencies on or before October 1, 2005.”

Senator Shirley Johnson, et al
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The enclosed report is submitted to you in fulfillment of this requirement. If you have any questions, please do not hesitate to contact either me or Susan P. Mortel, Director, Bureau of Transportation Planning, at 517-373-0343.

Sincerely,


Gloria J. Jeff
Director

Enclosure(s)

cc: William Hamilton, House Fiscal Agency
Craig Thiel, Senate Fiscal Agency

bcc: Vanessa Blaxton
Ronald DeCook
Jeffrey Kraus
Susan Mortel
Nick Perfili
Kirk Steudle

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**STATE OF MICHIGAN
ALL-SEASON ROAD NETWORK**

SECTION 352 REPORT

TO

**SENATE APPROPRIATIONS SUBCOMMITTEE ON TRANSPORTATION
SENATE TRANSPORTATION COMMITTEE
HOUSE APPROPRIATIONS SUBCOMMITTEE ON TRANSPORTATION
HOUSE TRANSPORTATION COMMITTEE**

Prepared by

MICHIGAN DEPARTMENT OF TRANSPORTATION

September 2005

Submitted by

**Gloria J. Jeff, Director
Michigan Department of Transportation**

Introduction

This report is filed in response to Sec. 352, PA 162 of 2003, otherwise known as the Michigan Department of Transportation (MDOT) Appropriations bill.

Sec. 352:

“(1) Each county road commission, or in the case of a charter county with a population of 2,000,000 or more with an elected county executive that does not have a board of county road commissioners, the county executive, shall prepare, and present to the department, a map illustrating the all-season county road network under its jurisdiction. The county road commissions shall record this information on an official county highway map provided to them by the department. The department shall provide each county road commission with 3 official copies of their county road highway map on or before October 1, 2004.”

“(2) After compiling this information for all Michigan counties, the department shall prepare a report on the current all-season road network within the state. This report shall illustrate the current all-season road network under state and county control, identify contiguity gaps in this network, and suggest ways to improve connectivity on the current all-season network. This report shall be presented to the house and senate appropriations subcommittees on transportation, the house and senate transportation policy committees, and the house and senate fiscal agencies on or before October 1, 2005.”

MDOT and the county road commissions have worked cooperatively to identify a connected and continuous all-season road network since 1987 when the Transportation Economic Development Fund (TEDF) was created by Public Act 231. TEDF Categories D and F are directed at improving eligible county roads and city streets to the all-season standard such that “routes must begin and end at an existing all-season road or highway or a point-of-loading origin” (source: TEDF Guidelines for Category D).

Progress has been made over the past 18 years to achieve the goal of the TEDF for Categories D and F, that is, “to serve development by establishing and integrating a local secondary all-season road system with the state trunkline system” (source: TEDF Guidelines for Category D). Fulfilling the requirements of Section 352 provides an additional step toward reaching this goal. Most of the 83 county road commissions have complied with the requirement to provide all-season county road information to MDOT. MDOT has, in turn, compiled this information with existing map data developed in connection with TEDF, Category D, and in fulfilling Section 509 of PA 136 of 1999 and Section 352 of PA 561 of 2002 (a prior requirement similar to Section 352 of PA 162 of 2003).

The map attached at the end of this report illustrates the county and city (non-trunkline) portion of the current all-season road network, as well as the all-season portion of the state trunkline system, based on information compiled to date.

In addition, the map shows those routes which are proposed to become all-season by the counties. Finally, contiguity gaps as identified by MDOT are also shown.

The following table of mileage by all-season and proposed all-season category has been derived from the network as illustrated on the map.

<i>Mileage Table: Non-trunkline All-season Routes</i>	
All-season Category	Mileage
<i>Completed all-season</i>	8,222.78
<i>All-season proposed by counties</i>	2,695.82
<i>All-season contiguity gaps identified by MDOT</i>	417.16
Total	11,335.76

The map illustrates that while contiguity gaps exist in the total statewide all-season network, there are many instances of all-season systems which are complete within individual regions of the state. Suggested strategies toward completing the goal of a statewide, all jurisdiction (state, county, city), integrated, connected all-season network are provided in the “Recommendations” section of this report, below.

Background

A road is considered all-season if it is constructed to a standard that allows it to carry legal loads year-round. If a road is not constructed to the all-season standard, it is considered seasonal. During the spring thaw, seasonal roads must be posted with signs warning of seasonal load limitations or weight restrictions. In Michigan, as in other “frost-belt” states, the freeze/thaw cycle causes a seasonal instability in the ground which surrounds and supports roads. Essentially, an all-season road is distinguished from a seasonal road by having a thicker base. This thicker base allows the all-season road to absorb heavy loads (up to legal limits) without significant damage, even when the ground is unstable. If these same heavy loads were permitted on seasonal roads during spring thaws, damage could result. Posting of seasonal load limitations or weight restrictions on seasonal roads is intended to prevent damage and to extend pavement life.

Commercial trucking, logging, and heavy agricultural vehicles require a continuous and connected system of all-season roads, between point of loading (or unloading) origin and ultimate destination. Statewide and regional economies are adversely affected by a road system which requires truckers to drive many extra miles so as to avoid seasonal roads during the spring thaw each year. On the other hand, the needs of the commercial trucking industry can be met by an all-season road network which is a sub-system of all public roads. In other words, there is no need for every highway, road, and street to be built to the all-season standard.

In addition, weight restrictions are in effect for a relatively short period of time – typically from mid to late February until sometime in April. This varies across the state, and by system. For

example, the state trunkline system is typically built to a higher standard than the county system. Therefore, counties implement weight restrictions independently of the state.

Section 352 focuses on that portion of the county road system which is all-season, so as to identify contiguity gaps once these routes are combined with the all-season portion of the state trunkline system. However, an important jurisdictional element is missing from the Section 352 requirements: that portion of the city street system which is all-season. Michigan roads of nearly all types and functions are under the responsibility of three different governmental entities – the state, the county road commissions, and the incorporated cities and villages. Freeways are the exception to this rule, since all Interstate and other freeways in Michigan are under state jurisdiction.

Recommendations

It is the conclusion of this report that the appropriate network of all-season roads can be identified, that the contiguity gaps can be measured, and that the investment level to reach the Section 352 goal of an improved, connected all-season road network can be estimated. The following recommendations are made toward this end:

- Information from maps returned by the county road commissions in response to Section 352 has been compiled within a Michigan Geographic Framework-compatible Geographic Information System (GIS) database. Future updates and enhancements to all-season information should be incorporated within the GIS, replacing older all-season mapping systems which are not GIS-compatible.
- Incorporated cities and villages should be included in the process of submitting information about all-season streets under their jurisdiction. This information should also be added to the all-season GIS database. Currently, only information from county road agencies is included.
- Use available GIS-compatible employment data to perform applicable analysis of the all-season network. Currently, GIS-compatible employment data has been added to the all-season road GIS database. Information in this database is limited to number of employees and type of business as classified by U.S. Census Bureau business type codes. Selected business types can be associated with the need for all-season service.
- Analyze contiguity gaps in the network and identify possible commodity haul routes for goods movement. Greater analysis of contiguity gaps and identified commodity haul routes can allow for a more efficient use of all-season resources. The above referenced employment data can also enhance the proposed analysis.
- Lacking further complete analysis at this time on points noted above (points of loading origin, types of commodity haul routes, et cetera), MDOT has been limited in its ability to identify contiguity gaps in the entire all-season road network. Those shown on the map at the end of this report are only the “most obvious,” where, for

example, a relatively short gap provided the only connection between two all-season or proposed all-season routes.

- Based on the information in the mileage table above and a statewide average of \$500,000 to improve a mile of rural roadway to the all-season standard, the total cost of improving every proposed all-season route may be estimated as follows:

All-season proposed by counties:	2,695.82 miles x \$500,000 =	\$1,347,910,000
All-season contiguity gaps:	417.16 miles x \$500,000 =	<u>208,580,000</u>
	Total	\$1,556,490,000

At current TEDF, Category D program levels, it would take approximately 69 years to construct all these miles to the all-season standard.

In order to bring about effective network-improvement results more quickly, it is recommended that an all-season network prioritization strategy be developed. MDOT-Planning, the Transportation Economic Development and Enhancement Office, the County Road Association of Michigan, and the Michigan Municipal League should be involved in developing the prioritization strategy.