

# Michigan Lane Departure Action Plan 2009-2012



Member agencies:

Michigan Department of Transportation  
Office of Highway Safety Planning  
Michigan Department of State  
Michigan State Police  
Office of Services to the Aging  
Michigan Department of Education  
Michigan Department of Community Health

[www.Michigan.gov/ohsp](http://www.Michigan.gov/ohsp)

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## **Introduction**

In 1998, the American Association of State Highway and Transportation Officials (AASHTO) approved its Strategic Highway Safety Plan, which was developed by the AASHTO Standing Committee for Highway Traffic Safety with the assistance of the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Transportation Research Board Committee on Transportation Safety Management. The plan includes strategies in 22 key emphasis areas that affect highway safety. The plan's goal is to reduce the annual number of highway deaths by 5,000 to 7,000. Each of the 22 emphasis areas includes strategies and an outline of what is needed to implement each strategy.

NCHRP Project 17-18(3) is developing a series of guides to assist state and local agencies in reducing injuries and fatalities in targeted areas. The guides correspond to the emphasis areas outlined in the AASHTO Strategic Highway Safety Plan. Each guide includes a brief introduction, a general description of the problem, the strategies/countermeasures to address the problem, and a model implementation process.

<http://safety.transportation.org/guides.aspx>

The Michigan Lane Departure Action Plan (MLDAP) was created by using the above documents and resources as a base foundation.

## **Action Plan Development**

A Strategic Highway Safety Plan should define a system, organization, and process for managing the attributes of the road, the driver, and the vehicle to achieve the highest level of highway safety by integrating the work of disciplines and agencies involved. These disciplines include the planning, design, construction, operation, and maintenance of the roadway infrastructure (engineering); injury prevention and control (emergency response services), health education; and those disciplines involved in modifying road user behaviors (education and enforcement).

The development of the strategic highway safety plan was commissioned by Michigan's Governors Traffic Safety Advisory Commission (GTSAC) in October 2004. The GTSAC consists of the Governor (or a designee), the Directors (or their designees) of the Departments of Community Health, Education, State, State Police, and Transportation, the Office of Highway Safety Planning, the Office of Services to the Aging, and three local representatives from the county, city, and township level.

Lane Departure issues were identified as an emphasis area in the both AASHTO and GTSAC Strategic Highway Safety Plans. The Traffic Safety Engineering Advisory Committee (TSEAC) a GTSAC sub-committee consisting of a multi-disciplinary group of agencies and disciplines was identified to work on this topic and conducted a kick off meeting on May 13, 2005 in Lansing, Michigan. Issues and strategies from the national and state agenda were carried forward into the Michigan plan, as well as other issues and strategies not mentioned in the national plan.

**Nationally, in 2006 there were 42,642 total fatalities, of which 58% were coded as a 'roadway departure' crash resulting in over 24,806 fatalities.**

## **Definition: Lane Departure Crashes**

For the purposes of this action plan Lane Departure issues are categorized as follows:

- ❖ Single Vehicle Run-Off-Road (ROR) Crash
  - Collisions with Trees
  - Collisions with Utility Poles
  - Horizontal Curves
  - Roll-overs
  - Parked Vehicles
  
- ❖ Multi-Vehicle Opposing Direction Crash
  - Head-On Collisions
  - Opposite Direction Sideswipe

A crash between two vehicles going the same direction on a multi-lane road, in which one vehicle strays into the other's lane, is classified as a "Same Direction Sideswipe", and not treated as a lane departure crash. So, in this sense, "lane departure" really means that a driver has departed to left or right of the total travel lanes that are provided for the direction he/she was traveling.

### **Drift-off Crashes**

Drivers in lane departure crashes can run off the road or cross the centerline for any number of reasons: this could include intentional departure to avoid another vehicle or object, or involuntary departure due to tire blowout, ice, hydroplaning or trailer sway. When the reason for lane departure is driver distraction or drowsiness, however, the crash is further labeled as a "drift-off" crash. As discussed in a later section of this plan, drift-off crashes are extremely severe, in comparison to most other run-off crashes.

Drowsy or distracted driving is a significant factor in lane departure crashes. A review of all 2006 Michigan fatalities (K) and serious injury (A) crashes concluded that drowsy or distracted driving, while only a minor contributor to other crash types, was involved in 22% of K/A lane departure crashes for that year.

The 2006 data confirm an earlier (2002) study that analyzed lane departure crashes on Michigan freeway sections from 1996-2001. That study concluded that drift-off crashes are extremely severe, in comparison to other run-off crashes. On the freeway sections that did not have shoulder rumble strips, 17% of the 1,146 drift-off crashes that were analyzed resulted in at least one fatal or incapacitating injury. Even where shoulder rumble strips were present (741 crashes), 12% of the drift-off crashes resulted in fatal or incapacitating injury.

In comparison to the high incidence of severity noted above for drift-off crashes, the wide range of crashes that are classified as "run-off road" produce a crash data set of low to moderate severity, in Michigan. For instance, for the years 1996-2001, on all freeway sections in the 2002 Michigan study, only 3.4% of all wet road run-off crashes resulted in a severe outcome (fatal or incapacitating injury). Traffic friction run-off crashes, where the driver was changing lanes, passing, or avoiding another vehicle, resulted in these severe outcomes 6.1% of the time. The corresponding severity percentage for winter road run-off crashes (snowy, icy, slushy) is 2.9%; for vehicle defect run-off crashes, 6.0%.

### **Michigan Lane Departure Crashes**

In 2008, lane departure crashes accounted for approximately 17% of all crashes, 45% of K/A crashes and 50% of fatal crashes.

## MICHIGAN LANE DEPARTURE CRASHES

FROM MICHIGAN TRAFFIC CRASH FACTS DATASETS

	LANE DEPARTURE CRASHES				Persons in Lane Departure Crashes			ALL CRASHES			
	Lane Departure CRASHES	Fatal (K) crashes	A-Injury crashes	All Injury crashes	Fatalities	A-Injuries	All Injuries	Statewide Crashes	Lane Departure Total %	Total K-A crashes	Lane Departure % K-A
1998	59,817	559	3,492	18,373	619	4,476	24,241	403,766	14.8%	12,201	33.2%
1999	64,160	554	3,384	18,637	635	4,383	24,358	415,675	15.4%	11,206	35.1%
2000	70,362	563	3,099	19,044	644	3,999	24,487	424,852	16.6%	10,438	35.1%
2001	58,951	531	2,778	16,520	607	3,607	21,492	400,813	14.7%	9,388	35.2%
2002	66,822	556	3,002	18,144	605	3,865	23,441	395,515	16.9%	9,421	37.8%
2003	68,839	549	2,923	18,566	609	3,708	23,829	391,485	17.6%	8,977	38.7%
2004	65,791	514	2,709	17,305	581	3,427	22,090	373,028	17.6%	8,445	38.2%
2005	66,486	496	2,526	16,789	552	3,139	21,203	350,838	19.0%	7,830	38.6%
2006	53,929	494	2,342	14,710	542	2,938	18,666	315,322	17.1%	7,050	40.2%
2007	61,683	473	2,333	15,729	530	2,941	19,751	324,174	19.0%	6,924	40.6%

Lane Departure Crashes defined as a crash with Lane Departure Indicator coded 1-3

## MICHIGAN LANE DEPARTURE CRASHES on TRUNKLINE ROADS

FROM MICHIGAN TRAFFIC CRASH FACTS DATASETS

	LANE DEPARTURE CRASHES				Persons in Lane Departure Crashes			ALL CRASHES			
	Lane Departure CRASHES	Fatal (K) crashes	A-Injury crashes	All Injury crashes	Fatalities	A-Injuries	All Injuries	Statewide Crashes	Lane Departure Total %	Total K-A crashes	Lane Departure % K-A
1998	30,332	359	1,884	10,088	406	2,475	13,433	403,766	7.5%	12,201	18.4%
1999	33,345	379	1,920	10,430	436	2,570	13,776	415,675	8.0%	11,206	20.5%
2000	15,941	181	753	4,585	206	1,018	6,002	424,852	3.8%	10,438	8.9%
2001	13,635	190	691	4,069	221	951	5,417	400,813	3.4%	9,388	9.4%
2002	14,525	174	707	4,154	198	1,011	5,640	395,515	3.7%	9,421	9.4%
2003	15,329	225	620	4,142	251	857	5,463	391,485	3.9%	8,977	9.4%
2004	23,994	213	963	6,526	239	1,280	8,507	373,028	6.4%	8,445	13.9%
2005	23,515	206	858	6,145	233	1,143	7,813	350,838	6.7%	7,830	13.6%
2006	19,869	202	830	5,620	228	1,089	7,267	315,322	6.3%	7,050	14.6%
2007	22,897	187	823	6,086	205	1,103	7,778	324,174	7.1%	6,924	14.6%

Lane Departure Crashes on Trunkline Roads defined as a crash with Lane Departure Indicator coded 1-3 and Control Section coded 1-5

## Michigan Driver Behavior Safety Goals

The goal of this action plan is to outline a course of action that, when followed, targets a reduction in the number and severity of roadway and lane departure related crashes in Michigan by 2012, as follows:

- ❖ Run off Road fatal crashes <320 (assumes a 3% reduction each year)
- ❖ Collision with Trees fatal crashes <145 (assumes a 3% reduction each year)
- ❖ Collision with Poles fatal crashes < 15 (assumes a 3% reduction each year)
- ❖ Head-On Collisions fatal crashes <135 (assumes a 3% reduction each year)
- ❖ Horizontal Curves fatal crashes <110 (assumes a 6% reduction each year)

## Benefit Analysis

Achieving a reduction in the number and percentage of roadway and lane departure fatal crashes as depicted above, in five years would result in saving approximately 140 lives in ROR crashes, 65 lives in CWT crashes, 10 lives in CWP crashes, 70 lives in HOC crashes and 40 lives in HC crashes for a total of 325 lives in the next 5 years.

\*National Safety Council estimates that the calculable cost of each highway crash fatality = \$4,000,000, Incapacitating Injuries = \$201,000, Non-incapacitating Injuries = \$50,400, Possible Injuries = \$25,400 and Property Damage Only crashes = \$2,200. Eliminating 325 deaths and the associated reduction in injuries and property damage in Michigan over five years would save well over \$1 Billion.

\*Source: 2007 Michigan Traffic Crash Facts

**Open letter to Larry Tibbits, Chief Operations Officer, Michigan Department of Transportation**

Larry-- 3/7/08

*I know you don't always hear a lot of good things (I know I didn't) nor know how some decisions made at MDOT actually affect someone's life but I have a short story and just want to say thank you from my son, my wife and myself.*

*2 1/2 weeks ago my son drove SB on I-75 to work in Madison Heights at about 7:30 AM, did some paperwork and then was heading back north on I-75 in Troy in his work vehicle. He had never had any problems before, but on this day at about 8:30 AM, just after he passed the Adams Road interchange, he passed out. He figures he was going about 70 MPH. A witness he talked to said he drifted left from the middle NB lane on I-75, went into the median, hit the guardrail and then went back across 3 lanes (someone was watching over him because he didn't hit anyone and no one hit him) and into some trees (luckily missed any large ones). He did not come to until EMS gave him some sugar paste for low blood sugar--turns out he has hypoglycemia. When they found him he still had his foot on the accelerator--engine had shut off.*

*When I first saw him at the hospital (only had some minor scratches, sore neck & shoulder) he thanked me for the guardrail that was put in the median of I-75 in the Troy area. I said that I had nothing to do with it but would pass along his thanks and my thanks to someone who had something to do with it or who would pass the thanks along to the correct people. If that guardrail had not been installed, there is no doubt in his mind and my mind that he would have gone head-on into the heavy SB I-75 traffic during the AM rush hour, probably killing others and himself.*

*So thank you and MDOT for the decision to install that guardrail several years ago.*

*Dave Allyn  
Retired Director of Traffic-Safety  
Road Commission for Oakland County*

## Michigan Lane Departure Action Plan 2009-2012



*This action plan suggests several strategies for addressing the problems. These strategies combine the elements of enforcement, education, and engineering. The strategies are suggested recognizing that, with few exceptions, programs that depend upon only one of these elements are not likely to be successful.*

## PLANNING

### **Objective**

Maintain a multi-disciplinary/multi-agency safety task group within the state to address lane departure safety issues.

### **Strategies:**

- Identify current activities by various groups or individuals
- Establish communication systems to share information and data.

### **Near-term Action Plan:**

#	Near-Term Action	Contact	Agency
1	The GTSAC will continue to convene the Lane Departure Task Force: <ul style="list-style-type: none"> <li>• <i>Explore a web site that houses a clearinghouse of information on lane departure crashes.</i></li> </ul>	Steve Schreier	OHSP
2	MDOT and OHSP will develop and promote a lane departure safety element as a core part of ongoing safety initiatives: <ul style="list-style-type: none"> <li>• Promote and support Michigan Traffic Safety Summit sessions with a lane departure element</li> <li>• Encourage planning organizations to monitor lane departure crashes in their region and identify for their constituent agencies the high-crash locations that might be pursued for development of safety projects</li> <li>• Provide counties/cities with yearly lane departure crash data.</li> <li>• Provide counties/cities with data sets and maps showing rumble strip-relevant crashes within their jurisdiction</li> </ul>	Steve Schreier  Kim Lariviere  Jim D'Lamater  Tracie Leix  Tracie Leix	OHSP  MDOT  MDOT  MDOT  MDOT

Resources:

GTSAC      [www.Michigan.gov/OHSP](http://www.Michigan.gov/OHSP)

## RESEARCH

### **Objective**

Analyze crash data to determine critical lane departure locations, trends and issues

### **Strategies:**

- ❖ Conduct an inventory and analysis of existing lane departure safety analysis tools
- ❖ Institutionalize / promote the use of tools in the safety planning process
- ❖ Provide traffic engineering safety support to local governments
- ❖ Develop an ongoing research program to conduct before-and-after studies of traffic safety engineering improvements around the state – including lane departure safety efforts. Cities, county road commissions and MDOT would be able to apply to have a before-and-after study conducted on a specific traffic safety-engineering project. All completed studies would be made available on a web site. This initiative will help publicize the results of successful applications of safety improvements.
- ❖ Review the ability of local agencies and MDOT to identify and analyze lane departure high crash locations:
  - SEMCOG Crash Analysis Tool
  - RoadSoft tools for use by local agencies
  - Current MDOT tools and practices
  - Michigan Traffic Crash Facts
  - Traffic Crash Reporting System
  - TCAT (Traffic Improvement Association)

### **Near-term Action Plan:**

#	Near-Term Action	Contact	Agency
1	Non-Freeway Rumble Strip evaluation project (Safety, maintenance...etc)	Jill Morena	MDOT



## ENFORCEMENT

### **Objective**

Include enforcement in discussions when analyzing engineering and educational countermeasures.

### **Strategies:**

- ❖ Analyze current enforcement methods in relation to lane departure safety to determine possible improvements.

### **Near-term Action Plan:**

#	Near-Term Action	Contact	Agency
1	<p>MSP/MSA/MACP conducts classes to train police how to spot drowsy driving?</p> <p>3/28/08. Reviewed with Lt. Thad Peterson and he has attempted in the past to get officers to an NTSB sponsored class on drowsy driving. Once the officers attended this course, they could develop a 'train-the-trainer' class to be implemented in Michigan. Due to budget issues in the past 2 years this has not taken place.</p> <p>Lt. Peterson will continue to try to get this activity funded and implemented and will provide updates as needed.</p>	Lt. Thad Peterson	MSP
2	MSP Crash Trainer will continue to include Lane Departure focus in the UD-10 training	Sgt. Dean York	MSP

## EDUCATION & COMMUNICATION

### **Objective**

Include an education and communication component within each lane departure near term action plan.

### **Strategies:**

- ❖ Provide recognition to jurisdictions and/or officials who have brought about a significant decrease in lane departure crashes
- ❖ Increase the amount and types of Lane Departure education available
- ❖ Increase the exposure of Lane Departure issues to public and traffic safety partners
- ❖ MDOT will encourage MPO assistance to provide data for regional analysis
- ❖ GTSAC will develop a communication plan to disseminate information to officials in state and local agencies and the public:
  - Communicate lane departure crash facts (e.g., demonstrate and illustrate how driver behavior can lead to common lane departure crash types in Michigan)
  - Use the GTSAC Listserv to communicate with all safety partners
- ❖ GTSAC will promote attendance at conferences or workshops, in which engineers, law enforcement, and safety professionals share information on the state of the practice on lane departure safety efforts:
  - Promote strong Michigan attendance at regional or national conferences or other collective efforts to discuss lane departure safety issues
  - Develop and hold a Michigan Lane Departure Conference
- ❖ Develop a statewide media campaign regarding lane departure safety that can be used by local agencies, and pilot in one or two specific local agencies:
  - Includes a media strategy
  - Increases public awareness through editorials, radio, psa's...etc
  - Uses media to explain new highway improvements/operational treatments
  - Uses media to provide safety arguments for enforcement activity
  - Uses information on best practices/approaches from states and locals

### **Near-term Action Plan:**

#	Near-Term Action	Contact	Agency
1	Identify best practices that promote actions to reduce the frequency or severity of lane departure crashes, and add them to the existing structure for awards presented at the annual Michigan Traffic Safety Summit	Dave Morena	FHWA
2	The action team will include a lane departure safety breakout session at the annual Michigan Traffic Safety Summit	Dave Morena	FHWA
3	The action team will maintain a presentation on highway features that affect lane departure safety	Jill Morena	FHWA
4	MDOT will complete the brochure: <i>"NON-FREEWAY RUMBLE STRIP INITIATIVE"</i> & distribute to safety partners	Jill Morena	MDOT
5	See DRIVER BEHAVIOR action plan	Lt. Thad Peterson	MSP
6	MDOT will sponsor local agency attendance at the 2009 Traffic Safety Summit	Tracie Leix	MDOT
7	MDOT will raise public awareness of 'Cable Barrier' by various media outlets (print, tv, radio...etc)	Bob Felt	MDOT

Resources:

## *NCHRP Report 500 Series*

In 1998, AASHTO approved its [Strategic Highway Safety Plan](#), which was developed by the AASHTO Standing Committee for Highway Traffic Safety with the assistance of the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Transportation Research Board Committee on Transportation Safety Management. The plan includes strategies in 22 key emphasis areas that affect highway safety. Each of the emphasis areas includes strategies and an outline of what is needed to implement each strategy.

[NCHRP Project 17-18\(3\)](#) is developing a series of guides to assist state and local agencies in reducing injuries and fatalities in targeted emphasis areas. The guides correspond to the emphasis areas outlined in the AASHTO Strategic Highway Safety Plan. Each guide includes a brief introduction, a general description of the problem, the strategies/countermeasures to address the problem, and a model implementation process.

There are 22 volumes of NCHRP Report 500: Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, a series in which relevant information is assembled into single concise volumes, each pertaining to specific types of highway crashes (e.g., run-off-road, head-on) or contributing factors (e.g., aggressive driving).

Appendices A-F describe the reports related to Lane Departure issues

# Appendix A

## *Volume 6: A Guide for Addressing Run-Off-Road Collisions*

### **Objectives:**

- ❖ Keep vehicles from encroaching on the roadside
- ❖ Minimize the likelihood of crashing into an object or overturning if the vehicle travels beyond the shoulder of the road
- ❖ Reduce the severity of crashes

### **Strategies:**

- ❖ Install shoulder rumble strips per MDOT standards (R-112-F)
- ❖ Install mid-lane rumble strips
- ❖ Provide enhanced shoulder or in-lane delineation and marking for sharp curves
- ❖ Provide improved highway geometry for horizontal curves
- ❖ Provide enhanced pavement markings
- ❖ Provide skid-resistant pavement surfaces
- ❖ Eliminate shoulder drop-offs
- ❖ Widen and/or pave shoulders
  
- ❖ Design safer slopes and ditches to prevent rollovers
- ❖ Remove/relocate objects in hazardous locations
- ❖ Delineate trees or utility poles with reflective tape
  
- ❖ Improve design of roadside hardware (e.g., light poles, signs, bridge rails)
- ❖ Improve design and application of barrier and attenuation systems

### **Resources:**

A guide for addressing Run-off-road collisions:

<http://safety.transportation.org/guides.aspx?cid=27>

# Appendix B

## *Volume 3: A Guide for Addressing Collisions with Trees in Hazardous Locations*

### **Objectives:**

- ❖ Prevent trees from growing in hazardous locations
- ❖ Eliminate the hazard and/or reduce the severity of the crash

### **Strategies:**

- ❖ Develop, Revise, and Implement Planting Guidelines Prevent Placing Trees in Hazardous Locations
- ❖ Mowing and Vegetation Control Guidelines
- ❖ Apply traffic calming measures to reduce speeds on high-risk sections
- ❖ Remove Trees in Hazardous Locations
- ❖ Shield Motorists from Striking Trees
- ❖ Modify Roadside Clear Zone in the Vicinity of Trees
- ❖ Delineate Trees in Hazardous Locations

### **Resources:**

A guide for addressing collisions with trees in hazardous locations:

<http://safety.transportation.org/guides.aspx?cid=24>

## Appendix C

### *Volume 8: A Guide for Reducing Collisions involving Utility Poles*

#### **Objectives:**

- ❖ Treat specific utility poles in high-crash and high-risk spot locations
- ❖ Prevent placing utility poles in high-risk locations
- ❖ Treat several utility poles along a corridor to minimize the likelihood of crashing into a utility pole if a vehicle runs off the road

#### **Strategies:**

- ❖ Remove poles in high-crash locations
- ❖ Relocate poles in high-crash locations farther from the roadway and/or to less vulnerable locations
- ❖ Use breakaway devices
- ❖ Shield drivers from poles in high-crash locations
- ❖ Improve the drivers' ability to see poles in high-crash locations
- ❖ Apply traffic calming measures to reduce speeds on high-risk sections
- ❖ Develop, revise, and implement policies to prevent placing or replacing poles within the recovery area
- ❖ Place utilities underground
- ❖ Relocate poles along the corridor farther from the roadway and/or to less vulnerable locations
- ❖ Decrease the number of poles along the corridor

#### **Resources:**

A guide for reducing collisions involving utility poles:  
<http://safety.transportation.org/guides.aspx?cid=31>

# Appendix D

## *Volume 4: A Guide for addressing Head-on Collisions*

### **Objectives:**

- ❖ Keep vehicles from encroaching into opposite lane.
- ❖ Minimize the likelihood of crashing into an oncoming vehicle.

### **Strategies:**

- ❖ Install centerline rumble strips for two-lane roads
  - ❖ Install profiled thermoplastic strips for centerlines
  - ❖ Provide wider cross sections on two-lane roads
  - ❖ Provide center two-way left-turn lanes for four and two-lane roads
  - ❖ Reallocate total two-lane roadway width (land and shoulder) to include ‘buffer median’
- 
- ❖ Use alternating passing lanes or four-lane sections at key locations
  - ❖ Install median barriers for narrow width medians on multilane roads

### **Resources:**

A guide for addressing head-on collisions:

<http://safety.transportation.org/guides.aspx?cid=25>

# Appendix E

## *Volume 7: A Guide for Reducing Collisions on Horizontal Curves*

### **Objectives:**

- ❖ Reducing the likelihood of a vehicle leaving the roadway at a horizontal curve
- ❖ Minimizing the adverse consequences of leaving the roadway at a horizontal curve.

### **Strategies:**

- ❖ Provide advance warning of unexpected changes in horizontal alignment
  - ❖ Enhance delineation along the curve
  - ❖ Provide adequate sight distance
  - ❖ Install shoulder rumble strips
  - ❖ Install centerline rumble strips
  - ❖ Prevent edge drop-offs
  - ❖ Provide skid-resistant pavement surfaces
  - ❖ Provide grooved pavement
  - ❖ Provide lighting of the curve
  - ❖ Provide dynamic curve warning system
  - ❖ Widen the roadway
  - ❖ Improve or restore super elevation
  - ❖ Modify horizontal alignment
  - ❖ Install automated anti-icing systems
  - ❖ Prohibit/restrict trucks with very long semi-trailers on roads with horizontal curves that cannot accommodate truck off tracking
- 
- ❖ Design safer slopes and ditches to prevent rollovers
  - ❖ Remove/relocate objects in hazardous locations
  - ❖ Delineate roadside objects
  - ❖ Add or improve roadside hardware
  - ❖ Improve design and application of barrier and attenuation systems

### **Resources:**

A guide for reducing collisions on horizontal curves:

<http://safety.transportation.org/guides.aspx?cid=32>

## ACRONYMS

AAA	American Automobile Association
AASHTO	American Association of State Highway and Transportation Officials
CWP	Collisions with Utility Poles
CWT	Collisions with Trees
FHWA	Federal Highway Administration
GTSAC	Governor's Traffic Safety Advisory Commission
HC	Horizontal Curves
HOC	Head-On Collisions
MACP	Michigan Association of Chiefs of Police
MDE	Michigan Department of Education
MDOS	Michigan Department of State
MDOT	Michigan Department of Transportation
MPO	Metropolitan Planning Organization
MSA	Michigan Sheriff's Association
MSP	Michigan Department of State Police
NCHRP	National Cooperative Highway Research Program
NHI	National Highway Institute
OHSP	Office of Highway Safety Planning
PI&E	Public Information and Education
PSA	Public Service Announcement
ROR	Run-Off-Road
SCP	Safety Conscious Planning
K	Fatality
A	Incapacitating Injury
B	Non-incapacitating Evident Injury
C	Possible Injury
O	Property Damage Only

## Current Member Listing

LAST	FIRST	ORGANIZATION
Allyn	Dave	TIA
Arens	Barb	Parsons Brinckerhoff
Bagdade	Jeff	Opus International
Beaubien	Dick	Hubbell, Roth & Clark, Inc.
Bott	Mark	MDOT
Bruff	Tom	SEMCOG
Butch	Wes	DLZ
Cloutier	Wendy	MDOT - Bay Region
Compton	Charlie	UMTRI
Culp	Jim	MDOT
D'Lamater	Jim	MDOT
DeBruyn	Josh	MDOT
Felt	Bob	MDOT
Firman	Lynnette	MDOT
Gates	Tim	Wayne State University
Haagsma	Tim	Kent County Road Commission
Irwin	Mike	Michigan Center for Truck Safety
Krupp	Cindy	MDOT
Lariviere	Kim	MDOT
Latuszek	Mike	St. Clair County Transportation Study
Lebel	Bill	Wilcox
Leix	Tracie	MDOT
McBurrows	Dal	MDOT
McNinch	Terry	MTU
Morena	David	FHWA
Morena	Jill	MDOT
Peet	Jack	AAA Michigan
Piotrowicz	Gary	Road Commission for Oakland County
Puuri	Steve	Washtenaw County Road Commission
Santilli	Jim	TIA
Savolainen	Pete	Wayne State University
Schlack	Brent	Washtenaw County Road Commission
Schreier	Steve	MSP - OHSP
Schultz	James	MDOT
Thompson	Deirdre	MDOT
Torres	Carlos	MDOT
Walker	Barry	MDOT
Waterbury	Steve	City of Kentwood
Stebbins	Adam	MDOT (intern)
Kalouche	Christina	MDOT (intern)
Zielesch	Kim	MDOT (intern)