



**HRB SUPPLEMENTAL REPORT No. 2**  
**Reforms and Efficiencies**

Prepared for The Transportation Funding Task Force  
Submitted by the Citizen Advisory Committee,  
Highway Road and Bridge Subcommittee  
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# HRB SUPPLEMENTAL REPORT No. 2

## Reforms and Efficiencies

REPORT OF THE HIGHWAY, ROAD AND BRIDGE SUBCOMMITTEE OF  
THE CITIZENS ADVISORY COMMITTEE

SEPTEMBER 29, 2008

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## Table of Contents

<b>Executive Summary</b> .....	1
<b>Part I. Existing Reforms and Efficiencies</b> .....	2
A. Implemented Recommendations of the Act 51 Study Committee .....	3
B. Asset Management – A Successful Statewide Effort .....	4
C. Efficiency and Effectiveness Measures Implemented by MDOT .....	5
1. Staff Reduction .....	5
2. Continuously Operating Reference Stations (CORS) .....	5
3. LED Traffic Signals .....	5
4. Transportation Asset Mapping Systems (TRAMS) .....	5
5. Electronic Bidding Project .....	5
6. PAVEMAPP and Road Quality Forecasting System (RQFS) .....	6
7. Michigan Bridge Inspection System (MBIS) .....	6
8. Michigan Bridge Reporting System (MBRS) .....	6
9. Trunkline Photolog Images .....	6
10. Five-Year Transportation Program .....	6
11. Weigh-In Motion (WIM) – Wireless Sensors .....	6
12. Online Transport Permit Process .....	7
D. Efficiency and Effectiveness Measures Implemented by Local Agencies .....	8
1. SEMSIM – A Successful Partnership of Agencies .....	8
2. Other Efficiency and Effectiveness Measures .....	8
E. Staffing Levels of Road Agencies .....	10
F. Benchmarking and Performance Measurements .....	10
<b>Part II. Potential Reforms and Efficiencies</b> .....	11
A. Expand the Statewide Comprehensive Asset Management Program .....	11
1. Recommendation .....	11
B. State-Level Reforms .....	12
1. Reforms Recommended by HRB .....	12
a. Repeal Act 51 and devise a new statewide road-funding mechanism that provides an equitable distribution formula if and when additional funding becomes available for all parties .....	12
b. Increase to \$300,000 the threshold beyond which county road commissions must competitively bid projects .....	12
c. Maximize toll credits for existing toll facilities .....	12
d. Create “corridor authorities” to enhance a particular road corridor .....	13
e. Review and revise state and federal regulations that impact the efficiency of road agencies .....	13
f. Grant the state Treasury, Auditor General or MDOT additional authority over county road commissions and municipalities to determine if their uses of MTF revenues are in compliance with Act 51 .....	14

g. If there is an increase in MTF dollars, dedicate a small portion as an incentive (or match) for counties and cities/villages to raise local transportation funds .....	14
h. Enact enabling legislation allowing local-option transportation-funding tools, which would allow residents, on a countywide or regional basis, to vote to enact specific local-option taxes for specific transportation projects (see BBT proposal) .....	14
i. Enact enabling legislation to allow for the creation of public/private partnerships for the purpose of building or operating transportation infrastructure .....	15
j. If there is an increase in MTF dollars, establish a fund to create an incentive for local road agencies that generate cost savings through efficiencies resulting from consolidations, contracting, pooled services and/or other programs .....	16
k. Amend Act 51 to make specific provisions allowing for contiguous county and city road organizations to form regional road agencies consisting of both county and city/village units .....	16
l. To ensure that all new transportation revenues are directed to true transportation purposes, state policymakers should protect the new money by putting a five-year freeze on all interdepartmental grants. During this time period, the Legislature should direct each department seeking an interdepartmental grant to recommend ways to streamline costs through technological efficiencies with a stated timeline and goals .....	16
m. Limit appropriations to the Departments of State and Treasury from vehicle registrations and motor-fuel taxes to the necessary, actual costs of revenue collection as provided in the state constitution, and not overhead costs allocated according to accounting formulas. End crediting of fixed amounts of road-user fees to the Transportation Administration Collection Fund and Transportation Safety and Law Enforcement Fund .....	17
n. Take a business-systems approach to vehicle registration, titling, plate issuance, insurance verification and road-user-fee collection, to determine the lowest-cost process for these transactions. Consider privatized vehicle registration and retail sales of privately-produced license plates .....	17
o. Expand the usage of Value Engineering (VE) on all projects throughout the planning, design and construction process to maximize the use of qualified innovative cost saving proposals .....	18
p. Comprehensive performance standards and measures of performance should be established for all aspects of transportation agency operations. Each agency's performance against these standards should be a factor in the level of funding provided .....	18

2. Reforms Considered Without Recommendation by HRB .....	19
a. Reallocate revenue from 6 percent sales tax applied to motor fuel, dedicating it to transportation funding. (Currently, sales tax on fuel is allocated to General Fund and Education, but as fuel prices have increased, an unanticipated “windfall” has occurred for non-transportation uses.) .....	19
b. Eliminate the state’s “prevailing wage” law for all transportation projects not using federal funds .....	19
c. Provide counties with populations of less than one million the authority to consolidate the road commission into the general government via a vote of the county board of commissioners .....	20
d. Eliminate MTF revenues to all cities/villages that receive less than \$250,000 in annual MTF dollars. Affected municipal roads would be transferred to the jurisdiction of the home county road agency, which will become the recipient of the local’s MTF revenue .....	20
e. Require county road commissions, municipalities and MDOT to conduct life cycle cost analysis for road projects costing more than \$100,000 (current threshold is \$1 million) .....	21
f. Allow developer “impact fees” so that developers are required to contribute to the cost of infrastructure improvements necessitated as a result of their developments .....	21
g. Divert some MTF revenues from the traditional Act 51 formula, and redirect these dollars to a fund for distribution only to a new high-priority economic development highway network .....	21
h. Require road agencies to use more “design, build, warrant” projects where the agency establishes the desired road-life performance levels at a higher level, and the contractor is responsible for the design dimensions that impact the road’s life and condition, does all construction for the project, and then is responsible for warranty costs of keeping the road in the required condition .....	22
i. Consider whether county road commissions, or alternative county road organizations, should have authority to request a county millage vote for roads .....	22
j. Allow third-party issuing of state licenses, titling and state-mandated testing in place of the Secretary of State .....	23
3. Reforms Considered and Opposed by HRB .....	24
a. Require all maintenance and repair work on MDOT roads to be conducted by pre-qualified private-sector entities under contract .....	24
C. Operational Reforms .....	25
1. Reforms Recommended by HRB .....	25
a. Implement the Construction Quality Partnership (CQP) .....	25
b. Partner with developers .....	25
2. Reforms Considered Without Recommendation by HRB .....	26
a. Privatize additional road construction and maintenance functions .....	26

D. Steps that Could Reduce Demand and/or Congestion on the Road System .....	28
1. Reforms Considered Without Recommendation by HRB .....	28
a. Increase passenger movement by local public transportation .....	28
b. Implement and designate high-occupancy toll (HOT) lanes .....	29
c. Develop short- to moderate distance passenger service by commuter ("light") rail .....	29
d. Provide longer distance passenger service by "heavy" rail .....	30
e. Shift longer distance freight movement to "heavy" rail .....	31
f. Implement congestion-pricing .....	31
g. Create bi-directional travel lanes .....	32
h. Implement ramp metering .....	32
i. Allow for longer double-trailer trucks .....	32
j. Work with the freight industry to identify the best locations where improvements could be made to the freight-transfer infrastructure, and identify incentives that could be used to encourage the implementation of these improvements .....	33
<b>Part III. Summary of Reforms Recommended, Considered and Opposed by HRB .....</b>	<b>34</b>
Appendix 1: RCOC's FAST-TRAC System .....	38
Appendix 2: RCOC's Privatization Initiatives .....	40
Appendix 3: MDOT Staffing Levels .....	42
Appendix 4: RCOC Staffing Levels .....	43
Appendix 5: Kent County RC Staffing Levels and Centerline Miles Maintained .....	44
Appendix 6: Businesses For Better Transportation (BBT) Proposals .....	45

## Executive Summary

As Michigan struggles through one of the most difficult economic times since the Great Depression, it is essential that the state's public road agencies do everything possible to save money, eliminate waste and ensure the most efficient and effective operation possible. In fact, because the state's road funding crisis has been building for decades, Michigan's road agencies have been focusing on effectiveness and efficiencies for a long time. However, when someone is not aware of things happening, it is natural to assume nothing is happening – and that has often been the case with Michigan's road agencies. In part, that's because road agencies, generally, are not in the habit of broadcasting every efficiency or effectiveness enhancement they accomplish. Of course, there are always additional steps any agency can take to become even more efficient, and there are best practices that can be shared from one agency to another to help accomplish this.

This report reviews steps Michigan's road agencies have already taken to improve effectiveness and efficiency, and, in some cases, the documented savings or efficiencies those efforts have generated. It then reviews a wide range of additional reforms that could be implemented. Of these reforms, the Highway, Road and Bridge (HRB) Subcommittee recommends 19 that HRB Subcommittee members believe could realistically generate the most positive results and are worthy of additional study and analysis. One issue stood out, however. The subcommittee members unanimously supported the goal of expanding the state's Asset Management program.

While the HRB members enthusiastically endorse the idea of continually seeking to improve road agency efficiency and effectiveness, as well as the concept of identifying and sharing the best practices in the field, it has also come to an even more fundamental conclusion. As expressed in the initial HRB report, "Michigan's Roads in Crisis," and reiterated in the first supplemental report, the real, fundamental challenge facing Michigan's roads is the state's long-standing unwillingness to adequately fund its roads.

As stated in two previous reports, Michigan has under funded its roads for more than 40 years compared to nearly every other state in the nation. The reason, therefore, that Michigan's roads are in worse shape than those in most other states is this basic unwillingness to provide the resources necessary to maintain the system. Efficiency and effectiveness are worthy goals. However, efficiency and effectiveness, in and of themselves, cannot make up for the extensive damage done to the system by four decades of a lack of commitment to our transportation system.

Note: A complete list of the reforms recommended, considered without recommendation and opposed by the Highway, Road and Bridge Subcommittee is included on pages 34 to 37.

## Part I

### Existing Reforms and Efficiencies

For decades, Michigan road agencies have been under-funded compared to those in most other states. As a result, for many years they have been forced to seek ways to accomplish more with the limited funds available. Because road agencies often are not in the habit of publicizing all the efficiencies and reforms they implement, many of these reforms have been occurring “under the radar.” These efforts have included the implementation of new technologies to streamline numerous operations by the Michigan Department of Transportation (MDOT) as well as the creation of multi-jurisdictional partnerships, such as the Southeastern Michigan Snow and Ice Management (SEMSIM) project, involving the four largest local road agencies in the state. They have also included the implementation of new technologies, such as the case of the county with the most congested roads in the state that has deployed the nation’s largest system of “adaptive” traffic signals with the largest use of video-imaging vehicle detection in the world (see Appendix 1). That system has been documented to increase the capacity of the existing roads without the addition of new lanes. Michigan’s road agencies have also extensively privatized activities (see Appendix 2 for an example) and made countless internal efforts to improve efficiency and effectiveness (see Part I, section D for one example). Simultaneously, there have also been statewide efforts to ensure road agency efficiency and effectiveness, with the most successful being the work of the Michigan Asset Management Council.

At the same time, Michigan’s road agencies actively pursue the best practices in the industry. Within the industry, there are numerous ways this occurs. For example, the agencies and their trade organizations constantly monitor national trends and developments in the field. Also, representatives of the agencies regularly attend state and national conferences and continually share information with each other.

This overview offers additional examples demonstrating that Michigan’s road agencies have been implementing measures to increase their effectiveness and efficiency, including the results of a recent survey of the state’s road agencies. **Given the level of efficiency and effectiveness measures already implemented by Michigan’s road agencies, and their clear commitment to continually seeking new and additional efficiencies, the HRB Subcommittee concludes that the real issue is the inadequacy of the available road funding, as was noted in the initial “Roads in Crisis” report.**

## A. Implemented Recommendations of the ACT 51 Study Committee

The current Transportation Funding Task Force is not the first committee appointed by the governor to study road funding. In fact, in 1999 and 2000 a similar committee, complete with a citizens' advisory committee, also appointed by the governor, took on a similar challenge.

In 2000, after a year of studying transportation-funding-related issues, the Public Act 51 Transportation Study Committee compiled its list of recommendations summarizing the public discussion of transportation funding in Michigan. The committee established the following goals:

- Increase transportation funding by nearly \$100 million per year without any tax increases
- Ensure that Michigan's aggressive, and necessary, agenda of infrastructure improvements will continue
- Guarantee that funding earmarked for road and bridge repair will continue to be used solely for road and bridge repair
- Simplify the transportation funding process
- Strengthen public confidence in transportation investments
- Increase efficiency and effectiveness for public and mass transit

Although these goals have not completely been met, some of the committee's recommendations have been successfully implemented. They include the following:

- Funding intended for road and bridge repairs has continued to be used solely for road and bridge repairs
- A functional classification review was conducted, identifying the state's priority commercial routes
- Road and transit agencies were encouraged to follow the principals of "asset management" in their business operations
- The collection of diesel fuel taxes was simplified and reformed – without a tax increase
- A uniform definition was established in state law for the term "maintenance" in relation to road repairs
- Additional funds were dedicated to local bridges

The committee suggested the following measures that are still waiting for implementation:

- Eliminate the diversion of transportation funds to other state departments
- Improve all priority commercial routes to an "all season" standard
- Encourage efficiency in mass transit funding
- Recognize that all roads are equally important
- Conduct a needs study (scientific and objective comprehensive baseline study)
- Reduce local road funding use restrictions
- Increase local road agencies' involvement in administering MTF
- Increase the diesel tax rate

## **B. Asset Management – A Successful Statewide Effort**

Perhaps the most successful statewide effort to enhance the efficiency of road agencies in recent memory has been the establishment of the Transportation Asset Management Council in 2002 by the Michigan legislature. The main function of the council is to obtain and keep accurate and uniform records on road and bridge condition, road and bridge work performed and funds expended. Annually, the council analyzes and reports to the legislature on the current condition of the federal-aid-eligible roads and bridges, the investment made to this system and the needs for maintaining and preserving the system.

The Asset Management Council listed the following major accomplishments over the last four years in its 2007 report:

- Developed a spirit of cooperation
- Established a data repository
- Established a uniform condition rating scale
- Established working relationships with MPO/RPOs
- Developed processes needed to implement asset managements
- Developed various tools that can be used to implement asset management
- Established sound management principles for on-going operations
- Expanded education and training opportunities for Michigan's road agencies

Because due to the efforts of the council in promoting the use of pavement management programs and in educating road agency personnel, more than one-third of the state's road agencies have implemented asset management programs and many others are in the process of initiating programs. A number of agencies have demonstrated that using asset management principles can extend the service life of existing roads and bridges, helping to meet those agencies' goals and assisting in securing additional funding. Ultimately, the greatest impact could be achieved if all road agencies incorporated the principles of asset management into their everyday activities, and, in particular, into their project planning and selection.

## C. Efficiency and Effectiveness Measures Implemented by MDOT

As Michigan's largest road agency, the Michigan Department of Transportation (MDOT) has been hit hard by the state's long-stagnant and more recently declining road funding and the rapidly rising costs of building and maintaining roads. As a result, the department has taken numerous and significant steps over the last decade to cut costs and improve efficiency and effectiveness. These steps have included:

1. **Staff reduction**  
Reduced the ranks of full-time department employees by 214 since 1998. Savings: Nearly \$21.3 million per year. (See Appendix 3.)
2. **Continuously Operating Reference Stations (CORS)**  
This effort sets primary and secondary project control for the preliminary survey and subsequent construction of projects. This includes setting benchmarks for project evaluation; typically performed by conventional leveling with a level and rod and placing irons and monuments in the ground and compounding accurate X,Y coordinates. Future needs for projects are based on this preliminary survey control. Savings: \$1.2 million per year.
3. **LED Traffic Signals**  
Switching to new LED traffic signals continues to provide benefit. LED lights use a fraction of the electricity of incandescent bulbs. Savings: \$1.1 million per year to date.
4. **Transportation Asset Mapping Systems (TRAMS)**  
TRAMS is an Intranet-mapping system that works in conjunction with various MDOT data sources (MAP, Sufficiency, CRASH, TMS) to produce maps with or without reports of MDOT data. TRAMS also provides a selection of base-map options, including street, aerial, USGS contours, plat and maintenance responsibility areas. Savings: The simple availability of this combined data in an easy-to-use format has been quantified to potentially \$572,000 in annual benefit.
5. **Electronic Bidding Project**  
In collaboration with Bid X, a Florida-based specialist in electronic bidding, MDOT implemented an end-to-end bidding system that reduces bid errors, saves money by decreasing low-bid rejections and shortens processing time. Efficiencies include a shortened approval time, reduced errors, and minimal misinterpretations of ambiguous material. Costs to the state are reduced because the program used to develop the bids automatically alerts contractors to errors or omissions in the bid before it is submitted. Costs for paper, filing and handling, postage and data storage are also reduced. Savings: \$400,000 per year.

6. PAVEMAPP and Road Quality Forecasting System (RQFS)  
Processes and analyzes pavement condition observations and forecasts future pavement conditions under varying funding levels and pavement maintenance strategies. This software increases the efficiency of MDOT (by lowering costs and speeding results) and the effectiveness of the department by improving the condition forecasts themselves. Savings: \$360,000 per year.
7. Michigan Bridge Inspection System (MBIS)  
Previously paper and client-server software-based bridge inspection process was rewritten for the Web environment. This has enabled MDOT and local agency staff to execute the inspection process online, greatly reducing internal staff time in handling and reconciling erroneous paper inputs, allowing better analysis of data. Savings: \$120,000 per year.
8. Michigan Bridge Reporting System (MBRS)  
Provides current and historical bridge inspections electronically to assist in bridge asset management activities. Savings: \$80,000 per year.
9. Trunkline Photolog Images  
MDOT implement its photo log capability in 2008. The photo log allows users to “drive” the state trunkline system using their computer. It is actually a series of photographs taken at the same time as MDOT’s Pavement Condition Survey. This capability can be used by MDOT for many purposes, many of which directly relate to “visiting” a location via the photo log instead of taking a field trip and using staff time, fuel, vehicle miles, etc. uses include environmental screening, intersection reviews, data collection and verification. Savings: \$150,000 per year.
10. Five-Year Transportation Program  
This is a fully-automated system for processing the project lists and provides timely and accurate information for the Five-Year Transportation Program. The new process captures up-to-date data from the Michigan Architectural Project (MAP) database, significantly reducing processing time. Savings: \$25,000 per year.
11. Weigh-In-Motion (WIM) – Wireless Sensors  
This is a coordinated effort with the State Police Motor Carrier Division to develop a Commercial Vehicle Enforcement Plan incorporating existing Weigh-In-Motion and/or Portable Scale locations, and identifying priorities for future locations. Using existing WIM locations identify grossly overweight (non-contestable) commercial vehicles. This enforcement will help to protect MDOT’s infrastructure (ie pavement/bridge conditions) by deterring overweight commercial vehicles. The WIM sites also serve Permanent Traffic Recorder (PTR) locations that are fundamental to measuring and analyzing traffic counts on MDOT roadways. (One low traffic WIM wireless site generated 42 citations resulting in \$83,352 in fines and 633,600 pounds. There are 12 sites.) Savings/revenue generated: Generates minimum of \$1 million in revenue via traffic citations per year.

## 12. Online Transport Permit Process

MDOT has significantly reduced the time required for issuance of transport (oversize/overweight commercial vehicle) permits. This has been accomplished by the development and refinement of a computer application that automates much of the review that was previously accomplished manually. MDOT issues more than 100,000 such permits, and the time to receive a permit has been reduced from an average of hours to an average of two hours. Savings: 200,000 hours per year for applicants.

In addition, while MDOT is responsible for maintaining its road system statewide, it has taken advantage of efficiencies by hiring county road commissions to do the work in 66 counties. Instead of hiring staff, buying equipment and constructing facilities (including and the salt storage buildings) in every county, or hiring contractors who would have to do the same thing, in these 66 counties MDOT chose to contract with county road commissions who already had trained staff equipment and facilities to do the maintenance work for MDOT. This is similar to Wisconsin where the Wisconsin DOT contracts with counties to maintain Wisconsin state highways.

## **D. Efficiency and Effectiveness Measures Implemented by Local Road Agencies**

### **1. SEMSIM – A Successful Partnership of Agencies**

Often, improved efficiencies can be achieved by public agencies when several join forces and work together. In the world of road agencies, this was perhaps most clearly demonstrated through the Southeastern Michigan Snow and Ice Management (SEMSIM) project.

SEMSIM was the first project of its kind in the nation in which multiple agencies joined forces to collectively employ the latest technologies to improve winter road maintenance operations and public safety. The SEMSIM data partner agencies are the four largest local road agencies in Michigan, plus the regional transit provider for Southeast Michigan. They are: the Road Commission for Oakland County, the Wayne County Department of Public Services, the Road Commission of Macomb County, the City of Detroit Department of Public Works and the Southeast Michigan Authority for Regional Transportation (SMART).

The partnership has implemented a satellite-based fleet management system to coordinate operations, manage the allocation of resources and improve the overall effectiveness of plowing and salting operations. After several years of refining the system, by 2007, all 500 winter maintenance vehicles of the four partner road agencies were fully equipped with the SEMSIM technology. Each vehicle now contains data collecting sensors that provide the road agencies with information about vehicle location, route coverage, salt application rates, pavement surface temperature and ambient temperature as well as status of both front and “underbelly” plows.

The use of these technologies, along with unprecedented inter-jurisdictional cooperation, is resulting in improved effectiveness and efficiency in the delivery of winter maintenance service. Additionally, SEMSIM is being used to “replay” and evaluate operations after certain snow events. This capability can result in actions to improve operational practices. The software element of this system is in continuous development and will continue to help provide improved winter maintenance services.

### **2. Other Efficiency and Effectiveness Measures**

SEMSIM is not the first time, of course, that road agencies in Michigan have taken steps to improve their effectiveness and efficiency. In fact, most Michigan road agencies are continually seeking and implementing ways to improve the efficiency of their operations. This was confirmed in September 2008, when the County Road Association of Michigan (CRAM) circulated a survey to all county road agencies in the state, asking the agencies to report on their efforts to improve the efficiencies and effectiveness of their operations. For the purposes of this survey, efficiencies were defined as internal steps that resulted in a cost savings for the agency. Effectiveness measures were defined as steps taken that resulted in an improved level of service for the public, regardless of whether or not there was a cost savings for your agency.

The survey was also provided to all cities and villages in the state, but too few communities responded to be representative of the state's municipalities.

The survey revealed that the majority of Michigan's 83 county road agencies have taken steps to improve effectiveness and efficiency. Most of the steps fall into one of three categories: Administrative changes, operational changes or equipment improvements. It should be noted that some of the efficiency and effectiveness steps identified in the survey simply cannot be implemented by some of the road agencies. For example, the idea of replacing incandescent lamps in traffic signals with more efficient LEDs is meaningless to an agency does not have any responsibility for traffic signals (which is the case for a number of county road commissions). Therefore, in some instances, the numbers below may be slightly lower than one might expect, because some of the issues simply do not apply to some agencies.

The survey revealed that a majority of road commissions have implemented administrative changes resulting in improved efficiency or effectiveness, including:

- Modified their health care plans (70 of 72 responding agencies),
- Implemented a pavement management system such as PASER (63 of 72 respondents),
- Standardized the permit application process (61 of 72 respondents)
- Expanded efforts to gain developer participation in the cost of projects related to new development (43 of 72 respondents)
- Conducted an energy audit of their facilities (29 of 72 respondents)

Operational effectiveness/efficiency improvements made by road commissions include:

- Implemented 4/10 work weeks (four 10-hour days instead of five eight-hour days) (69 of 72 respondents)
- Increased the use of technology to improve operational efficiency (61 of 72 respondents)
- Automated operations through the use of technology, such as payroll functions (68 of 72 respondents)
- Shared equipment with adjacent road commissions (54 of 72 respondents)
- Introduced automation in winter road maintenance equipment, such as speed-calibrated salt spreaders (53 of 72 respondents)
- Introduced salt pre-wetting to improve the effectiveness of salt (58 of 72 respondents)

Efficiencies achieved by road commissions as a result of equipment enhancements include:

- Adding "boom mowers" on tractors to increase mowing efficiency and eliminate the need for an additional operator (51 of 72 respondents)
- Adding "wing plows" to trucks to reduce plow time and manpower needs (35 of 72 respondents)
- Converted traffic signals to LED lamps that use less energy and last significantly longer (28 of 72 respondents).

## **E. Staffing Levels of Road Agencies**

Contrary to the assumptions of some, the staffing levels of most Michigan road agencies have not increased at the same rate as vehicle travel in recent years in decades. In fact, because these agencies have been able to increase their efficiency and effectiveness, in many cases, such as at the Michigan Department of Transportation (MDOT), staffing levels have declined over the years despite the increases in vehicle miles of travel in the state. Appendix 3 provides an overview of MDOT's staffing history.

The same has held true for many local agencies across the state. One example is the case of the Road Commission for Oakland County (RCOC). Despite the fact that the county saw tremendous population growth over the last 35 years (resulting in tremendous traffic growth, including the 300,000 commuters who now travel from other counties into Oakland County everyday to work), the agency's staffing levels remained flat, with the exception of a necessary layoff in the early 1980s. In the immediate past, faced with the state's current transportation funding crisis, the agency has seen its staff levels drop rapidly. Appendix 4 provides an overview of the RCOC staffing history. The Kent County Road Commission has a similar story. As the graph in Appendix 5 shows, despite a significant increase in road miles, the agency's staff has continued to shrink over the last 30-plus years.

## **F. Benchmarking and Performance Measurements**

Because of the vast variations in the types of road systems serving the diverse regions of Michigan, as well as the variations in the state's climate, environment, business conditions, etc., it has historically proven challenging to identify operational benchmarks that could be applied universally. However, some progress has been made in this area.

In the late 1990s, for example, the Road Commission for Oakland County attempted to establish benchmarks for many of its operational activities. It contacted road commissions across the state as well as county road agencies in similarly sized counties across the Midwest (e.g. Hennepin County Minnesota, home of Minneapolis and St. Paul). Eventually, this effort was stopped because staff could not find enough areas where operations, conditions, the road network and/or other aspects were similar enough to allow for usable benchmarking.

More recently, Michigan State University's State and Local Government Program established a performance measurement effort by creating the Michigan Local Government Benchmarking Consortium. The consortium aims to measure performance and create an inventory of best practices used by public agencies throughout the state. This effort is showing some promise, and participating members are hopeful that useful results will be forthcoming. Of course, one of the challenges of this type of activity, especially in lean economic times, is that it requires the dedication of resources, both staff and funding. These are resources that then cannot be used toward the maintenance of the road system.

While the HRB Subcommittee recognizes the challenges of creating useful benchmarks and establishing meaningful best practices, it fully supports this effort. The subcommittee members believe that the investment of resources in this effort is justified by the potential to identify means of improving operational efficiency and effectiveness

## Part II

### Potential Reforms and Efficiencies

#### A. Expand the Statewide Comprehensive Asset Management Program

The heart of asset management is a sound capital preventive maintenance program. This program provides for performing the right fix in the right location at the right time. This ensures that a road agency gets the full service life from the investment. A dollar spent on capital preventive maintenance can postpone near-term on major rehabilitations and reconstructions.

The Transportation Asset Management Council, through its recent strategic planning session, concluded that the state's asset management program should be expanded to roads that are not federal-aid eligible, as required in the original state legislation establishing the council. Michigan's local roads would greatly benefit from an overall asset management program. The program could assist all agencies in investing their available road funds in the most efficient manner through sophisticated and uniform methods of project selection, scheduling and data collection. The overall asset management program should include all public roads and streets of the state. It should collect geometric and condition data on all roadway elements and features including ancillary elements like drainage, traffic signs, traffic signals, guardrails, pavement markings, etc. in addition to pavement-related information. The program would promote standardization of data collection, analysis, project programming and funding. The level of sophistication in data collection should vary with the road's functional classification providing more detailed, precise, and current data for road segments and bridges that carry high traffic volumes and less-detailed and less-frequently updated data for local roads carrying low traffic volumes.

##### 1. Recommendation:

**The HRB Subcommittee recommends the rapid expansion of the successful asset management program into a statewide, comprehensive program that includes all public roads.**

- **The program should include both pavement and all ancillary elements, including location of all utilities, though the pavement should be the first priority.**
- **The program should be designed so that it can predict future road conditions based on various funding levels.**
- **Additionally, the program should provide all road agencies with technical assistance, effective data collection, and tools to analyze and select projects that assure the best use of available road funding.**

## **B. State-Level Reforms**

Throughout the discussion of the challenges facing Michigan's road system there have, periodically, been proposals for sweeping "reforms" that would significantly alter the status quo as it relates to roads, road funding, road jurisdiction or other major aspect of the state's road system. This section identifies some of those proposed "reforms" and provides some of the strengths and challenges of each.

### **1. Reforms Recommended by HRB:**

- a. Repeal Act 51 and devise a new statewide road-funding mechanism that provides an equitable distribution formula if and when additional funding becomes available for all parties.**

Pros:

- Could allow a fairer distribution of road funds.

Cons:

- Could have a significant negative impact on the state's agricultural industry, which relies on rural, low-volume roads to get produce to market.
- Could have a negative impact on the state's tourism industry, as reduced funding to rural areas could ultimately make many areas popular for hunting, fishing, snowmobiling, ORVing, camping, etc. less easily accessible.
- Could have a negative impact on the quality of life of residents in rural areas.
- Some agencies are likely to end up with a smaller percentage of the total funding.

- b. Increase to \$300,000 the threshold beyond which county road commissions must competitively bid projects.**

Pros:

- May result in lower costs for some road agency activities.

Cons:

- Could significantly slow the process of many road agency operations, as the agencies are forced to conduct a bid process.
- Would likely significantly increase the administrative costs of some activities.

- c. Maximize toll credits from existing toll facilities.**

Pros:

- Instead of state and local funds that provide match for federal funds, "toll match credits," earned from capital investments paid out of toll facility revenues, can be used as the matching funds, with greater flexibility.

## Reforms Recommended by HRB Continued

- Federal-aid projects can be advanced when matching funds are not available, and state and local funds normally required for match can then be directed to other transportation projects.
- MDOT currently uses toll match from Blue Water Bridge, International Bridge and Mackinac Bridge; make available toll credits from Ambassador Bridge, Detroit Windsor Tunnel and any other private or toll authority project.
- Missouri reserves its toll credits for situations where project matching funds are unavailable in order to increase federal funding to 100 percent of project costs. Ohio shares toll credits with local government agencies for both highway and transit projects. Florida uses toll credits on almost every new federal-aid project so that its federal highway program is 100 percent federally funded, freeing up state dollars for state-administered projects.
- This is especially important as federal reauthorization is underway, as it increases flexibility to advance projects and maximize Federal resources.

### Cons:

- Does not create any additional revenue, but may allow for significant flexibility as transportation needs outpace state funding or as additional federal funds become available.
- Requires FHWA approval for eligibility and must meet maintenance-of-effort requirement over a four-year period.
- May require new mindset to maximize advantages, since revenues are generally used by MDOT for transit when CTF funds are not available.
- May make it impossible to implement some projects because it does not provide 100 percent of funding.

### **d. Create “corridor authorities” to enhance a particular road corridor.**

#### Pros:

- Could create a new funding source for a particular corridor.

#### Cons:

- Would likely result in a shift of some of the costs associated with the road from the state to local funding
- The exact source of funding for such an authority is undefined currently.

### **e. Review and revise state and federal regulations that impact the efficiency of road agencies.**

#### Pros:

- Could allow road agencies to operate more efficiently.
- Could reduce costs of some road projects and routine maintenance activities.

#### Cons:

- Could lead to a reversal of environmental protections currently in place.

**f. Grant the state Treasury, Auditor General or MDOT additional audit authority over county road commissions and municipalities to determine if their uses of MTF revenues are in compliance with Act 51.**

Pros:

- May identify cases where Act 51 dollars have been improperly used.

Cons:

- Assumes that the Treasury Department or Auditor General has the expertise to assess and evaluate road agency activities as well as the familiarity with Act 51 to make these determinations. Past experience suggests this has not always been the case.
- Could quite possibly require the State to hire additional staff to be able to accomplish this additional task, which would likely erase any savings achieved through the audit process.
- Would be an unfunded mandate.
- Agencies are already required to be audited, so this would likely duplicate what is already done.
- It is inappropriate for one road agency to have audit authority over another on any issue other than federal funds.

**g. If there is an increase in MTF dollars, dedicate a small portion as an incentive (or match) for counties and cities/villages to raise local transportation funds.**

Pros:

- Could encourage some communities that had not previously done so to raise additional funds for transportation.
- Would reward those communities that are already doing so.
- Would be preferable to identify a funding source other than the MTF.

Cons:

- Because raising local funds for roads has traditionally been easier in rural communities, this would tend to favor those areas over more urbanized areas.
- Using MTF funds for this purpose would divert those dollars from the MTF formula.

**h. Enact enabling legislation allowing local-option transportation-funding tools, which would allow residents, on a countywide or regional basis, to vote to enact specific local-option taxes for specific transportation projects (see BBT proposal).**

Pros:

- Would provide new, additional revenue for transportation improvements that otherwise could not be funded.
- Local voters determine if the identified improvements are worthwhile.

## Reforms Recommended by HRB Continued

- Provides counties/regions with tools to create transportation projects that could encourage economic development.
- All of the funds raised through the effort would stay within the county/region (rather than a portion being siphoned off through the MTF formula).

### Cons:

- Funding would be subject to the whims of local voters.
- Could create unequal transportation-related tax burdens for neighboring communities.

### **i. Enact enabling legislation to allow for the creation of public/private partnerships for the purpose of building or operating transportation infrastructure.**

### Pros:

- Could provide a new source of revenue for transportation without increasing taxes

### Cons:

- Would likely result in increased user fees.
- Leasing existing facilities is problematic for Michigan because direct constituents would be paying fees plus fuel taxes (unlike Chicago Skyway or Indiana Toll Road where non-residents pay majority of fees).
- Difficulty in anticipating long-term agreements for maintenance, toll fairness and many unintended consequences.
- Time may not be right to initiate, as investment rating agencies have downgraded tolled highways as travel is currently down.
- Public/private partnerships can divert 20-35 percent transportation revenues to duplicate administration (compared to less than 1 percent with the current fuel tax system).
- Pennsylvania Turnpike received bids significantly under the determined value for the facility; Michigan should be cautious about a long-term deal where the proceeds are spent in the near term and problems may cost more to correct in the future.
- Traffic projections of users for new facilities are typically inflated, which may require refinancing or default by public/private partnerships.

### **j. If there is an increase in MTF dollars, establish a fund to act as an incentive to local road agencies that generates cost savings through efficiencies resulting from consolidations, contracting, pooled services and/or other programs.**

### Pros:

- Could encourage agencies to attempt service consolidations or other steps that they might not otherwise try.
- If successful, could provide additional funding to agencies willing to attempt these steps.

## Reforms Recommended by HRB Continued

- Would be preferable to identify a funding source other than the MTF.

### Cons:

- Reduces the amount of MTF dollars that go into the MTF formula and are shared by all road agencies.
- May cause some agencies to consolidate services or attempt other efforts when there is no real savings or efficiency gained, so they can receive the MTF incentive dollars.
- It may be virtually impossible to gage if some consolidation efforts, pooled services, etc. actually save money or improve efficiency.

### **k. Amend Act 51 to make specific provisions allowing for contiguous county and city road organizations to form regional road agencies consisting of both county and city/village units.**

### Pros:

- Could result in cost savings and improved efficiencies and economies of scale.
- Could eliminate some redundant administrative functions.
- Could eliminate confusion among the public over which agency maintains which roads.

### Cons:

- May be difficult to document any actual cost savings or improved efficiencies.
- May actually result in lost efficiencies and increased costs as the level of bureaucracy increases and as smaller communities lose the ability to use staff for other tasks in addition to road work.
- Will likely result in reduced level of service for some residents (particularly in smaller cities and villages)

### **l. To ensure that all new transportation revenues are directed to true transportation purposes, state policymakers should protect the new money by putting a five-year freeze on all interdepartmental grants. During this time period, the Legislature should direct each department seeking an interdepartmental grant to recommend ways to streamline costs through technological efficiencies with a stated timeline and goals.**

### Pros:

- Ensures that the new transportation dollars are not raided by state agencies eyeing a potential windfall of new money as they struggle to balance their own departmental budgets.
- Gives the general public added confidence that their hard-earned money is being spent where it was intended.

### Cons:

- A current legislature cannot bind future legislatures' spending decisions. However, a clearly stated goal, spelled out through resolution or boilerplate

wording, could be non-binding yet still give a clear direction for future appropriators.

- A freeze in interdepartmental grants would not compensate state agencies for any increased costs associated with the services they offer the Department of Transportation.

**m. Limit appropriations to the Departments of State and Treasury from vehicle registrations and motor-fuel taxes to the necessary, actual costs of revenue collection as provided in the state constitution, and not overhead costs allocated according to accounting formulas. End crediting of fixed amounts of road-user fees to the Transportation Administration Collection Fund and Transportation Safety and Law Enforcement Fund.**

Pros:

- Costs of collection would be limited to the actual cost of collecting transportation revenue by the most efficient available means.
- All other costs of State and Treasury operations would be subject to the appropriations process instead of being automatically funded from the MTF or TACF.
- Would end the debate over how much of Secretary of State costs for branch offices should be apportioned to the MTF, and whether Department of Treasury is justified in allocating its overhead costs to the MTF in proportion to all state revenues collected.

Cons:

- To the extent that State and Treasury overhead costs are not reduced, these costs would have to be covered from other sources.

**n. Take a business-systems approach to vehicle registration, titling, plate issuance, insurance verification and road-user-fee collection, to determine the lowest-cost process for these transactions. Consider privatized vehicle registration and retail sales of privately-produced license plates.**

Pros:

- Vehicle-registration costs allocated to the MTF amount to \$96 million per year, or almost \$10 per vehicle per year. This total might be reduced, along with costs for other state functions, yielding more net revenue for the MTF and savings for road users.

Cons:

- Might or might not be cheaper than the current processes of the Department of State.
- Even if road-user-fee collection were separated from other state functions at a net savings to the MTF, other administrative functions might still have to be performed at motorist expense.

- o. Expand the use of Value Engineering (VE). VE can take two forms. The first involves a contractor recommending plan modifications that will result in reduced construction costs. In this case, the cost savings are shared evenly between the contractor and the project “owner.” The second form involves the federal requirement that when a road agency receives at least \$25 million in federal funding for a project, the agency’s design be reviewed by outside design experts to ensure it is the most cost effective and best design. Both concepts could be expanded to be available for more projects, regardless of cost or funding source to maximize the use of qualified, innovative, cost-saving proposals.**

Pros:

- Would result in a net savings to the public.
- Would stimulate innovative ideas.

Cons:

- Time and energy will be required to analyze proposals.

- p. Comprehensive performance standards and measures of performance should be established for all aspects of transportation agency operations. Each agency’s performance against these standards should be a factor in the level of funding provided.**

Pros:

- Could provide universal benchmarks for performance.
- Could result in standardized procedures across the industry.
- Could result in improved performance of agencies across the industry.
- Efforts are already underway at several levels to do this.

Cons:

- History has demonstrated that it is extremely hard to establish performance standards that apply to vastly disparate agencies and road systems (i.e. comparing a rural road commission to an urban road commission).
- The best practices for one agency may be completely irrelevant for another agency/based on a variety of transportation system factors.
- This type of effort works well when comparing like agencies. It is much more difficult for diverse agencies managing very diverse road systems.
- Simply establishing an ideal standard does not enable an under-funded agency to meet the standards, unless additional funding is also provided.

## 2. Reforms Considered Without Recommendation by HRB:

- a. **Reallocate revenue from the 6 percent sales tax applied to motor fuel, dedicating it to transportation funding. (Currently, sales tax on fuel is allocated to General Fund and Education, but as fuel prices have increased, an unanticipated “windfall” has occurred for non-transportation uses.)**

Pros:

- Uses existing sales-tax mechanism to fund transportation while “indexing” revenue to the price of motor fuel instead of a static per-gallon tax.
- Dedicating taxes on fuel to transportation uses, eliminating current situation where the sales tax generates more non-transportation funding per gallon than is raised by the actual fuel tax.
- Eliminates perception of “double taxation,” in which MI is one of only seven states to have a tax charged on the fuel tax.

Cons:

- Replacement revenue sources would have to be found for funds that previously were allocated to the General Fund so that schools and local revenue sharing would be held harmless.
- Without identifying replacement revenue, it would likely generate opposition from municipalities and the education community.
- Unless protected by constitutional amendment, revenues could be subject to non-transportation diversion to balance annual budgets.

- b. **Eliminate the state’s “prevailing wage” law for all transportation projects not using federal funds.**

Pros:

- May be a cost savings on some projects.
- May allow contractors to employ more people, thus reducing unemployment rolls.

Cons:

- Would be politically challenging to accomplish due to the inevitable strident opposition by organized labor, which could have negative repercussions on the relationships between agencies and their hourly staffs and bargaining units.
- Would create a “two-tier” wage system for private-sector road workers in the state.
- Could increase the state’s “working poor” population, which could increase the burden on the state’s social services and health care infrastructure and negatively impact the housing market and other elements of the state’s economy.

**c. Provide counties with populations of less than one million the authority to consolidate the road commission into the general government via a vote of the county board of commissioners.**

Pros:

- Could eliminate administrative duplication between the road commission and county general government.
- The conditions that existed 100 years ago that led the state to allow for the creation of county road commissions have changed: Rural counties are no longer too weak to issue bonds or administer countywide road efforts.

Cons:

- Could politicize and slow the process of project selection, reducing the positive influence of objective systems such as Asset Management.
- Such a consolidation should not be considered unless it can clearly be shown how and where savings would be achieved, and the amount of savings is significantly greater than the cost of the consolidation process.
- There is the danger that combining road commission engineering staff with county DPW staff, which must handle a wide variety of civil engineering projects beyond roads, will ultimately result in a dilution of expertise in road construction engineering.
- There can be a limit on the economies of scale. Sometimes when agencies become larger (as would occur when a road commission is combined with a county general government), some of the functions, such as purchasing or human resources, can become less efficient and more bureaucratic.
- Consolidation makes sense when like agencies are being considered, such as police and fire. It is much more difficult to justify combining dissimilar agencies, such as a county general government and road commissions, because county general governments (with the exception of Wayne) are not currently involved in the road business. They have very few similar functions as a road commission, and very little overlapping areas of expertise.

**d. Eliminate MTF revenues to all cities/villages that receive less than \$250,000 in annual MTF dollars. Affected municipal roads would be transferred to the jurisdiction of the home county road agency, which will become the recipient of the local's MTF revenue.**

Pros:

- This would potentially eliminate the redundancy of multiple small communities processing MTF payments.
- This would generate a slight increase in funding for the county road agencies in which these communities are located.

Cons:

- It is likely that the level of road maintenance provided in these smaller communities would decline – the slight increase in funding for the county road agency would not allow the agency to duplicate the level of service provided by the community. For example, because the snowplows serving the small city/villages will likely be based further away at a county facility, it will likely take longer for the roads to be plowed in the communities, reducing safety for motorists in the community.
- This may eliminate the efficiency achieved by the smaller communities, who use the same workers to perform road, sewer, water, and other DPW-type activities.

- e. **Require county road commissions, municipalities and MDOT to conduct life cycle cost analysis for road projects costing more than \$100,000 (current threshold is \$1 million).**

Pros:

- Could result in the construction of more projects that have lower life-time costs.

Cons:

- Would likely result in projects being done that are more costly up front, meaning fewer could be constructed, and more roads would further deteriorate because a smaller number of them are improved.

- f. **Allow developer “impact fees” so that developers are required to contribute to the cost of infrastructure improvements necessitated as a result of their developments.**

Pros:

- Ensures that the infrastructure needed for a development is not subsidized by the rest of the community.
- Helps to ensure that the infrastructure needed for a development can be constructed at the time the development is constructed (rather than years later).

Cons:

- Could be considered a deterrent to economic development.
- Some developers argue they already pay more than their fair share through the existing tax codes.

- g. **Divert some MTF revenues from the traditional Act 51 formula, and redirect these dollars to a fund for distribution only to a new high-priority economic development highway network.**

## Reforms Considered Without Recommendation by HRB Continued

### Pros:

- Could encourage economic development in desired areas.
- Would more closely align transportation spending with economic development priorities.
- Would be preferable to identify a funding source other than the MTF.

### Cons:

- Would reduce funding going through the MTF formula, and thus hurt all road agencies.
- There likely would not be consensus about economic development priorities, which could pit communities against each other.
- May result in reduced funding for roads that are necessary for the economy, tourism or residential use, but which do not become part of the “high-priority economic development highway network.”

- h. Require road agencies to use more “design, build, warrant” projects where the agency establishes the desired road-life performance levels at a higher level, and the contractor is responsible for the design dimensions that impact the road’s life and condition, does all construction for the project, and then is responsible for warranty costs of keeping the road in the required condition.**

### Pros:

- May result in roads that are better built.
- May result in decreased maintenance costs over the life of the road.

### Cons:

- Could significantly increase road construction costs, as contractors build in the additional costs they would be required to bear and the cost of the higher road life expectancy requirements.
- The increase in project costs would mean fewer projects could be constructed, likely resulting in an overall decline in the condition of the system as a whole.
- Could reduce the number of road contractors, as smaller contractors might not be able to shoulder this additional burden and may go out of business or leave the state.
- Would likely cause disagreements between road agencies and contractors about which project elements that “impact the road’s life and condition.”

- i. Consider whether county road commissions, or alternative county road organizations, should have authority to request a county millage vote for roads.**

### Pros:

- This would allow county road agencies to directly seek additional funding -- something that is not currently possible.

Cons:

- Would place the authority to seek a tax increase in the hands of officials who often are not publicly elected.
- Would shift taxing authority away from the elected county commission and onto another county level agency.
- Could result in increased political pressure on county road agencies.

**j. Allow third-party issuing of state licenses, titling and state-mandated testing in place of the Secretary of State.**

Pros:

- Services could potentially be performed at a lower cost than by the Department of State.
- Could result in greater access to these services for the public.

Cons:

- Could result in an increase in the cost of providing these services (as the private sector is forced to build profit into the cost of the services).
- Could result in reduced security for confidential resident data.
- Could result in these services only being provided in affluent areas, where operator profitability may be greater.

### **3. Reforms Considered and Opposed by HRB:**

#### **a. Require all maintenance and repair work on MDOT roads to be conducted by pre-qualified private-sector entities under contract.**

Pros:

- May see cost savings and/or efficiencies in some areas.

Cons:

- There are virtually no private-sector companies that have the equipment, facilities and other capabilities required to conduct maintenance on state highways.
- The initial capital cost to allow a private-sector company to obtain the equipment, facilities, etc., to do this work would be substantial and potentially prohibitive.
- There is the danger that for-profit entities would focus on the most profitable elements of road maintenance and might forego those elements that are not profitable but are critical for motorist safety or system preservation.
- All things being equal, the public sector should be able to do this work more cost effectively as there is no profit margin and materials can be purchased tax-free.
- The history of this concept being implemented in Michigan suggests there is little benefit (the MDOT experience hiring a private-sector contractor to maintain freeways in Lansing area in the mid-1990s).
- Would require the construction of new, privately-owned road maintenance garages, yards and salt domes. It has become extremely difficult to build such facilities, especially in urban areas, due to opposition from neighboring residents.
- Assumes that the private sector is always able to operate more efficiently than the public sector. However, the history books are filled with examples where the private sector performed in a less-than-ideal manner (Enron Corp., Lehman Bros. and countless other examples).

## C. Operational Reforms

### 1. Reforms Recommended by HRB:

#### a. Implement the Construction Quality Partnership (CQP)

The Construction Quality Partnership (CQP) is a comprehensive quality initiative designed to deliver continuous improvement of the state's transportation system through certification. The CQP is a quality-management system similar to that of the International Organization for Standardization (ISO). CQP has been initiated in Michigan by the Road Construction industry in partnership with the Michigan Department of Transportation (MDOT), Federal Highway Administration, County Road Association of Michigan (CRAM) and Michigan Municipal League (MML) for the purpose of improving quality by training and certifying all individuals, agencies and companies involved in the design and construction of the transportation system in Michigan.

Involving individuals at all levels is the key to success. By emphasizing that the quality of the road network is only as good as the quality of the materials, as well as how they are placed and mixed, the CQP asks individuals to take on a greater level of responsibility. Corporate and owner certification then ensure that personnel continue to receive up-to-date and relevant training.

#### Pros:

- Ensures consistent statewide construction standard.
- Emphasizes front-end quality instead of back-end road warranties.
- Is a logical extension of the Asset Management program.
- Could improve efficiency, reduce operating costs, and minimize nonproductive time.
- Could increase the useable life of the roadway.
- Could result in improved communications, morale and job satisfaction.

#### Cons:

- Could require additional 'red tape' on already burdened public agencies.
- Training (learning curve) and audits are time consuming and distracting.
- Implementation would likely have a cost and require funding.

#### b. Partner with developers

Major retail and subdivision developments are significant traffic generators. Often, these projects are built faster than the existing road infrastructure can be updated. It is, however, often in the developer's best interest to partner with the local road agency to make capital improvement to the surrounding road network to better serve the future customers or residents of the new development. By paving gravel roads, constructing turn flare, and widening intersections and roads, developers help the public agency increase safety and mobility.

There is currently no legislation in Michigan which would allow road agencies or municipalities to mandate such charges. Thus, local transportation officials must be actively involved in creating cooperative partnerships with community developers to encourage this type of investment.

Pros:

- Developer contributions to road improvements often benefit the entire motoring public, not just residents or customers of a new development.
- Helps to ensure that existing residents and businesses, that might see no benefit from new development, do not shoulder the costs of road improvements needed as a result of the new development.
- Ensures that the costs associated with new development accurately reflect the often long-term burdens they place on the community, rather than simply the project construction costs.

Cons:

- Can serve as a disincentive to new economic development that might otherwise increase the tax base for a community.
- Can be perceived as unfairly burdening a developer with all or part of the cost of road improvements that benefit others beyond the developer.
- Can potentially increase the cost of new commercial or residential development, thereby increasing the costs of new housing or commercial real estate.

## **2. Reforms Considered Without Recommendation by HRB:**

### **a. Privatize additional road construction and maintenance functions**

Many agencies have taken advantage of contracting specific functions out to private contractors. Today, virtually all major road construction is done by the lowest private bidder. However, other functions could also be privatized.

Pros:

- Competitive bidding can result in lower overall prices.
- In some instances it is less expensive to hire private sector companies that specialize in specific task, and therefore own specialized equipment that would be costly for public agencies to purchase.
- The private sector often fosters an environment of innovation and efficient practices.

Cons:

- Privatization only works where there is ample competition.
- The risk of the profit-motive factor could lead to private firms not placing quality and safety first.

- Without the need for a profit margin, some tasks can simply be performed less expensively by the public sector.
- The private sector's interest in profit may result in a focus on tasks that are more profitable, and the neglect of those that, though critical, are less profitable.

## **D. Steps that Could Reduce Demand and/or Congestion on the Road System**

It is widely agreed that one of the best ways to improve the efficiency and effectiveness of Michigan's road system would be to reduce traffic on the system. With this concept in mind the HRB Subcommittee reviewed a variety of options that could accomplish this, and provided pros and cons for each. Some of the items considered involve mass transit, rail or intermodal operations. The HRB Subcommittee defers to the appropriate subcommittees on these items.

### **1. Reforms Considered Without Recommendation by HRB**

#### **a. Increase passenger movement by local public transportation**

##### Pros:

- Potential for significant reductions of vehicular traffic on local roads.
- Potential to attract transit-oriented development along and adjacent to transit corridors and stimulate redevelopment of depressed communities.
- Provides mobility for non-drivers (seniors, students, the handicapped, people who do not own cars, etc).
- Mix of service types (trolley, bus, bus-train, dial-a-ride/point demand) would increase attractiveness of transit services.
- Augments light- and heavy-passenger rail services.
- Very efficient in high-demand corridors.
- Effective for fixed routes and schedules.

##### Cons:

- May create conflicts between transit vehicles making multiple stops and existing traffic flows.
- Existing transit systems are not self supporting and require supplementing fare-box revenues to operate.
- The need to transfer between routes, lines and carriers to reach some destinations may deter some riders.
- Not usually an effective alternative for rural areas.
- Security is a concern for some.
- Some passenger facilities (bus stops, waiting areas, etc.) need to be improved, better maintained and patrolled. This could become a significant expense.
- In some instances, timeliness needs improvement.
- Perceived by some as not efficient (schedules, travel time).

**b. Implement and designate high-occupancy/toll (HOT) lanes**

Pros:

- Potential for reduction of vehicular traffic and congestion on highways.
- Existing implementations are profitable.
- Effective on limited-access highways, freeways and expressways.

Cons:

- It is not popular to take existing lanes out of general service to create HOT lanes.
- Likely to be little or no reduction of vehicular traffic on local roads.
- Only works on limited- or controlled-access roadways.
- Fines/fees for use of HOT lanes by single-occupancy vehicles may cause public backlash.
- May reduce existing highway capacity by more than the reduction of vehicular traffic.
- Need to be patrolled to enforce lane usage (primary offense?).
- Possible safety concerns by increasing number of informal weaving zones.
- Needs enabling legislation.
- Concerns may be raised about using public funds to create a roadway that cannot be used by everyone (only by those who can afford the toll).

**c. Develop short- to moderate-distance passenger service by commuter (“light”) rail**

Pros:

- Potentially significant reductions of automobile traffic along specific corridors.
- Potential to attract transit-oriented development along and adjacent to transit corridors and stimulate redevelopment of depressed communities.
- At this time, potentially attractive alternative to automobile commuting.
- Most effective/efficient alternative in urbanized areas with bedroom communities and centralized employment districts.
- Multi-lane roadways (e.g., Woodward Avenue, Michigan Avenue, Telegraph Road, Orchard Lake Road, etc. could place tracks in existing traffic lanes, medians or a combination of both.
- Potential to become self-supporting.
- With supporting transit infrastructure in place, may reduce traffic on local road system.

Cons:

- Needs high-volume ridership to be viable and have competitive price point.
- May not reduce traffic on local roads, especially during peak periods.
- Tends to be less attractive alternative in areas of diffused employment and population.

- May require supporting local (short-line) transit infrastructure to maximize efficiency and successful operation.
- Not effective alternative for rural areas.
- Infrastructure is expensive (tracks, passenger platforms/mini-stations, road crossings).
- Use of existing traffic lanes for rail facilities reduces capacity of road and may create lateral safety issues.
- May require additional pedestrian crossovers to accommodate passengers crossing multi-lane roadways.
- Maintenance operations are labor intensive and expensive.
- Not efficient for frequent-stop short runs.
- Needs high level of local support, political as well as advocacy of ridership.
- Need to address potential local concerns about nuisance (noise, etc.).

**d. Provide longer-distance passenger service by “heavy” rail**

Pros:

- Efficient for moving large numbers of passengers between attractors (e.g., Detroit-Ann Arbor, Detroit-Chicago).
- Potential to significantly reduce automobile traffic on specific routes.
- Like freight rail, would likely do little to reduce traffic on local-road network. However, it could reduce passenger-vehicle traffic on parallel roads and freeways.
- Pricing competitive with air travel at this time.
- Less-intrusive and time-consuming security procedures than air travel.

Cons:

- Needs high-demand attractors at origins–destinations (e.g., Detroit-Chicago) or along corridor (e.g., Detroit-Ann Arbor-Lansing-Battle Creek-Grand Rapids-Kalamazoo-Gary, IN-Chicago).
- Under present conditions, often too time consuming for business travel.
- Prioritization issues for shared freight/passenger tracks.
- Lack of suitable passenger facilities (stations, terminals, platforms, etc.)
- Actual travel time often not competitive with air travel. This has traditionally been a deterrent to heavy rail as an alternative to automobiles.
- High-speed passenger rail has yet to be developed in the state. It would require improved tracks and rail beds.
- The passenger rail car fleet is aging and deteriorating and needs to be refurbished.
- Too few passenger rail cars available to meet projected demand on many routes.
- Local objections to noise, vibration and diesel exhaust.
- May need to overcome “not in my backyard” and “not in my term of office” (NIMBY/NIMTO) sentiments.

**e. Shift longer-distance freight movement to “heavy” rail**

Pros:

- Maximizes line-haul efficiency (i.e., supports large-quantity shipping from common origins to common destinations, such as automotive transmissions from Mexico to Detroit; grain from the Midwest to mills or ports, coal from mines to industries or power plants, etc.
- Reduces traffic on high-volume interstate roads and freeways: One railway flat car can replace as many as four semi-trucks.
- Improves safety by reducing potential heavy-truck/passenger-vehicle conflicts.

Cons:

- Much of Michigan is not directly serviced by rail due to discontinuance and abandonment of railroad rights-of-way.
- Does nothing to reduce traffic on local roads where trucks are necessary to carry freight from origins to marshalling yards (intermodal facilities) and from marshalling yards to destinations.
- Additional funding is needed to upgrade and maintain tracks, rail beds, crossings, etc. Increasing funding for these purposes could have an adverse impact on road funding.
- Additional funding might be needed for right of way acquisition and construction of tracks and facilities to respond to revived demand for rail service. These additional funds may also impact road funding.
- Increased rail traffic may require new marshalling yards, expansion of existing yards and new and/or expanded intermodal facilities with development of spurs to airports, industrial areas, etc.
- May necessitate curtailment or elimination of some “green” programs such as rails-to-trails.
- Potential local objections to noise, vibration and diesel exhaust.
- May need to overcome “not in my backyard” and “not in my term of office” (NIMBY/NIMTO) sentiments.

**f. Implement congestion pricing**

Pros:

- Potential for significant reductions of vehicular traffic on local roads, especially during peak (priciest) times.
- Potential to stimulate increased ridership on short-line and commuter transit.
- Disperses travel by time (making off-peak times more attractive) and thereby increases capacity.

Cons:

- May have adverse impact on businesses within pricing zones.
- May need to have alternate transportation systems in place to make congestion pricing a tool and not a deterrent to travel (unless the intent is to use congestion pricing as a deterrent).
- The perception by some that congestion pricing may discriminate against people who cannot afford the cost. (New York City's congestion pricing plan was struck down following public outcry.)
- Requires enabling legislation.

**g. Create bi-directional travel lanes**

Pros:

- Could allow additional capacity on existing roads, thus increases their efficiency.

Cons:

- Works only where peak-period travel moves predominately in one direction in the morning and the other in the evening.
- Could create additional safety issues for traffic not familiar with the switch in direction of traffic in certain lanes.

**h. Implement ramp metering**

Pros:

- Could allow for increased capacity and safer traffic flow on existing freeways.
- Can reduce congestion in merge lanes by limiting the frequency of merging vehicles.
- Has been used successfully by Caltrans and other state DOTs.

Cons:

- Can cause on-ramp congestion as drivers wait their turn to enter the freeway.
- Used in the 1960s/70s/80s in Detroit and found to be inefficient.

**i. Allow for longer double-trailer trucks**

Pros:

- Maximizes the productivity of existing infrastructure while absorbing expected increased freight on MI roads.
- Expanding allowable truck trailer combinations (for instance "double 40-foot trailers" behind a single truck) would produce cost savings, reduce highway congestion and improve intermodal productivity.
- Double 40s are especially ideal for service to and from intermodal freight facilities, reducing redundant trips and repetitive hauling which contributes to road congestion. (Double 28-foot trailers currently are the maximum.)

## Reforms Considered Without Recommendation by HRB Continued

- Regulatory enhancement would compliment private-sector investment (railroad/intermodal facilities/truck equipment).

### Cons:

- Safety record of longer vehicles would need to be demonstrated to respond to perceptions of safety risks.
- Competitive issues would need to be addressed – railroads have opposed truck productivity gains via longer combinations.
- Potential increased wear on infrastructure, particularly bridges.
- May require federal legislation to accommodate.

- j. Work with the freight industry to identify the best locations where improvements could be made to the freight-transfer infrastructure, and identify incentives that could be used to encourage the implementation of these improvements.**

### Pros:

- Could result in improved intermodal freight movement.
- Could result in increased movement of freight by rail and decreased movement of freight over the state's roads.
- Could result in reduced freight movement costs in the state.

### Cons:

- Creating incentives would probably result in reduced funding going through the MTF formula, with resultant reduced funding for road and transit agencies.
- Because of limited rail infrastructure, there may be limitations to the benefits that could be realized.

## **Part III**

### **Summary of Reforms Recommended, Considered and Opposed by HRB**

Following is the complete list of efficiency/effectiveness reforms recommended, considered and opposed by the HRB Subcommittee.

#### **A. Reforms Recommended by HRB**

##### 1. State-Level Reforms

- a. Rapidly expand the successful asset management program into a statewide, comprehensive program that includes all public roads, including both pavement and all ancillary elements, as well as the location of all utilities, although the pavement should remain the top priority.
- b. Repeal Act 51 and devise a new statewide road funding mechanism that provides an equitable distribution formula if and when additional funding becomes available for all parties.
- c. Increase to \$300,000 the threshold beyond which county road commissions must competitively bid projects.
- d. Maximize toll credits from existing toll facilities.
- e. Create “corridor authorities” to enhance a particular road corridor.
- f. Review and revise state and federal regulations that impact the efficiency of road agencies.
- g. Grant the state Treasury, Auditor General or MDOT additional audit authority over county road commission and municipal to determine if their uses of MTF are in compliance with Act 51.
- h. If there is an increase in MTF dollars, dedicate a small portion as an incentive (or match) for counties and cities/villages to raise local transportation funds.
- i. Enact enabling legislation allowing local-option transportation-funding tools, which would allow residents, on a countywide or regional basis, to vote to enact specific local-option taxes for specific transportation projects (see BBT proposal).
- j. Enact enabling legislation to allow for the creation of public/private partnerships for the purpose of building or operating transportation infrastructure.

- k.** If there is an increase in MTF dollars, establish a fund to create an incentive for local road agencies that generate cost savings through efficiencies resulting from consolidations, contracting, pooled services and/or other programs.
  - l.** Amend Act 51 to make specific provisions allowing for contiguous county and city road organizations to form regional road agencies consisting of both county and city/village units.
  - m.** To ensure that all new transportation revenues are directed to true transportation purposes, state policymakers should protect the new money by putting a five-year freeze on all interdepartmental grants. During this time period, the Legislature should direct each department seeking an interdepartmental grant to recommend ways to streamline costs through technological efficiencies with a stated timeline and goals.
  - n.** Limit appropriations to the Departments of State and Treasury from vehicle registrations and motor-fuel taxes to the necessary, actual costs of revenue collection as provided in the state constitution, and not overhead costs allocated according to accounting formulas. End crediting of fixed amounts of road-user fees to the Transportation Administration Collection Fund and Transportation Safety and Law Enforcement Fund.
  - o.** Take a business-systems approach to vehicle registration, titling, plate issuance, insurance verification and road-user-fee collection, to determine the lowest-cost process for these transactions. Consider privatized vehicle registration and retail sales of privately-produced license plates.
  - p.** Expand the usage of Value Engineering (VE) on all projects throughout the planning, design and construction process to maximize the use of qualified innovative cost saving proposals.
  - q.** Comprehensive performance standards and measures of performance should be established for all aspects of transportation agency operations. Each agency's performance against these standards should be a factor in the level of funding provided.
2. Operational Reforms
- a.** Implement the Construction Quality Partnership (CQP).
  - b.** Partner with developers.

## **B. Reforms Considered Without Recommendation by HRB**

1. State-Level Reforms
  - a. Reallocate revenue from 6 percent sales tax applied to motor fuel, dedicating it to transportation funding. (Currently, sales tax on fuel is allocated to General Fund and Education, but as fuel prices have increased, an unanticipated “windfall” has occurred for non-transportation uses.)
  - b. Eliminate the state’s “prevailing wage” law for all transportation projects not using federal funds.
  - c. Provide counties with populations of less than one million the authority to consolidate the road commission into the general government via a vote of the county board of commissioners.
  - d. Eliminate MTF revenues to all cities/villages that receive less than \$250,000 in annual MTF dollars. Affected municipal roads would be transferred to the jurisdiction of the home county road agency, which will become the recipient of the local’s MTF revenue.
  - e. Require county road commissions, municipalities and MDOT to conduct life cycle cost analysis for road projects costing more than \$100,000 (current threshold is \$1 million).
  - f. Allow developer “impact fees” so that developers are required to contribute to the cost of infrastructure improvements necessitated as a result of their developments.
  - g. Divert some MTF revenues from the traditional Act 51 formula, and redirect these dollars to a fund for distribution only to a new high-priority economic development highway network.
  - h. Require road agencies to use more “design, build, warrant” projects where the agency establishes the desired road-life performance levels at a higher level, and the contractor is responsible for the design dimensions that impact the road’s life and condition, does all construction for the project, and then is responsible for warranty costs of keeping the road in the required condition.
  - i. Consider whether county road commissions, or alternative county road organizations, should have authority to request a county millage vote for roads.
  - j. Allow third-party issuing of state licenses, titling and state-mandated testing in place of the Secretary of State.

2. Operational Reforms

- a. Privatize additional road construction and maintenance functions.

3. Reforms that Could Reduce Demand or Congestion on the Road System

- a. Increase passenger movement by local public transportation.
- b. Implement and designate high-occupancy/toll (HOT) lanes.
- c. Develop short- to moderate-distance passenger service by commuter (“light”) rail.
- d. Provide longer distance passenger service by “heavy” rail.
- e. Shift longer distance freight movement to “heavy” rail.
- f. Implement congestion pricing.
- g. Create bi-directional travel lanes.
- h. Implement ramp metering.
- i. Allow for longer double-trailer trucks.
- j. Work with the freight industry to identify the best locations where improvements could be made to the freight-transfer infrastructure, and identify incentives that could be used to encourage the implementation of these improvements.

**C. Reforms Considered and Opposed by HRB**

- a. Require all maintenance and repair work on MDOT roads to be conducted by pre-qualified private-sector entities under contract.

# Appendix 1

## **Road Commission for Oakland County's FAST-TRAC System**

### **(Faster And Safer Travel through Traffic Routing & Advanced Controls)**

#### **FAST-TRAC is:**

- One of the first & largest local road agency ITS deployments in the United States.
- The largest fully adaptive traffic signal system in North America.
- The largest application of video-imaging vehicle detection for traffic control in the world.
- The first real-time Web-based traffic congestion map for arterial roads in North America.
- A traffic management system that is reducing congestion and serious injury accidents.

#### **History:**

- 1992: Switched on at first 28 intersections, making it the first fully adaptive signal system in U.S.
- Mid-1990s: First in-vehicle navigation system demonstration using Siemen's Automotive's Ali-Scout route guidance system (a beacon-based system providing vehicle routing taking into account delays resulting from road construction projects and congestion).
- 1999: Launch of the Web-based real-time traffic congestion map.
- 2008: FAST-TRAC is in place at more than 650 intersections throughout Oakland County.

#### **The Future:**

- Intended to be expanded to all 1,500 signals in Oakland County.

#### **Benefits:**

- Reduces serious injury accidents at intersections by more than 50%.
- Reduces intersection delays by up to 26%.
- Reduces motorist travel time by up to 32%.
- Reduces "stopped vehicle" delays by up to 20%.

### **How it works:**

- FAST-TRAC intersections are equipped with vehicle detectors that alert the system when vehicles are present. The detectors count vehicles and FAST-TRAC uses this information to determine how much “green time” each approach to a signalized intersection should have. This is recomputed every time the signal changes from green to red in order to move traffic most efficiently.
- FAST-TRAC uses a system known as video imaging to detect vehicles at intersections: Video cameras on poles record images of the vehicles passing through the intersection. A computer instantaneously analyzes the video to determine what is in the picture, comparing frames of video with data stored in the computer’s memory to see if the video has changed. If it has changed, the computer sends a signal to the traffic signal controller. The controller recognizes the number of vehicles present in each direction and adjusts the signal timing to most efficiently accommodate those vehicles. No human sees the images.

## Appendix 2

### The Road Commission for Oakland County's Privatization Initiatives

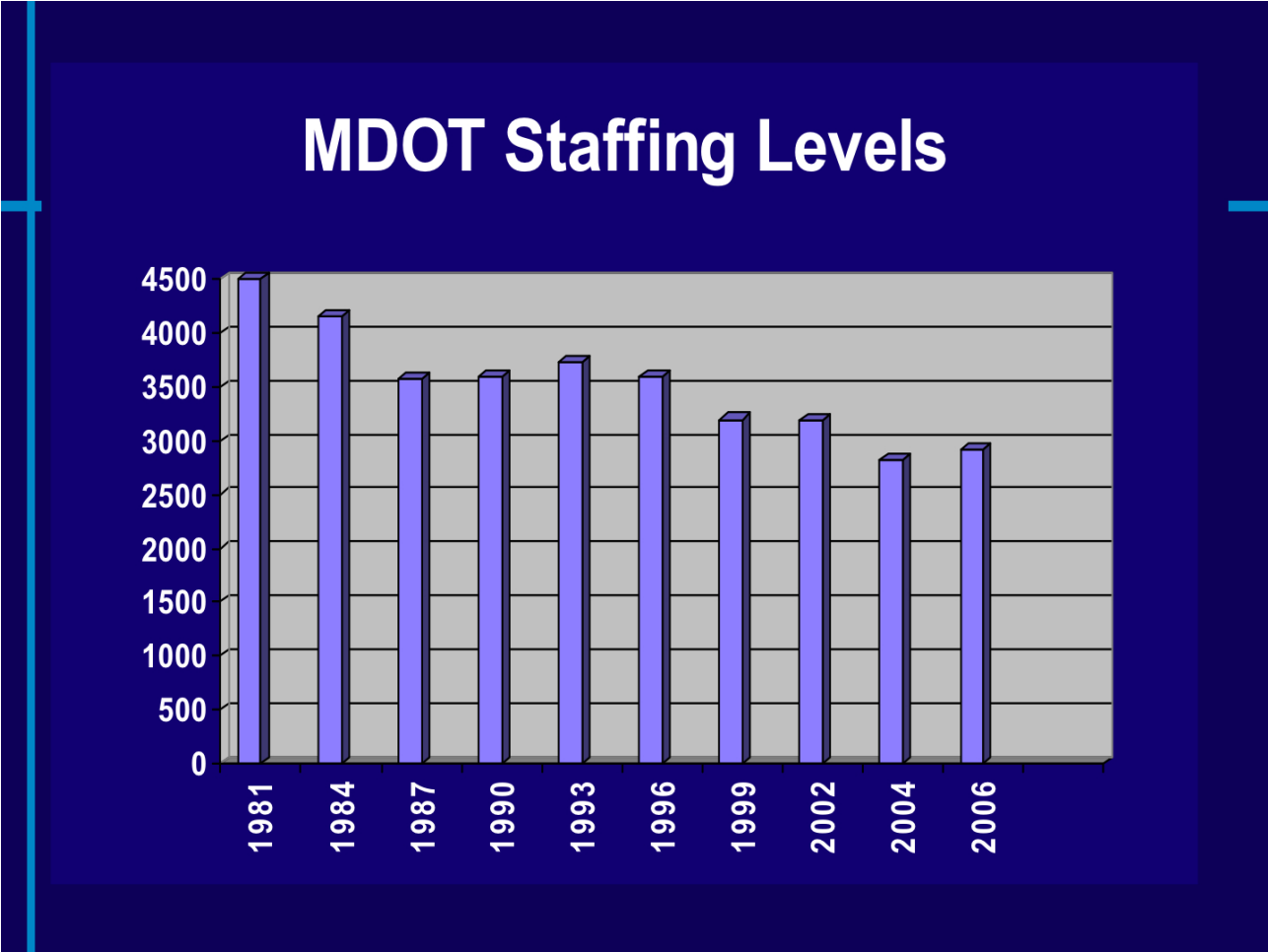
RCOC has been privatizing selected activities — when it makes good business sense — for years. The table below lists items that RCOC has already fully or partially privatized as of 2008.

Activity	% Privatized
Curb Sweeping	Totally
Pavement Marking (Legends & Striping)	Totally
Large Tree Removal	Totally
Preservation Overlays (simple resurfacing)	Totally
Shoulder Paving	Totally
Concrete Repair	Totally
Joint and Crack Sealing	Totally
Slope Mowing (Returned to MDOT 2007)	Totally
Bridge Inspection	Totally
Light Truck & Auto Repair	Totally
Boulevard Mowing	Partially
Bridge Repair	Partially
Base Repair	Partially
Engineering (Road & Bridge Design)	Partially
Signal Design	Partially
Signal Installation / Modernization	Partially
Heavy Equipment Repair	Partially
Larger Road Maintenance Project (such as culvert replacements, dredging, etc.)	Partially

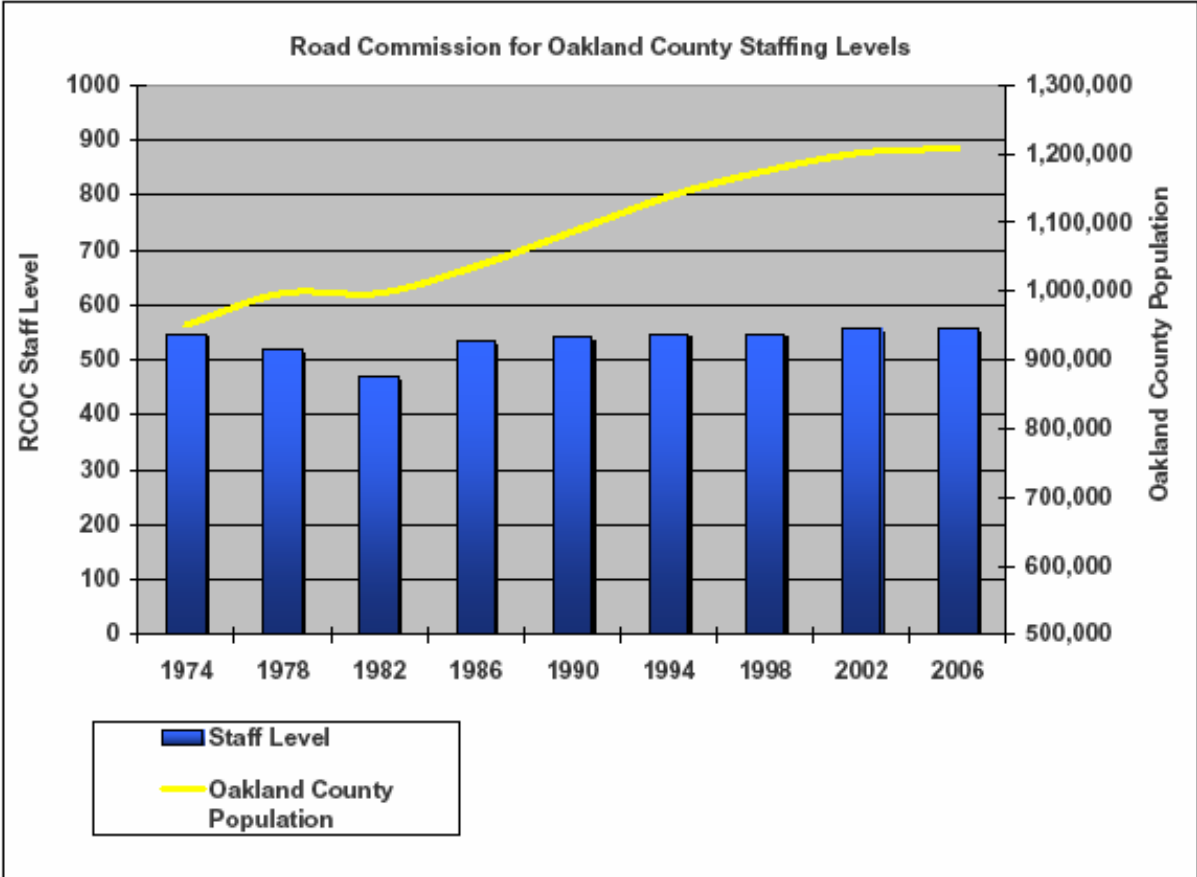
Activity	% Privatized
Soil and Material Testing	Partially
Gravel Spreading	Partially
Boom Inspections & Repairs	Partially
Building Maintenance	Partially
New Dump Truck Outfitting	Partially
Building Janitorial Services (carpets & windows)	Partially
Other	
Winter & Summer Maintenance	Partially (communities doing some work)

Additionally, all major construction work, including paving, widening, resurfacing, etc., conducted by RCOC is done by the lowest-bid private contractor.

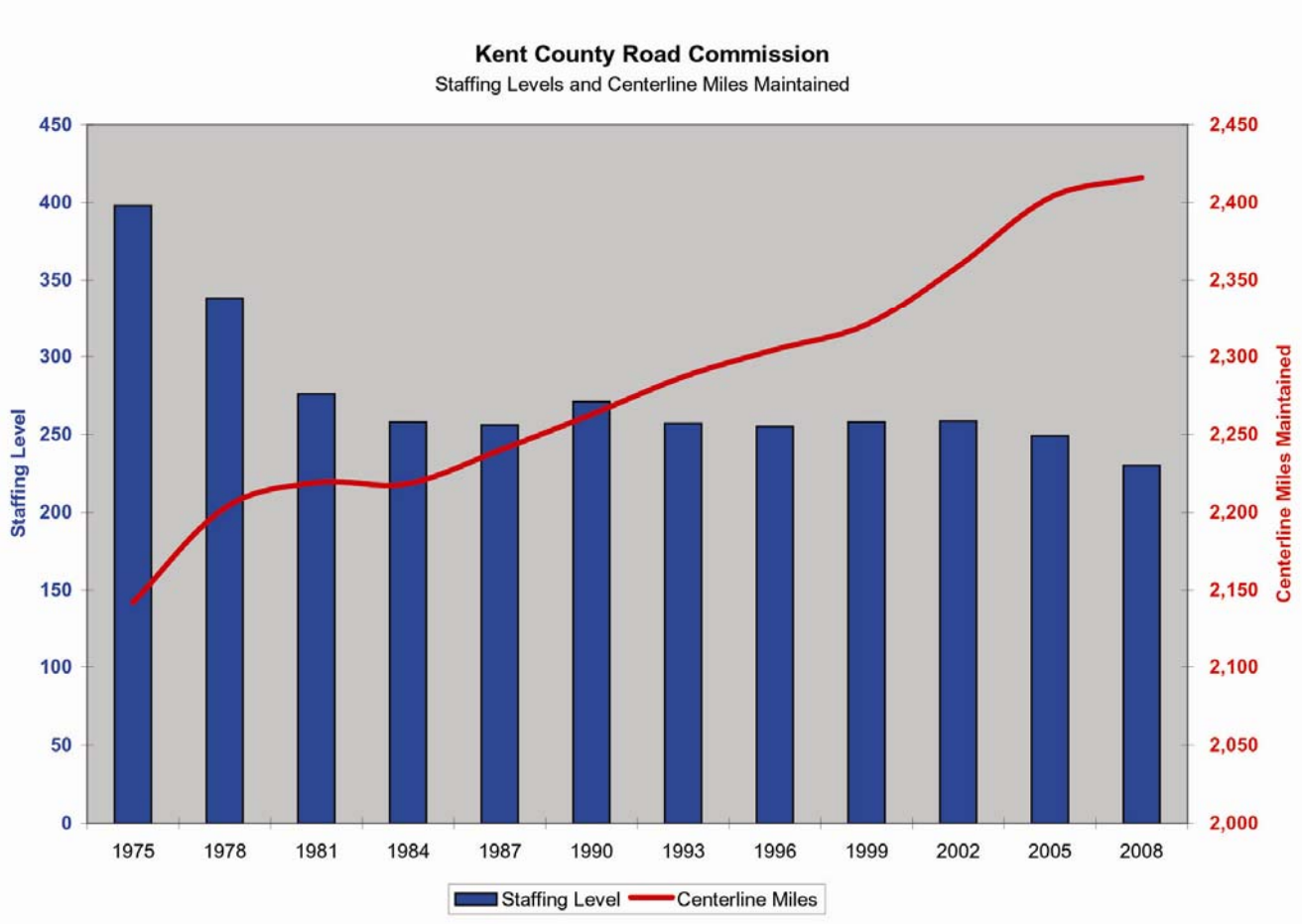
Appendix 3



# Appendix 4



# Appendix 5



## Appendix 6

### BUSINESSES FOR BETTER TRANSPORTATION (BBT)

Permissive Legislation to Help Local Governments Fund Projects

**BBT is comprised of business leaders, road agencies and public transit agencies from across Michigan that believe in providing local government with financial options to address their transportation needs, with specific focus on economic development. Bills were recently introduced containing the BBT local options. The bill numbers are listed with the options below.**

#### **BBT SUPPORTS THE FOLLWING:**

1. **DRIVE MICHIGAN.** This proposal is one idea to substantially improve funding for Michigan road and transit agencies through Public Act 51. These proposed increases may include, but are not limited to, statewide increases in the state gas & diesel tax, vehicle registration fee and various license fees.
2. **RAISE THE FEDERAL GAS TAX.** Federal funds supporting infrastructure investment are running out. As Congress looks at "renewing" federal transportation legislation, they must seek additional revenues.
3. **LOCAL FUNDING OPTIONS.** Achieving 100% of the top two points will not solve the transportation funding problems in Michigan. BBT has learned that many other states allow permissive legislation to raise local transportation fees. BBT believes such permissive legislation should be extended to Michigan. BBT supports giving county governments the ability to propose transportation taxes and fees. The BBT proposal includes the following elements:
  - ✓ Local-option gas and diesel taxes (HJR GGG). One county: up to 3 cents each, gas and/or diesel; two adjacent counties: up to 5 cents; three or more adjacent counties: up to 7 cents.
  - ✓ Local-option vehicle registration fee of up to 20% of current fee (HB 6325).
  - ✓ Local-option license fees (HBs 6326 & 6323) -- \$25 operator, \$35 chauffeur and \$25 minor restricted.
  - ✓ Local-option property transfer fee of up to 0.35% (HB 6324).
  - ✓ Local-option sales tax of up to 1% (HJR HHH -- requiring amendment to State Constitution). This would be a tough item to implement, but it is crucial to providing viable local-option funding.

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#### **Contact Information:**

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