

# **Wisconsin Strategic Highway Safety Plan 2011 – 2013**

***Published by the Wisconsin Department of Transportation***

***Mark Gottlieb, P.E., Secretary***

***Wisconsin DOT Traffic Safety Council***



## Wisconsin Department of Transportation

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July 2011

Dear Colleague:

I am pleased to present the Wisconsin Strategic Highway Safety Plan for 2011-2013. This document provides background and details about highway safety in Wisconsin and articulates strategies for the Wisconsin Department of Transportation (WisDOT) and its many highway safety partners to address key challenges in the highway safety arena over the next several years.

WisDOT's mission is to **provide leadership in the development of a safe and efficient transportation system**. Yet, even with our long and successful track record of improving the safety of our highway system, far too many people are killed or injured on Wisconsin's streets and highways. In 2009, Wisconsin achieved the fewest traffic fatalities (542) and non-fatal traffic injuries (41,589) since World War II, as well as our lowest fatality rate per 100 million miles of travel ever (0.93). Despite these remarkable achievements, the numbers are still too high, so we must continue to pursue our vision of achieving ZERO DEATHS on Wisconsin roads.

Partnership has been a key component of our achievements so far and will continue to be a critical part of our efforts in the future. Coordination of safety efforts at the federal, state, and local levels will enable all of us to reach our goals, maximize the effective use of available resources, and meet our shared objectives. The private sector, community organizations, and individual citizens will also play key roles in establishing and nurturing a culture of highway safety values in the Badger State.

This strategic plan was produced under the sponsorship of WisDOT's Traffic Safety Council, a multi-disciplinary team that forges effective partnerships within the Department and with a wide range of safety professionals and advocates around the State. The plan was developed with valuable input from many people, both inside and outside the Department.

To the extent that you contributed to the development of the plan, I thank you. To the extent that you take guidance and inspiration from the plan in your on-going efforts to make Wisconsin a safer place to live, work and travel, I thank you.

Remember: **Any preventable traffic death is one too many.**

A handwritten signature in black ink, appearing to read "Mark Gottlieb".

Mark Gottlieb, P.E.  
Secretary

## Table of Contents

	<b>Page</b>
<b>Executive Summary</b>	ii
<b>Introduction</b>	1 -
Bringing Highway Safety Partners Together	2
The SHSP Prioritization Process	3
<b>Part I: Background</b>	6
Scope of the Wisconsin's Highway Safety Challenge	6
Where We've Been	7
Where We Need to Go	10
<b>Part II: Highest Priority Issue Areas</b>	12
Issue Area: Improve Design and Operation of Intersections	12
Issue Area: Reduce Speed-Related Crashes	16
Issue Area: Reduce Head-On and Cross-Median Crashes & Prevent/Mitigate Roadway Departure Crashes -	19
Issue Area: Create Safer Work Zones	24
Issue Area: Reduce Alcohol/Drug Impaired Driving	28
Issue Area: Improve Driver Alertness / Reduce Driver Distraction	31
Issue Area: Improve Occupant Protection	34
Issue Area: Improve Teen Driver Performance & Ensure Drivers are Licensed and Competent & Sustain Proficiency in Older Drivers -	37
Issue Area: Improve Motorcycling Safety	40
Issue Area: Create More Effective Safety Decision Processes & Improve Incident Management/Safe Travel in Bad Weather -	43
<b>Part III: Continuing Highway Safety Issue Areas</b>	48
<b>Appendices</b>	53

## Executive Summary

Wisconsin's Strategic Highway Safety Plan (SHSP) is a statewide, comprehensive, data-driven plan that provides a synchronized framework for reducing fatalities, injuries, and crashes. The SHSP examines various issue areas that are affecting highway safety in Wisconsin. The 10 highest priority issue areas and their associated tasks are listed below.

### Improve Design and Operation of Intersections

*Task 1: Improve data information and decision support*

*Task 2: Improve knowledge development and sharing/training*

*Task 3: Develop/implement solutions to reduce intersection crashes*

### Reduce Speed-Related Crashes

*Task #1: Promote the deployment of the Wisconsin Speed Management Guidelines*

*Task #2: Assess legislative changes*

*Task #3: Investigate potential non-infrastructure and infrastructure improvements*

*Task #4: Increase enforcement*

*Task #5: Increase outreach efforts*

### Reduce Head-On and Cross-Median Crashes – Prevent/Mitigate Roadway Departure Crashes

*Task 1: Develop and improve data and decision support systems for engineering staff to reduce the incidence and severity of lane departure crashes*

*Task 2: Develop a data and decision support system to assist county and municipal engineering staff in reducing the incidence and severity of lane departure and Run off the Road (ROR) crashes*

*Task 3: Develop/implement a comprehensive program to reduce the incidence and severity of lane departure crashes*

*Task 4: Analyze and develop roadside and pavement strategies focusing on low cost treatment for rural non-STH highways*

### Design Safer Work Zones

*Task #1: Adopt improved procedures to ensure effective practices for managing work zone operations*

*Task #2: Enhance and extend training for the planning, implementation, and maintenance of work zones to maximize safety*

*Task #3: Enhance the safety of work zone driving through education and enforcement actions*

### Reduce Alcohol/Drug Impaired Driving

*Task #1: Monitor the implementation of 2009 Act 100 and improve enforcement tools*

*Task #2: Develop a proactive legislative agenda to reduce impaired driving that will be used to guide Department staff during the 2011-12 legislative session*

Task #3: Work cooperatively with other agencies in efforts to: (a) publicize adult responsibilities/liability exposure related to the purchasing/providing alcohol to underage persons and (b) support a statewide compliance check program related to the minimum legal drinking age law

Task #4: Define and expand the use of high-visibility law enforcement campaigns

Task #5: Continue efforts to use data-driven decision making in the effective targeting of program funding

Task #6: Oversee the continued implementation of the Statutes' requirement to utilize Ignition Interlock Devices for repeat offenders and first offenders with a high BAC

### **Improve Driver Alertness / Reduce Driver Distraction**

Task #1: Expand the Zero in Wisconsin Campaign

Task #2: Participate with a state-level effort (similar to the current "Click It or Ticket" and "Over the Limit Under Arrest" initiatives)

Task #3: Identify options for collection of relevant, real-world data on cell phone use by drivers

Task #4: Develop a proactive legislative agenda to guide WisDOT staff on this issue area during the 2011-2012 legislative session

Task #5: Investigate ways to deter cell phone use while driving by its employees; other state agencies and private sector partners will be encouraged to do the same

Task #6: Research the effects of different types of roadway signage, stationary billboards, and mobile billboards on drivers' visual and cognitive attention

Task #7: Emphasize that a non-alert driver is an impaired driver; State Patrol motor carrier inspections will continue stringent enforcement of hours of operations for Commercial Motor Vehicle (CMV) drivers, and WisDOT will use earned media opportunities and its website to educate motorists on the topic

### **Improve Occupant Protection**

Task #1: Increase awareness of primary enforcement law and the importance of wearing a seat belt

Task #2: Encourage statewide participation from both voluntary and overtime-funded enforcement for the national high-visibility "Click It or Ticket" mobilizations, expanded mobilizations, and nighttime enforcement

Task #3: Develop a proactive legislative agenda on this issue area to guide Department staff during the 2011-2012 legislative session

Task #4: Convene Working Group

Task #5: Continue to survey annually the use of seat belt survey, but also investigate the possibility of redesigning the survey sample for 2011 to conform to expected changes in NHTSA guidelines

### **Improve Teen Driver Performance – Ensure Drivers are Licensed and Competent – Sustain Proficiency in Older Drivers**

#### **Improve Teen Driver Performance**

Task #1: Participate in Driver Education classes and "Parents Night"

Task #2: Continue to develop teen driver website

Task #3: Participate in Wisconsin Driver and Traffic Safety Educator Association (WDTSEA)

Task #4: Participate in the National Teen Driver Safety Week

Task #5: Provide information for parents while their teenager is out on a skills test

Task #6: Increase wait time before an individual over 18 can take their 1<sup>st</sup> road test

### **Ensure Drivers are Licensed and Competent**

Task #1: Strengthen Commercial Driver's License (CDL) requirements and enforcement

Task #2: Increase traffic enforcement activities

Task #3: Continue participation in New Entrant Program

Task #4: Continue to work with Wisconsin Community Services, a center designed to restore drivers to full license status who have been suspended due to failure to pay forfeitures

Task #5: Continue to make sure that motorcyclists are properly licensed

### **Sustain Proficiency in Older Drivers**

Task #1: Continue to train BFS staff to monitor for appropriate functional ability and refer potential medically impaired drivers for testing to ensure that this practice is administered fairly across the state

Task #2: Monitor the practices of other states and the use of functional assessments to determine if there is a better practice for screening

Task #3: Increase DMV emphasis on reducing the length of time the medical review process takes for those who have been identified as having potential driver fitness issues

Task #4: Explore the possibility for Continuing Medical Education (CME) credits for physicians who take an online course on Wisconsin Laws/Administrative Rules for driving with medical conditions

Task #5: Review DMV driver fitness policies and procedures and seek input from internal and external stakeholders for suggestions on how to improve. This includes assessing available resources to assist drivers with changing physical and mental capacities that may help their families/caregivers

## **Improve Motorcycling Safety**

Task #1: Improve data/information and decision support

Task #2: Improve rider training

Task #3: Improve motorist awareness

Task #4: Reduce impaired riding

Task #5: Increase roadway situational awareness

## **Create More Effective Safety Decision Processes – Improve Incident Management/Safe Travel in Bad Weather**

Task #1: Research and pursue recommendations from the 2010 Traffic Record assessment

Task #2: Implement the Highway Safety Manual

Task #3: Revise the MV4000 Uniform Accident Reporting Form

Task #4: Improve geo-coding of crash locations

*Task #5: Improve travel in bad weather/poor travel conditions*

*Task #6: Continue to investigate opportunities to upgrade and expand safety equipment and techniques used by law enforcement for improving efficiency and effectiveness*

*Task #7: Improve efficiency and effectiveness of the Highway Safety Improvement Program (HSIP) and High Risk Rural Roads Program (HRRRP) through training and evaluation*

*Task #8: Continue to create and implement Tribal Safety Plans*

*Task #9: Create a Law Enforcement Data Warehouse that integrates data across agencies for public safety use*

## Introduction

Wisconsin has one of the best highway safety records in the United States, with a traffic fatality rate that has been below the national rate for more than a generation—and in 2009, a fatality rate that dipped below 1.0 death per 100 million vehicle miles of travel (VMT) for the first time in the state’s history. But a relatively good record is not enough. Any preventable traffic death on Wisconsin’s streets and highways is one too many.

Traffic crashes are not “accidents”—they are, with few exceptions, avoidable events, caused by a single factor or chain of factors. Most often, these factors are human behavior, condition, and reaction—usually those of the vehicle operator, but sometimes those of a pedestrian or bicyclist.

Although a post-World War II record low fatality total was set in 2009 (542 fatalities), each of those was a person who died a violent, premature—and, in many cases, preventable—death. That is unacceptable.

In 2009, Wisconsin vehicle occupants, pedestrians, and bicyclists suffered 41,589 non-fatal injuries—the lowest total since World War II—but over 3,800 of those were serious, incapacitating injuries. All unintentional injuries are physically and, to some degree, emotionally traumatic, and far too many of them translate to permanent disability and a dramatically changed quality of life. That is unacceptable.

The Wisconsin Department of Transportation (WisDOT) and its many and diverse highway safety partners are challenged with continuing to lower the number and severity of traffic crashes. To that end, this Strategic Highway Safety Plan (SHSP) describes Wisconsin’s most critically important highway safety issues and outlines a course of action to significantly reduce fatalities and serious injuries on the public streets and highways of the Badger State.

The detailed strategies and action items described in this plan support the overall strategic goal:

***By 2013, reduce traffic fatalities, injuries, and crashes on Wisconsin roadways by 5% from their rolling 5-year averages.***

This plan is divided into four sections:

*Part I: Background* – Overview of highway safety in Wisconsin, including a look at what the patterns and trends have been.

*Part II: Highest Priority Issue Areas* – Strategies to address Wisconsin’s most critical highway safety issues.

*Part III: Continuing Safety Issue Areas* – Progress and activities in a number of other significant highway safety issues.

*Appendices* – SHSP Peer Exchange results and participants, Traffic Safety Council members, and list of acronyms.

## Bringing Safety Partners Together

One of the most important functions of the Strategic Highway Safety Plan (SHSP) is to coordinate statewide goals and safety programs to help WisDOT and many other state and local partners more effectively meet common highway safety objectives. The SHSP will help Wisconsin's statewide coalition of highway safety partners better leverage their limited resources and influence to work together to achieve common highway safety goals.

The 2011-2013 SHSP will provide guidance to several WisDOT highway safety planning and program documents that are submitted annually to the US Department of Transportation to guide allocation of federal funds provided to Wisconsin. These include:

- Highway Safety Performance Plan
- Highway Safety Improvement Program (HSIP)
- Traffic Safety Information Systems Strategic Plan
- Motor Carrier Safety Assistance Program (MCSAP) Commercial Vehicle Safety Plan

In addition, strategies and activities articulated in the 2011-2013 SHSP will be shared with other state and local entities to help guide their development and implementation of various annual and long range plans and programs, including:

- State Transportation Improvement Plan (STIP)
- Metropolitan Planning Organization (MPO) Urbanized Area Transportation Improvement Plans

The 2011-2013 SHSP is the third edition of a formally-adopted strategic highway safety plan. Like its two multi-year predecessors (2001-2003 SHSP and 2006-2008 SHSP), the current plan was developed under the sponsorship of WisDOT's Traffic Safety Council (TSC).

The TSC is an interdivisional group of WisDOT staff, each with individual responsibility for some facet of highway safety programming or policy development. They work cooperatively with each other and with highway safety professionals and advocates outside the Department. TSC members meet regularly to share information, establish consensus on highway safety policy direction for the Department and, when appropriate, sponsor major highway safety planning, programming, or policy initiatives, such as the multi-year SHSP.

The 2011-2013 SHSP was developed by the TSC in partnership with external highway safety partners. The active involvement of external partners in the process is a critical element to ensure not only an appropriately focused SHSP, but also successful implementation of various initiatives articulated in the plan.

The 2011-2013 SHSP satisfies federal requirements for state allocation of highway safety funds.

## The SHSP Prioritization Process

Like its two predecessor strategic plans, the 2011-2013 SHSP was modeled on the conceptual framework used for the 1998 National Strategic Highway Safety Plan, which was developed by a multi-disciplinary coalition of organizations, under the leadership of the American Association of State Transportation Officials (AASHTO). For the 2011-2013 SHSP, 22 significant highway safety issue areas (shown in Table 1) were included in a structured group decision process.

**Table 1. 2011-2013 Strategic Highway Safety Plan Issue Areas**

Improve design/operation of intersections	Improve occupant protection
Improve traffic incident management / Improve safety in inclement weather conditions	Improve safety data/decision support systems and processes
Reduce speed-related crashes	Reduce alcohol/drug impaired driving
Prevent/mitigate lane departure crashes	Increase driver safety awareness
Provide safe work zones	Sustain proficiency in older drivers
Reduce head-on and cross-median crashes	Ensure drivers are licensed and competent
Improve motorcycling safety	Improve teen driver performance
Curb aggressive driving	Make walking/street crossing safer
Make truck travel safer	Provide safe bicycle travel
Improve driver alertness / Reduce driver distraction	Reduce deer and other animal crashes
Enhance EMS to increase survivability	Reduce vehicle-train crashes

The first phase of the SHSP prioritization process involved an internet survey. The Traffic Operations and Safety Laboratory (TOPS Lab) at the University of Wisconsin-Madison developed and hosted a survey on their website. Several hundred highway safety professionals and advocates, including WisDOT staff and a diverse array of state and local partners, were invited to access the website during a four-week period in mid-2009 to complete the survey. All respondents remained anonymous. In total, 383 respondents participated in the survey. [See the Appendix to this report for a copy of the internet survey.]

The second phase of the SHSP prioritization process involved a one-day peer exchange, and participation was by invitation only. The event was staged in Madison, Wisconsin in September 2009. A total of 110 highway safety professionals and advocates participated in the event; about two-thirds of them were WisDOT staff, and the other third were external partners. [See the Appendix to this report for a list of the SHSP Peer Exchange participants.]

Participants in the SHSP Peer Exchange were given a summary of the results of the online survey, as well as some basic performance measures (e.g. deaths and injuries) for the prior five years (2004-2008). After small group discussions, participants were asked to independently rate each of the 22 issue areas in terms of the topic's "Importance" to Wisconsin's highway safety challenge (using a scale of 1 to 10, with 1 meaning "Not Important" and 10 meaning "Extremely Important").

After additional small group discussion, participants were asked to independently rate each of the 22 issue areas in terms of the State's "Ability to Influence" factors or conditions that would contribute to a

positive change in the issue area (*using a scale of 1 to 10, with 1 meaning “Not Important” and 10 meaning “Extremely Important”*).

The average composite score for “Importance” of each issue area was multiplied by the issue area’s average composite score for “Ability to Influence.” In other words, equal weight was given to “Importance” and “Ability to Influence.” The end result was a number between 0 and 100.

The mechanics of this SHSP prioritization process were identical to similar issue area rank ordering used in development of the State’s two prior SHSP documents (the 2001-2003 SHSP and the 2006-2008 SHSP). For the current iteration, several issue areas were redefined or consolidated, but the basic mechanics (the “Importance” rating multiplied by the “Ability to Influence” rating) were identical. It is instructive to note the similarities in rank order results among the three SHSP prioritization exercises, which are illustrated below in Table 2.

The final exercise of the SHSP Peer Exchange involved small group deliberations for each of the issue areas with the highest composite score. Participants were asked to identify several key action items that should be considered for each issue area. [*See Appendix to this report for a detailed summary of potential action items arising from the SHSP Peer Exchange.*]

**Table 2. Importance by Ability to Influence**

SHSP Issue Area	IMPORTANCE	X	ABILITY TO INFLUENCE
	2001-2003 SHSP	2006-2008 SHSP	2011-2013 SHSP
Reduce alcohol/drug impaired driving	60.7♦	58.35♦	77.71♦
Improve teen driver performance <i>(formerly "Institute Graduated Driver Licensing")</i>	73.6♦	33.76	63.37♦
Improve design/operation of intersections	70.3♦	66.83♦	62.16♦
Reduce speed-related crashes	N/A	61.09♦	60.19♦
Improve driver alertness/reduce distraction <i>(formerly "Keep drivers alert")</i>	43.9	24.83	57.35♦
Improve occupant protection <i>(formerly "Increase safety belt use/air bag effectiveness")</i>	65.7♦	69.36♦	56.14♦
Reduce head-on and cross-median crashes	52.5♦	52.23♦	54.05♦
Design safer work zones	54.9♦	53.63♦	52.77♦
Ensure drivers licensed/competent	58.7♦	43.51	52.71♦
Improve motorcyclist safety	38.0	41.55	50.16♦
Sustain proficiency in older drivers	56.9♦	47.21	47.14♦
Create more effective safety decision processes	42.5	33.53♦	46.16♦
Prevent/mitigate lane-departure crashes <i>(formerly "Minimize consequences of leaving roadway")</i>	61.1♦	54.92♦	46.12♦
Improve traffic incident management	N/A	39.57	45.41♦
Curb aggressive driving	54.3	41.36	45.34
Enhance EMS to increase survivability	31.7	19.37	44.04
Make walking/street crossing safer	32.7	33.49	41.07
Make truck travel safer	49.6	37.96	39.19
Ensure safer bicycle travel	33.1	30.87	36.01
Reduce vehicle-train crashes	30.3	16.46	25.50
Reduce deer and other animal crashes	13.5	19.06	22.04
Improve data/decision support systems	65.1♦	62.14♦	See "Safety Decision Process" ♦
Keep vehicles on the roadway	60.3♦	51.44♦	N/A
Increase driver safety awareness	65.5♦	51.00	N/A
Drive more safely in inclement weather	41.3	38.95	See "Incident Management" ♦
Increase safety enhancements in vehicles	18.0	13.69	N/A

♦ Considered Highest Priority Issue Areas for the SHSP.

## Part I: Background

### Scope of Wisconsin's Highway Safety Challenge

Wisconsin has an enviable highway safety record, and in recent years has achieved several milestones in terms of fatality and non-fatal injury reduction. However, far too many people still lose their lives or suffer a non-fatal injury every year on Wisconsin roadways.

#### **2009 Key Facts and Figures**

- There were 109,991 police-reported<sup>1</sup> traffic crashes in 2009—an average of 301 per day.
- In 2009, 542 persons were killed in 488 fatal traffic crashes—an average of three lives lost every two days on Wisconsin roadways.
- 41,589 persons suffered non-fatal injuries in 2009—an average of 114 people per day.
- Of the 542 persons killed, 44% (238) died in alcohol-involved<sup>2</sup> crashes, and 34% (183) died in speed-related crashes.
- Of the 355 fatally injured drivers tested for alcohol concentration, 38% (135 drivers) had an alcohol concentration of 0.08 or above.
- Of the 542 persons killed, 8% were either pedestrians (35) or bicyclists (7), and 15% (82) were motorcycle drivers or passengers.
- When safety belt use could be determined by the investigating officer, 58% of persons killed in passenger car and light truck crashes were not using safety restraints.
- When helmet use could be determined by the investigating officer, 65% of all motorcyclists killed in crashes were not wearing helmets.
- Roads and streets under local jurisdiction (i.e. non-state trunk or Interstate highways) accounted for 57% (62,942) of all crashes.
- There were 5,539,105 registered vehicles in 2009—a 2.5% increase over 2008.
- There were 4,085,833 licensed drivers in 2009—a 0.2% increase over 2008.
- There were 58,156,500,000 vehicle miles of travel in 2009—a 1.2% increase over 2008.
- The fatality rate in 2009 was 0.93 deaths per 100 million vehicle miles of travel.

#### **Transportation at a glance<sup>3</sup>**

- 11,774 miles of state and Interstate highways
- 101,389 miles of locally-owned county, town, and municipal streets
- 13,899 bridges
- 108 lightly traveled rural roads designated as part of the Rustic Road System
- 76 public bus and shared-ride taxi systems
- About 66 million revenue transit rides per year
- 132 public use airports
- About 5,600 active registered aircraft

<sup>1</sup> All traffic crash figures used in this document refer to crashes reported to WisDOT by State Patrol, county sheriffs, or local police departments—they do not include driver-reported crashes.

<sup>2</sup> "Alcohol-involved" means one or more drivers, pedestrians, or bicyclists involved in the crash were determined to have been drinking. The presence of alcohol does not mean the had-been-drinking person was beyond the legal limit or that they were the at-fault party in the traffic crash.

<sup>3</sup> Transportation at a glance facts from <http://www.dot.wisconsin.gov/about/glance.htm>

- About 5.7 million people boarded commercial flights in Wisconsin in 2009
- Wisconsin airports handle about 94 million pounds of cargo each year
- 3,600 miles of track
- Freight railroads carry more than 180 million tons of cargo each year
- Two Amtrak passenger train routes (Hiawatha between Milwaukee and Chicago and Empire Builder between Chicago and the Pacific Northwest) carry about 821,000 passengers annually
- 20 commercial ports handle over 44 million tons of cargo annually
- 10% of all trips in Wisconsin are made by walking or bicycling

## Where We've Been

The following figures show the relative changes since 1990. Figure 1 shows that the licensed drivers, registered vehicles, and vehicle miles traveled have been increasing since 1990 while Figure 2 shows that crashes, fatalities, and injuries have been decreasing over time.

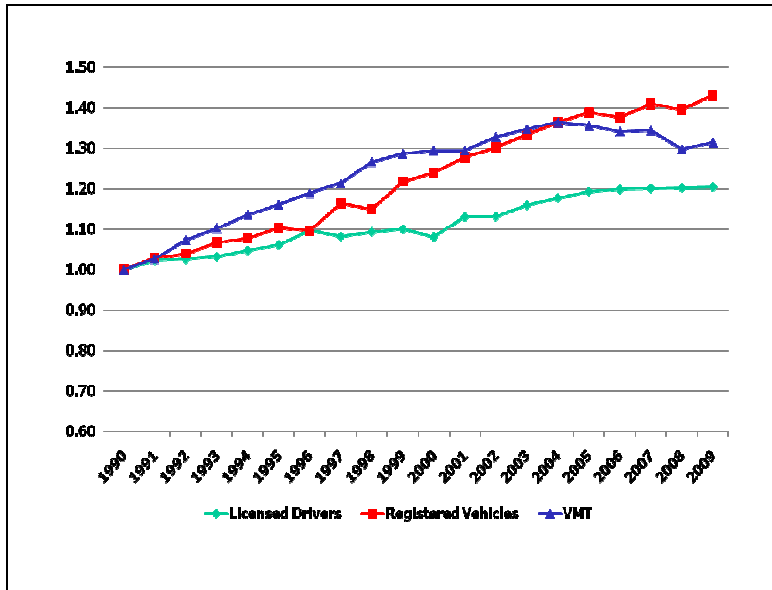


Figure 1. Relative Change since 1990 for Licensed Drivers, Registered Vehicles, and VMT

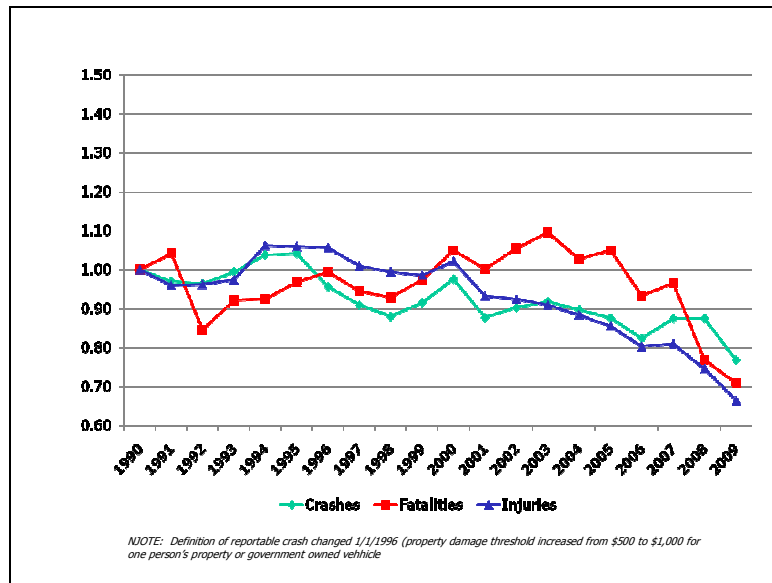


Figure 2. Relative Change since 1990 for Crashes, Fatalities, and Injuries

Since 1950, Wisconsin's fatality rate has been steadily decreasing and, in 2009, the rate was below 1.0 fatalities per 100 million vehicle miles traveled (VMT) as shown in Figure 3. The injury rate has also been consistently decreasing since the 1970s, and with the introduction of three significant bills, these rates continue to decrease. This was followed by a sharp, sudden decline in 1974, a year that saw a new, national 55 mph maximum speed limit, an oil embargo, engineering improvements, and the beginning of

a recession. A sharp decline in traffic deaths occurred in 1982, the first year of Wisconsin's tougher drunk driving law and another recession. Another sharp decline in 1992 coincided with the passage of laws that created new penalties and treatment opportunities for Operating While Intoxicated (OWI) repeat offenders.

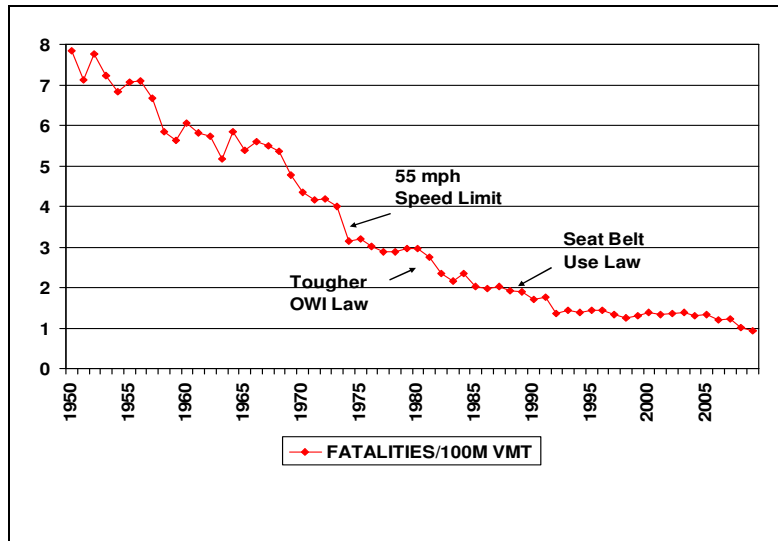


Figure 3. Fatality Rate

Traffic injuries rate for the years 1950-2009 are shown in Figure 4. As with traffic fatalities, the rate of traffic injuries climbed through the 1950s and 1960s. However, as better safety features were incorporated into the design of motor vehicles (such as the use of safety belts, safety glass, plastics, and padded surfaces in automobile interiors) throughout the 1970s and the following decades, the rate of injuries has experienced a steady decline.

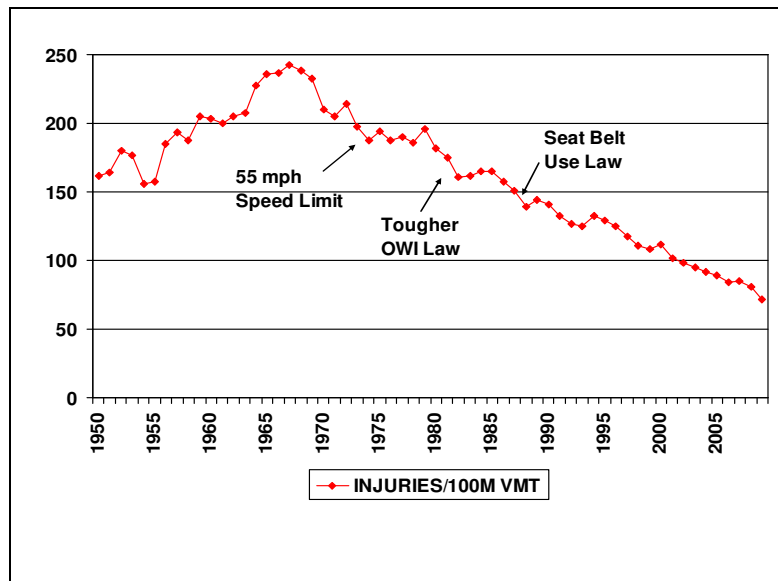


Figure 4. Injury Rate per 100M VMT (1950 – 2009)

## Where We Need to Go

To reach the overall strategic goal of reducing traffic fatalities, injuries, and crashes on Wisconsin roadways by 5% each year starting with the 2005-2009 average and proceeding to 2013 as if the goal was met each year.

**Table 3. Recent 5-year (2005-2009) data points**

	2005	2006	2007	2008	2009	05-09 Average
Fatal Crashes	700	659	655	542	488	609
Injury Crashes	37,515	35,296	36,048	33,766	29,907	34,506
Property Damage Crashes	86,959	81,922	88,420	90,795	79,596	85,538
Total Crashes	125,174	117,877	125,123	125,103	109,991	120,654
Fatality Rate per 100M VMT	1.33	1.20	1.24	1.02	0.93	1.15
A-Injury Crashes	4,044	3,869	3,990	3,587	3,150	3,728
Total Persons Killed	801	712	737	587	542	676
Total Persons Injured	53,462	50,236	50,676	46,637	41,589	48,520
Total Serious (A) Injuries**	5,129	4,874	4,982	4,356	3,854	4,639

	05-09 Average	06-10 Average	07-11 Average	08-12 Average	09-13 Average
Fatal Crashes	609	579	550	522	496
Injury Crashes	34,506	32781	31142	29585	28105
Property Damage Crashes	85,538	81261	77198	73338	69671
Total Crashes	120,654	114621	108890	103446	98273
Fatality Rate per 100M VMT	1.15	1.09	1.04	0.99	0.94
A-Injury Crashes	3,728	3542	3365	3196	3036
Total Persons Killed	676	642	610	580	551
Total Persons Injured	48,520	46094	43789	41600	39520
Total Serious (A) Injuries**	4,639	4407	4187	3977	3778

The TSC will shepherd the SHSP and will monitor the implementation with an informal annual check-in when the 2011 and 2012 crash data become available. At the conclusion of this SHSP (2013), the performance measures will be summarized in 2014 as soon as the 2013 crash data are finalized. The following divisions will be responsible for their respective issue areas.

- Division of Transportation System Development
  - Improve Design and Operation of Intersections

- Reduce Head-on and Cross-Median Crashes – Prevent/Mitigate Roadway Departure Crashes
- Design Safer Work Zones
- Create More Effective Safety Decision Processes-Improve Incident Management/Safe Travel in Bad Weather
- Division of State Patrol
  - Reduce Speed-Related Crashes
  - Reduce Alcohol/Drug Impaired Driving
  - Improve Occupant Protection
  - Improve Motorcycling Safety
  - Improve Driver Alertness/Reduce Driver Distraction
- Division of Motor Vehicles
  - Improve Teen Driver Performance
  - Ensure Drivers are Licensed and Competent
  - Sustain Proficiency in Older Drivers

## Part II: Highest Priority Issue Areas

### ***Improve Design and Operation of Intersections***

#### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 44,626 intersection crashes (37% of all crashes)
- ✓ 173 deaths in intersection crashes (26% of all traffic fatalities)
- ✓ 23,879 non-fatal injuries in intersection crashes (49% of all non-fatal injuries)
- ✓ 1,721 incapacitating injuries in intersection crashes (37% of all incapacitating injuries)

#### **Background**

Intersection safety is a national, state, and local traffic safety priority because intersection crashes represent a disproportionate percentage of the safety problem. Nationally, for example, about 25% of all fatal crashes occur at intersections.

Intersections pose numerous conflict points that make traversing them potentially hazardous to road users. These conflict points are places where vehicle operators, pedestrians, and bicyclists literally cross paths while maneuvering through the intersection. When more than one road user occupies that same place at the same time, a crash occurs.

#### **Performance Measure Goals**

##### **Annual Outcomes**

- Reduce the 5-year rolling average for intersection crashes by 5%.
- Reduce the 5-year rolling average for intersection injury crashes by 5%.
- Reduce the 5-year rolling average number of fatal and incapacitating injury intersection crashes by 5%.

##### **Outputs**

- Increase number of roundabout installations. After the 2010 construction year, there were 98 roundabouts on the State Trunk Highway (STH) system and about 50 on the local system. In the coming years on the STH system: 2011 = +52, 2012 = +29, 2013 = +23.
- Begin implementation and installation of J-turns and develop design guidance.
- Install signal head-per-lane at more locations.
- Begin implementation and installation of flashing yellow arrow at signalized intersections.
- Complete evaluation and analysis of the Rural Intersection Collision Avoidance System (RICAS) and examine feasibility and installation at other locations.

#### **Focus Areas & Related Challenges**

##### **1. Data/information and decision support**

- *Lack of geo-coding crash locations, especially on the non-STH system*
- *Lack of roadway and traffic inventory data*

##### **2. Knowledge development and sharing and conducting related training**

- *Lack of broad awareness of traffic safety engineering issues by appropriate decision-making staff and managers in WisDOT and local agencies*

- *Competing priorities for limited resources*
3. *Concept implementation*
- *Limited resources for implementing new federal requirements and balancing those requirements with local and environmental needs*
  - *Public education and acceptance of new design concepts*
  - *Complexity of diverse users and meeting their needs (vehicle mix, non-motorized pedestrians)*

<b>SHSP Action Plan</b>
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**Task 1:** *Improve data information and decision support*

- *Institutionalize traffic safety by implementing tools developed to share crash data as information across the agency and to local transportation partners.*
- *Continue development of Intersection Safety Evaluation Tool (ISET) – A research-based product that will aid transportation officials in identifying relative safety performance based on intersection characteristics [federal flex-funded HSIP project in 2010].*
- *Complete comprehensive evaluation and safety of Wisconsin roundabouts.*
- *Complete roundabout software evaluation.*

**Task 2:** *Improve knowledge development and sharing/training*

- *Institutionalize traffic safety by providing a training curriculum that will allow state, local, and consultant practitioners to expand their knowledge of traffic safety engineering.*
- *Increase training/Staff Development:*
  - *Intersection Safety Training*
  - *Roundabout Design*
  - *Signal Detection Design/Operation*

**Task 3:** *Develop/implement solutions to reduce intersection crashes*

- *Establish the safety performance functions (SPF) for intersections on all the highway functional classifications and crash modification factors (CMF) for all the safety engineering improvements applied in Wisconsin.*
- *Develop J-turn traffic volume and safety warrants for implementation.*
- *Complete WisDOT/Minnesota Department of Transportation (MnDOT) Joint Roundabout and Standard Size Truck Study – Joint study between Wisconsin and Minnesota DOTs to determine if roundabouts should be designed for trucks to stay in lane.*
- *Investigate and develop design and operation guidance to incorporate J-turn intersection design concept into more rural expressway retrofit and new projects. Evaluate the projects constructed to ensure appropriate safety performance and make modifications to policies/guidance as appropriate.*
- *Investigate strategies for implementing low-cost safety improvement countermeasures at non-STH intersections. Develop pilot projects using techniques studied in the Evaluation of Low-Cost Safety Improvements pooled fund study.*
- *Continue roundabout education – WisDOT will continue roundabout education and outreach to the public.*
- *Install flashing yellow arrow (FYA) – WisDOT and local agencies are installing and implementing the flashing yellow arrow at signalized intersections. WisDOT and the locals need to consider outreach to the public to educate them on the concept (incorporate concept into the drivers handbook and drivers education test, develop informational pamphlet).*

- *Install signal head per lane – WisDOT and local agencies are installing and implementing signal head per lane at signalized intersections.*
- *Continue Rural Intersection Collision Avoidance System (RICAS) implementation – As a result of a pooled fund study, WisDOT has installed this new system at an unsignalized, two-way, stop controlled intersection in northern Wisconsin. In conjunction with Federal Highway Administration (FHWA), University of Wisconsin-Madison (UW), and the University of Minnesota, WisDOT will be evaluating the safety of this technology over the next few years.*
- *Develop a method to assist local agencies of implementing locations identified as part of the non-STH FHWA Transparency (5%) report.*
- *Investigate and pilot-test technologies on WisDOT traffic signal controllers capable of extending green indication when vehicles are within a dilemma zone on high-speed approaches.*
- *Consider and develop policy modifications:*
  - *Move intersection design and pedestrian facilities design from the Traffic Signal Design Manual (TSDM) to Facilities Development Manual (FDM)*
  - *Develop Pedestrian Facility Design Manual*
  - *Update FDM per recommendations developed by Standards and Operations Work group and BTO Standing Committees*
  - *Guidance for implementation of countermeasures (FDM and Traffic Guidelines Manual (TGM))*
  - *Develop FDM guidance regarding protected left-turn bays*

### **Implemented Strategies (2001-2009)**

Efforts recently completed with intent on improving safety at intersections with respect to the focus area indicated:

#### *Focus Area 1: Data information and decision support*

- *Statewide Traffic Operations Business Plan – Includes objectives and identifies processes for improving safety at unsignalized and signalized intersections.*

#### *Focus Area 2: Knowledge development and sharing/training*

- *WisDOT Traffic Safety Engineering Workgroup (TSEWG) – A continuing cooperative effort with the UW-TOPS Lab, the TSEWG provides a working forum for technical issues with regional safety engineers.*
- *Statewide roundabout outreach and education – WisDOT has provided and is continuing to provide roundabout outreach and education to the public.*

#### *Focus Area 3: Develop/implement solutions to reduce intersection crashes*

- *Conversion of Signal Indications to use LED Technology – New indications are brighter and consume less energy. Additionally, the conversion of signal indications from incandescent lamps to LED modules is now approved for Highway Safety Improvement Program funding on the local road system.*
- *Data accessibility – Local agencies have access to electronic crash data via the WisTransPortal.*
- *Local Crash Location – In past years, locating crashes on the local network was not possible. WisDOT has completed a project where many, but not all, of the local crashes can be located on a map.*
- *Policy Modifications:*
  - *FDM guidance regarding access spacing near interchanges*
  - *FDM guidance regarding roundabout siting and design*
  - *FDM Intersection Control Evaluation (ICE)*

- TGM policy requiring intersection lighting at all signalized intersections
- Rural Intersection Decision Support (Pooled Fund Study) – Evaluation of technologies used to detect vehicles on high-speed intersection approaches, and provide warning to motorists on the side road with the intent of preventing failure-to-yield, right-angle crashes. This pooled fund study lead to the installation of the RICAS, as described above.
- AAA Intersection Safety Audit – Location-specific intersection safety reviews that utilized a unique public/private relationship and were based on a common objective of increasing safety.
- Lead State Initiative to Reduce Crashes at Unsignalized Intersections – This effort is based on the Federal initiative to implement the National Cooperative of Highway Research Partners (NCHRP) 500 series reports. Although this effort is clearly focused on unsignalized intersections, it provides a resource for obtaining and analyzing crash data anywhere on the transportation system. Ultimate tool provides guidance to local and state officials responsible for highway safety.
- Completed Signal Operations Peer Review – Process sponsored by FHWA being used to evaluate the current state of WisDOT signal operations and recommendations to improve overall levels of service to the public.

**Related Working Groups:**

Standards and Operations Working Group  
BTO Standing Committees

## **Reduce Speed-Related Crashes**

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 22,242 speed-related crashes (19% of all crashes)
- ✓ 231 deaths in speed-related crashes (34% of all traffic fatalities)
- ✓ 10,439 non-fatal injuries in speed-related crashes (22% of all non-fatal injuries)
- ✓ 1,282 incapacitating injuries in speed-related crashes (28% of all incapacitating injuries)

### **Background**

Reduced speed-related crashes to 18,971 by 2006 and to 18,022 by 2008 (2004 baseline was 22,629 crashes).

**Ended 2008 with 27,311 speed-related crashes and 2009 with 19,420**

Reduced the number of people killed or seriously injured in speed-related crashes to 1,605 by 2006 and 1,546 by 2008 (2004 baseline was 1,640 people killed or seriously injured).

**Ended 2008 with 1,399 people with K & A injuries in speed-related crashes and 2009 with 1,236**

### **Performance Measure Goals**

#### **Annual Outcomes**

- Reduce the 5-year rolling average of speed-related crashes by 5%.
- Reduce the 5-year rolling average of speed-related injury crashes by 5%.
- Reduce the 5-year rolling average number of fatal and incapacitating injury speed-related crashes by 5%.

#### **Outputs**

Increase perception of risk of being ticketed for a speed violation to the extent that speed drops from the second most common driver contributing cause of crashes to only 10% of driver contributing cause of crashes (2004 baseline was 15.5% of driver-related possible contributing circumstances (PCCs)).

**Ended 2008 with 20.0% (#1) and 2009 with 15.9% (#2) of all crashes reported as speed-related PCCs**

### **Speed Enforcement Trends**

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Speed violation convictions <sup>1</sup>	243,167	241,636	200,433	216,012
All traffic convictions	784,582	782,367	726,562	830,912
% Speed vs. all convictions	31%	31%	28%	26%

<sup>1</sup> Speed convictions include: Speeding, Speeding Intermediate, Speeding in Excess, Too Fast for Conditions, and - Imprudent Speed. -

Note: All traffic convictions for 2009 include a 45% increase, which is 30,000 more convictions than in 2008 for - Failure to Fasten Safety Belts (primary enforcement effective, 7/1/2009). -

## Focus Areas & Related Challenges

1. *Promote the deployment of the Wisconsin Speed Management Guidelines*
  - Need resources to reach local units of government
2. *Assessment of legislative changes*
  - Public policy does not always mirror safety research, or the most productive countermeasures
3. *Infrastructure improvements*
  - Cost challenges and most ignore behavioral flaws
4. *Enforcement*
  - Must be targeted and sustained to be effective in producing long-term change
5. *Outreach efforts*
  - Challenges the available resources and messages can conflict with public policy

## SHSP Action Plan

### **Task #1:** *Promote the deployment of the Wisconsin Speed Management Guidelines*

- *Post the guidelines to the Web and conduct outreach on speed management through multiple media outlets utilized by local governments*
- *Encourage local governments to conduct local speed studies*
- *Work with local governments on speed study research*
- *Train local governments in speed management concepts*
- *Provide guidance and leadership in the establishment of rational speed limits*
- *Promote the Web tool, USLIMITS2*

### **Task #2:** *Assessment of legislative changes*

- *Study the use of variable speed limits on special projects, then rural versus local highways*
- *Collect and study crash and speed data on interstate speed limits and the impact of 70 mph limits*
- *Study the effectiveness of speed cameras and monitor policy changes of local governments*
- *Research the effectiveness of speed violation enhancements, such as aggravated speeding (minor child passenger, residential areas, etc.)*
- *Develop model aggressive driving language citing a combination of two or more risk behaviors*
- *Research the current speed fine structure for effectiveness and universal application by law enforcement*

### **Task #3:** *Investigate potential non-infrastructure and infrastructure improvements*

- *Research and deploy pavement treatments, such as paint and channeling*
- *Educate local governments on the use of roadway treatments, such as center medians, curbs, lane-narrowing to reduce speeds*
- *Facilitate the implementation of ITS strategies for speed management and in-car diagnostics/onboard GPS to automatically monitor and control travel speeds*

### **Task #4:** *Increase enforcement*

- *Promote sustained enforcement following a saturation patrol effort*
- *Educate and promote the use of high-visibility enforcement strategies in areas prone to frequent speed-related crashes*
- *Facilitate greater use of speed boards and speed warning messages*

- *Fund special traffic resource prosecutors in targeted areas for efficient prosecution of traffic crimes*
- *Provide training through funded resources to local prosecutors on the consequences of unmanaged speeds*
- *Enhance speed conviction data tracking for more efficient decision processes by law enforcement in necessary enforcement action*
- *Through grants, provide law enforcement agencies speed detection tools for enhanced enforcement of speed violations*
- *Encourage the deployment of state resources, such as aircraft for collaborative speed enforcement efforts*
- *Promote and support multi-jurisdictional saturation enforcement efforts along targeted corridors prone to speed-related crash histories*
- *Educate law enforcement officials on uniform application and a reduction in speed tolerances*

**Task #5:** *Increase outreach efforts*

- *Utilize WisDOT resources in messaging the consequences of speeding as both a risk of detection and a safety risk*
- *Develop partnerships with local stakeholders and private coalitions in messaging on the dangers of speeding and the negative consequences*
- *Promote greener travel through reduced speeds, less travel costs, and safer roads as a consequence*

**Related Working Groups:**

N/A

## ***Reduce Head-On and Cross-Median Crashes – Prevent/Mitigate Roadway Departure Crashes***

### **Key Performance Measures (2005-2009 Annual Averages, except as indicated):**

- ✓ 1,866 head-on crashes (1.5% of all crashes)
- ✓ 85 deaths in head-on crashes (13% of all traffic fatalities)
- ✓ 1,922 non-fatal injuries in head-on crashes (4% of all non-fatal injuries)
- ✓ 345 incapacitating injuries in head-on crashes (7% of all incapacitating injuries)
- ✓ 21,150 run-off-the-road crashes (18% of all crashes)
- ✓ 241 deaths in run-off-the-road crashes (36% of all traffic fatalities)
- ✓ 8,701 non-fatal injuries in run-off-the-road crashes (18% of all non-fatal injuries)
- ✓ 1,339 incapacitating injuries in run-off-the-road crashes (29% of all incapacitating injuries)
- ✓ 40 freeway/expressway cross-median crashes (2001-2008 average)
- ✓ 12 deaths in freeway/expressway cross-median crashes (2001-2008 average)

### **Background**

A “roadway departure” crash is a non-intersection crash that occurs after a vehicle crosses an edge line or a center line, or otherwise leaves the travel way. While roadway departure crashes represent a relatively modest portion of all traffic crashes, they result in a greatly disproportionate number of fatalities and serious injuries. Nationwide, about 40 percent of roadway departure crashes involve single vehicles, and there are twice as many fatalities from rural roadway departure crashes than from urban crashes. About one in every five non-intersection fatal crashes involves a head-on collision, and three-fourths of these occur on rural two-lane roadways.

### **Performance Measure Goals**

#### **Annual Outcomes**

- Reduce the 5-year rolling average of head-on/opposing-direction lane departure crashes by 5%.
- Reduce the 5-year rolling average of run-off-the-road crashes by 5%.
- Reduce the 5-year rolling average number of fatal and incapacitating injury run-off-the-road crashes by 5%.

#### **Outputs**

- Pilot-test Safety Edge in 2010 and 2011 and conduct workshop/training in 2011; develop Safety Edge standards and implementation plan.
- Complete development of WisDOT -based predictive and retro-fit warrants for median - protection, including a corridor approach to median protection. -
- Coordinate with the Pavement Policy Committee to evaluate centerline and shoulder rumble strips on 2-lane highways at high crash locations.
- Provide information in Division of Motor Vehicles (DMV) driver handbooks and Department of Public Instruction (DPI) driver education curricula regarding avoiding over-correction when a vehicle leaves the roadway on the right side.

- Develop implementation plan to identify locations and segments on state and county trunk highways with high number or rate of ROR crashes; recommend run-off-the-road (ROR) systematic improvement strategies.
- Implement work plan for End Treatment Initiative (i.e. replacement of all substandard end treatments/ structure connections) on STH Backbone System. Install replacements on already programmed projects beginning in 2011, and program standalone projects starting in 2012. In 2012, evaluate extending End Treatment Initiative to non-Backbone STH system.
- Complete design guidance and standards for single-slope concrete median barrier, Midwest Guardrail System, and revision of roadside design guidance (FDM 11-45-2).

### **Focus Areas & Related Challenges**

1. *Lane departure data/decision support systems for WisDOT engineering staff*
  - *Insufficient staff resources for the project or for development of unique features*
  - *Interagency outreach, training, collaboration, and coordination require time and effort*
  - *Constrained in-house resources to develop or purchase modeling software*
2. *Lane departure data/decision support system to assist county/municipal engineering staff*
  - *Need cross-agency coordination and collaboration (need up-front buy-in)*
  - *Constrained resources necessary to provide a usable product*
  - *Constrained resources needed to develop and provide training*
3. *Develop/implement solutions to reduce lane departure crashes*
  - *Organizational commitment*
  - *Constrained resources needed for deployment*
  - *Roadside design policy and procedures must be updated*
  - *Institutional support throughout the agency and with partners*

<b>SHSP Action Plan</b>
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**Task 1:** *Develop and improve data and decision support systems for engineering staff to reduce the incidence and severity of lane departure crashes.*

- *Initiate and complete WisDOT roadside safety research at Midwest Research Roadside Facility.*
- *Enhance/implement a run-off-the-road (ROR) project analysis tool (e.g. SafetyAnalyst, PRECIS); integrate the ROR tool into the WisDOT project planning/programming process and at the design level to set the right improvement type.*
- *Evaluate data needs for SafetyAnalyst and Highway Safety Manual (HSM) implementation.*
- *Determine feasibility of Light Detection and Ranging (LiDAR) datasets to meet WisDOT business needs (e.g. to calculate shoulder slope and to identify clear zone encroachments).*
- *Develop/maintain inventory system of roadside geometry data (e.g. lateral clearance, back slope, shoulder type/width) for more effective use of analytical safety software.*
- *Refine the COMPASS asset management program relative to roadside design.*
- *Include evaluation of structural and functional capacity of existing barrier systems in the project development process.*

**Task 2:** *Develop a data and decision support system to assist county and municipal engineering staff in reducing the incidence and severity of lane departure and ROR crashes.*

- *Assist local agencies in relevant data collection and maintenance.*
- *Develop training program for use of the ROR analysis tool.*
- *Collect maintenance and performance data on median cable barrier installations.*

- *Develop data gathering mechanisms necessary to implement SafetyAnalyst and the Highway Safety Manual.*
- *Update the roadside geometry data inventory system at reasonable intervals.*
- *Integrate the decision support system into the safety decision-making process.*
- *Develop project design policy and guidance to increase emphasis on roadside design; assist county and municipal staff in accomplishing this goal through training.*

**Task 3:** *Develop/implement a comprehensive program to reduce the incidence and severity of lane departure crashes.*

- *Investigate countermeasures such as pavement markings and rumble strips to help drivers stay in their lane.*
- *Communicate the importance of roadside design to design and construction staff by providing training workshops, technical guidance memos, and other technical presentation opportunities at conferences and meetings.*
- *Continue to fully implement the new Single Slope Concrete Barrier by completing FDM guidance, standard detail drawings (SDDs), and providing technical assistance through training workshops and other technical presentation opportunities.*
- *Continue to pilot-test Safety Edge in 2010 and 2011; work with Local Transportation Assistance Program (LTAP) for showcases and additional demonstration projects in 2011; conduct workshop/training in 2011; develop WisDOT pavement policy for appropriate use of Safety Edge technology.*
- *Develop work plan for End Treatment Initiative (i.e. replacement of all substandard end treatments/structure connections) on STH Backbone System. Install replacements on already programmed projects beginning in 2011, and program stand-alone end treatment replacement projects starting in 2012. In 2012, evaluate extending End Treatment Initiative to non-backbone STH system.*
- *Complete FDM design standards and guidance and begin deployment of the Midwest Guard Rail System.*
- *Complete TOPS Lab project to develop WisDOT-based predictive and retro-fit warrants for median protection, including a corridor approach to median protection.*
- *Update design guidance to emphasize importance of roadside design and to help designers make appropriate roadside design decisions such as:*
  - *NCHRP Report 612: “Safe and Aesthetic Design of Urban Roadside Treatments”*
  - *Limiting use of curb on roadways with design speeds greater than 45 mph (per AASHTO Roadside Design Guide)*
  - *Design/scoping guidance for documenting roadside hazards and proposed treatments*
  - *Reviewing barrier systems for structural and functional adequacy (per AASHTO Roadside Design Guide)*
  - *Midwest Roadside Safety Facility (MwRSF) Roadway Grading “tools”*
  - *Implement SafetyAnalyst and the Highway Safety Manual*
- *Train WisDOT, county, and municipal engineering staff on lane departure and roadside design principles and techniques.*
- *Develop strategies, guidance, and policies to implement roadside research projects sponsored by WisDOT at MwRSF*
- *Investigate opportunities for WisDOT staff participation in Transportation Research Board (TRB) Committee on Roadside Safety Design (AFB20) meetings and AASHTO Technical Committee for Roadside Design.*

- Continue to sponsor roadside design improvement research projects at Midwest Roadside Safety Facility.
- Identify gaps in knowledge that require additional research.
- Investigate appropriate centerline and shoulder rumble strips on 2-lane rural highways at high crash locations. Develop strategies to pilot implementation of rumble strips on 2-lane rural highways.
- Provide information in DMV driver handbooks and DPI driver education curricula regarding avoiding over-correction when a vehicle leaves the roadway on the right side.
- Investigate and analyze treatments to minimize ROR consequences (e.g. trees in the clear zone, altering front slopes to reduce travel distance of errant vehicles). Develop strategies to pilot the implementation of improving clear zones.
- Partner with private vendor to install, test, and evaluate an electronic dynamic curve warning system that provides drivers with guidance and advance warning of dangerous horizontal curves.
- Develop a team to examine lane and roadway departure and determine strategies to reduce these crashes as well as examining guidance and policies.

**Task 4:** Analyze and develop roadside and pavement strategies focusing on low cost treatment for rural non-STH highways.

- Coordinate with LTAP to provide county/municipal agencies with low cost safety improvement information and strategies.
- Identify locations and segments on county trunk highways with high number or rate of ROR crashes for the High Risk Rural Road Program (HRRRP); recommend ROR systematic improvement strategies.

#### **Implemented Strategies (2001 – 2009)**

Efforts recently completed with the objective of preventing/mitigating head-on, cross-median, and other lane departure crashes have included:

##### *Focus Area 1: Develop data support systems*

- Researched a run-off-the-road assessment tool for the STH system.
- Developed more effective decision support to identify programmatic improvements.
- Integrated signing inventory and marking inventory management systems (SIMS and MIMS) to support crash reduction.
- Investigated use of the run-off-the-road tool for streets and highways.

*Focus Area 2: Develop a data gathering mechanism and decision support system to help assist local agencies.*

- None

##### *Focus Area 3: Develop and implement potential solution strategies*

- Completed the run-off-the road crash study.
- Determined the role of WisDOT in implementing Phase II of NCHRP Report 500.
- Continued annual effort to identify cross median crash (CMC) “hotspots” and program projects to provide median protection.
- Continued to participate in:
  - Midwest Roadside Safety Facility (MwRSF) Pooled Fund. All the projects listed below have used federal HSIP flex-funding to improve roadside design:
    - Roadside Grading Guidance
    - Minimum Effective Length of Beam Guard

- Short Radius Beam Guard for Larger Radii
  - MGS with Crash Tests with Native Wood Species
  - Down Stream Anchor Terminal Design and Crash Testing Safety Investigation of Retrofitting Existing Guardrail Transitions
  - Synthesis of Crash Cushion Guidance
  - Development of Low Deflection Temporary Concrete Barrier
  - Phase 1 Crash Testing of Various Erosion Control Features
  - Concrete Traffic Barrier Attachments to Decks Utilizing Epoxy Concrete Masonry Anchors
- NCHRP Panels on Roadside Design.

**Related Working Groups:**

N/A

## **Create Safer Work Zones**

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 1,671 traffic crashes in work zones (1.4% of all traffic crashes)
- ✓ 10 deaths in work zone crashes (1.5% of all traffic fatalities)
- ✓ 793 non-fatal injuries in work zone crashes (1.6% of all non-fatal injuries)
- ✓ 63 incapacitating injuries in work zone crashes (1.4% of all incapacitating injuries)

### **Background**

Highway work zones can pose major safety risks for motorists, as well as utility, construction, and maintenance personnel. Work zone fatalities can occur on every type of highway – rural or urban, high volume or low volume, two-lane or divided. In the past decade, work zone crashes, fatalities, and injuries have declined, but they have not been totally eliminated. In 2009, there were 1,336 crashes in Wisconsin highway work zones, resulting in six fatalities and 567 injuries. While these totals were well below the prior 5-year averages, they were still unacceptably high.

Work zones require special attention because motorists are often faced with unique situations requiring them to exercise special care. Increasing traffic volume on an aging highway network necessitates the need for more work zones in the future, work zones that often will be done under live traffic conditions. Recent and projected increases in the number of resurfacing and reconstruction projects require the Department to continue to give high priority to ensure the safety of motorists traveling through work zones, as well as the safety of personnel working in the zones.

The already established and functioning Work Zone Management and Safety Advisory Group will create an SHSP implementation plan and will monitor and report on action plan progress.

### **Performance Measure Goals**

#### **Annual Outcomes**

- Reduce the 5-year rolling average number of work zone crashes by 5%.
- Reduce the 5-year rolling average number of work zone fatalities and incapacitating injuries by 5%.
- Reduce the 5-year rolling average number of work zone incapacitating injuries by 5%.

#### **Outputs**

- Complete 40 TMP reviews per year.
- Complete benefit/cost analysis of shoulder use to maintain traffic around work zones.
- Evaluate work zone operational and crash data to refine future analyses and TMP's.
- Develop maintenance work zone traffic control guidelines.
- Conduct 40 work zone traffic control field reviews per year.
- Conduct 10 work zone traffic training sessions in 2011.
- Complete update to work zone handbooks and training materials to comply with 2009 MUTCD.
- Conduct two constructability workshop meetings per year.

### **Focus Areas & Related Challenges**

1. *Adopt improved procedures to ensure effective practices for managing work zone operations.*

- *Increasing need for road repairs and construction, along with increasing traffic volumes, make it more difficult to schedule road work and closures while maintaining mobility and safety.*
  - *Consensus on a policy for appropriate investment in work zone safety, and mobility mitigation strategies can be difficult to achieve*
  - *Additional funding is needed for alternate project staging/scheduling, mitigation, and traffic control devices*
2. *Enhance and extend training for the planning, implementation, and maintenance of work zones to maximize safety.*
- *Need to reach a large number of engineering staff, managers, and workers in a wide range of settings (WisDOT regions, consultants, counties, contractors)*
3. *Enhance the safety of work zone driving through education and enforcement actions.*
- *Funding reduced for work zone public awareness efforts*
  - *Need to identify consistent and stable source of funding to support work zone safety education and outreach efforts*

<b>SHSP Action Plan</b>
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**Task #1:** *Adopt improved procedures to ensure effective practices for managing work zone operations.*

- *Coordinate statewide freeway work zone planning and use of work zone management and traveler information systems.*
- *Develop work zone mitigation benefit/cost analysis guidelines.*
- *Evaluate work zone performance for updates to Transportation Management Plan (TMP) guidance and procedures.*
- *Evaluate software to optimize highway construction staging, scheduling, construction methods and techniques.*
- *Develop detailed maintenance work zone traffic control guidelines, including night work guidelines.*
- *Plan and implement network options for freeway full-width shoulders to maintain lanes during construction and repair work.*
- *Apply low-cost traffic calming devices in work zones.*
- *Develop guidelines for supplemental signing of work zone traffic law violations.*

**Task #2:** *Enhance and extend training for the planning, implementation, and maintenance of work zones to maximize safety.*

- *Conduct Work Zone training for regions, consultants, and service providers in 2011.*
- *Coordinate with UW Transportation Information Center to update work zone handbooks and training materials in compliance with 2009 Manual on Uniform Traffic Control Devices (MUTCD).*
- *Conduct constructability workshops to foster effective construction work zone and traffic management methods on critical projects.*
- *Develop and provide supplemental training for law enforcement personnel on work zone devices and layouts.*

**Task #3:** *Enhance the safety of work zone driving through education and enforcement actions.*

- *Update guidelines, criteria, and processes for work zone traffic law enforcement.*

- *Deploy pilot projects sponsored by Work Zone Management and Safety Advisory Group to collect traffic data and evaluate effectiveness of enforcement and traffic control.*
- *Continue activities in support of National Work Zone Awareness Week.*
- *Continue developing and implementing aggressive, innovative work zone public awareness campaigns.*
- *Complete related federal flex-funded project in FFY2010 (i.e. purchase TV/radio air time for Work Zone safety public service announcements).*
- *Investigate and identify consistent and stable source of funding to support increased work zone safety education and outreach efforts, including development of new “creative” to keep the message fresh and current for today’s audience.*

### **Implemented Strategies (2001 – 2009)**

Efforts recently completed with the objective of improving safety in highway work zones have included:

*Focus Area 1: Adopt improved procedures to ensure effective practices for managing work zone operations.*

- Conducted evaluations through Smart Work Zone pooled fund and UW Traffic Operations and Safety Laboratory (TOPS Lab) of work zone portable traveler information systems, temporary rumble strips, and flagger paddles.
- Completed FHWA value engineering study of congestion, including work zone action plan recommendations.
- Work Zone Management and Safety Advisory Group formed.
- Implemented crashworthy traffic control device standards for construction and maintenance projects, including state-of-the-art, crash-tested, approved temporary concrete barrier.
- Developed guidelines and implemented procedures for developing work zone transportation management plans (TMPs).
- Implemented online statewide lane closure system and developed lane closure analysis - guidelines. -
- Updated freeway work zone delay guidelines.
- Developed guidance for use of temporary concrete barrier in work zones.
- Implemented additional smart work zones on construction projects.

*Focus Area 2: Enhance and extend training for the planning, implementation, and maintenance of work zones to maximize safety.*

- Enhanced UW Transportation Information Center work zone training to include WisDOT project standards and guidelines.
- Conducted FHWA “Making Work Zones Work Better” workshop and Work Zone Safety “Call to Action” workshop.
- Developed and provided training sessions and workshops on work zone TMPs and traffic - control. -
- Conducted work zone traffic control field reviews, reported findings to regions, and - incorporated into training sessions. -

*Focus Area 3: Enhance the safety of work zone driving through education and enforcement actions.*

- Continued efforts to improve public awareness of work zone safety through annual “Travel Easy” brochure, Wisconsin Broadcasters’ Association partnership, and purchase of radio and television announcements statewide.
- - Work Zone Management and Safety Evaluation initiative through UW TOPS Lab included - evaluations of radar speed display and enforcement strategies. -
- - Developed more consistent guidance for work zone speed limits.

**Related Working Groups:**

Work Zone Management and Safety Advisory Group

## ***Reduce Alcohol/Drug Impaired Driving***

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 7,830 alcohol-related crashes (7% of all traffic crashes)
- ✓ 289 deaths in alcohol-related crashes (47% of all traffic fatalities)
- ✓ 5,062 injuries in alcohol-related crashes (10% of all non-fatal injuries)
- ✓ 982 incapacitating injuries in alcohol-related crashes (21% of all incapacitating injuries)

### **Background**

Alcohol and other drug impaired driving are illegal and dangerous. Although alcohol-involved crashes are a relatively modest portion of all crashes (6.5%), they tend to result in more severe outcomes. For example, over the past five years (2005-2009), alcohol-involved crashes accounted for 10% of all non-fatal injuries, 21% of all serious/incapacitating injuries, and 47% of all fatalities. Clearly, making positive strides in reducing impaired driving over the next several years will contribute significantly toward the highway safety goals of Wisconsin.

Reducing impaired driving is perennially identified as one of the highest priority traffic safety goals for national, state, and local officials. Addressing the challenge of impaired driving has generally focused on the following objectives: reducing excessive drinking and underage drinking; enforcing OWI laws; sanctioning high-BAC and repeat OWI offenders; and prosecuting, penalizing, and treating OWI offenders. The State of Wisconsin and its partners are already pursuing these objectives and others that reflect a progressive and innovative approach to reducing impaired driving. Since there is no immediate and obvious tool to enhance the toolbox that is already being used to reduce impaired driving, the department will focus on: implementing and improving upon the strong changes made in the 2009 Act 100; better define and strengthen partnerships and enforcement efforts with partner agencies; focus state and federal resources on programs that have the most direct and beneficial impact on impaired driving; and pursuing ways to expand existing tools and programs to focus efforts.

### **Performance Measure Goals**

#### **Annual Outcomes**

- Reduce the 5-year rolling average number of alcohol-related crashes by 5%.
- Reduce the 5-year rolling average number of alcohol-related fatalities and incapacitating injuries by 5%.
- Reduce the 5-year rolling average number of alcohol-related incapacitating injuries by 5%.

#### **Outputs**

- Continue earned and paid media to discourage impaired driving and stress enforcement efforts as part of the Zero in Wisconsin campaign.
- Maintain existing efforts to partner with law enforcement agencies as part of current multi-jurisdictional High-Visibility Enforcement (HVE) efforts and increase the number of coordinated HVEs.
- Analyze alternatives and draft issue papers for legislative policies pertaining to impaired driving.
- Collect data on where Ignition Interlock Devices are ordered and identify best practices to using this tool to control impaired driving.

## Focus Areas & Related Challenges

1. *Protect/pursue available state and federal funding*
  - *Current state and federal fiscal challenges have the potential to affect existing funding levels for programs to address impaired driving*
  - *Ongoing need to monitor and attempt to direct legislative changes that have the potential to impact eligibility for federal funds*
2. *Successful cooperative detection, arrest, prosecution, and treatment of impaired drivers, and increased public awareness of the social costs and consequences of impaired driving*
  - *Funding/staffing constraints and competing priorities for state and local law enforcement agencies*
  - *Need for additional coordination among state and local agencies with shared goals and potentially exclusive responsibilities for dealing with impaired drivers*

### SHSP Action Plan

**Task #1:** *WisDOT will monitor the implementation of 2009 Act 100 and improve enforcement tools. Most elements of Act 100 took effect on July 1, 2010. This new law represented the most dramatic reform of the OWI law in several years. WisDOT staff took the lead in interpreting the Act 100 law changes to the statewide law enforcement community, prosecutors and judges. The agency also took the lead in analyzing and approving Ignition Interlock Devices that are required for multiple offenders and high-BAC first-time offenders. WisDOT will continue to monitor the implementation of these sweeping statutory changes to reduce impaired driving, and will recommend additional changes to address challenges if appropriate.*

**Task #2:** *WisDOT will develop a proactive legislative agenda to reduce impaired driving that will be used to guide Department staff during the 2011-12 legislative session. In addition, WisDOT will resist legislative initiatives that jeopardize continued federal incentive grant funding for alcohol-impaired driving countermeasure programs, or that would take Wisconsin out of compliance with federal mandates related to this issue area. However, WisDOT will maintain its long-standing policy of not taking positions on legislation that would simply change penalties for OWI.*

**Task #3:** *WisDOT Bureau of Transportation Safety will work cooperatively with and provide resources to the Department of Health Services, the Department of Public Instruction, local law enforcement agencies, and other responsible parties in efforts to: (a) publicize adult responsibilities/liability exposure related to purchasing/providing alcohol to underage persons, and (b) support a statewide compliance check program related to the minimum legal drinking age law.*

**Task #4:** *To address alcohol-impaired and drug-impaired driving and strengthen enforcement efforts, WisDOT will better define and expand the use of high-visibility law enforcement campaigns. The high-visibility enforcement efforts will combine intensive law enforcement efforts and a full range of partners with extensive communication, education, and outreach to inform the public and change behaviors.*

**Task #5:** *To ensure the continued targeting of federal funding to programs that best provide for the safety of the traveling public while making effective use of public funding, WisDOT will build upon its efforts to use data-driven decision making in the effective targeting of program funding. By using data collection, analysis, and mapping to drive strategic operations, WisDOT and its partners will be able to deploy resources more effectively.*

**Task #6:** *Consistent with the implementation of 2009 Wisconsin Act 100, WisDOT will oversee the development of the statutes' requirement to utilize Ignition Interlock Devices for repeat offenders and first offenders with a high BAC. WisDOT will work with the Chemical Test Unit and the UW Law School Resource Center on Impaired Driving to analyze, test and approve any Ignition Interlock Devices to be used in the state, and the agency will continue to provide information to the public about the use of these devices to control impaired driving.*

**Related Working Groups:**

N/A

## ***Improve Driver Alertness / Reduce Driver Distraction***

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 23,411 crashes with “Inattentive” as a driver factor (19% of all traffic crashes)
- ✓ 125 deaths in crashes with “Inattentive” as a driver factor (18% of all traffic fatalities)
- ✓ 11,962 injuries in crashes with “Inattentive” as a driver factor (25% of all non-fatal injuries)
- ✓ 1,011 incapacitating injuries in crashes with “Inattentive” as a driver factor (22% of all incapacitating injuries)

### **Background**

The dangers of distracted driving have become a prominent traffic safety challenge. Research by the National Highway Traffic Safety Administration (NHTSA) shows that in 2008 alone, nearly 6,000 people were killed, and more than a half-million people were injured in crashes involving a distracted driver nationwide. Nineteen percent of all crashes that same year involved some type of distraction. However, NHTSA maintains that the devastating effects of distracted driving are underreported because distracted driving data are difficult to collect.

Although various forms of distracted driving have been problems for decades, cell phone use—particularly texting—has been identified as an egregious, prevalent, and dangerous form of distracted driving because it severely reduces the visual, mechanical, and mental acuity needed behind the wheel.

Wisconsin has taken steps to address the growing problem of cell phone texting by enacting a ban that went into effect on December 1, 2010.

Undoubtedly, there will be continued discussion and debate on whether to ban **all** cell phone use while driving. The National Safety Council (NSC) is calling for a national ban. While this debate continues, traffic safety law enforcement and education efforts in Wisconsin can be focused on preventing all texting while driving, and motivating motorists to voluntarily put away their cell phones while driving. As John Uych of the National Safety Council said at the 2010 Governor’s Conference on Highway Safety, “focusing on all distracted driving is a distraction,” and his organization advocates that resources be focused on cell phone use and texting, which pose the greatest crash risk to motorists.

### **Performance Measure Goals**

#### **Annual Outcomes**

- Reduce the 5-year rolling average number of “Inattentive Driving” crashes by 5%.
- Reduce the 5-year rolling average number of “Inattentive Driving” fatalities and incapacitating injuries by 5%.
- Reduce the 5-year rolling average number of “Inattentive Driving” incapacitating injuries by 5%.

#### **Outputs**

- Maintain earned and paid media distracted driving messages as part of Zero in Wisconsin (ZIW) outreach and education initiatives.
- Incorporate distracted driving and driver alertness messages into ZIW social media efforts planned for 2011.
- Partner with AAA and other organizations on distracted driving education and public awareness programs.
- Pursue opportunities for enforcement and education originating from NHTSA and the agency's distracted driving/cell phone pilot projects.

## Focus Areas & Related Challenges

1. *Prevalence of multitasking among drivers—a behavior that will be difficult to change*
2. *Rapidly changing personal communications technology that can and will be used by drivers*
3. *Vehicle manufacturers adding more potentially distracting equipment to motor vehicles*

### SHSP Action Plan

**Task #1:** *As part of its Zero in Wisconsin education campaign, WisDOT has created the following:*

- *Broadcast PSAs about Wisconsin’s new cell phone texting ban that will air in December (recommended in Peer Exchange)*
- *Informational flyers about the texting ban that will be included in DMV mailings*
- *Earned media (news releases, speeches, and other public information)*

*Beginning in 2011, the ZIW initiative will include:*

- *Website and banner ad messages targeted particularly toward teens and young adults*
- *Social media (e.g. Facebook, Twitter) targeted particularly toward teens and young adults*
- *Additional PSAs for broadcast statewide*
- *Inclusion of safety messages about the dangers of distracted driving in various outreach materials, including signage, banners, and electronic messages at sports stadiums*
- *Earned media (news releases, speeches, and other public information)*

**Task #2:** *To address the challenge of deterring texting and cell-phone use while driving, in 2010 NHTSA initiated pilot programs in Syracuse, NY and Hartford, CT that used the well-tested strategy of high-visibility law enforcement combined with paid [advertising] and earned media messages. If the pilot programs are successful, the HVE and public education to deter distracted driving will likely become a national NHTSA initiative in 2011, with dedication of federal funding (similar to the current NHTSA initiatives “Click It or Ticket” and “Over the Limit Under Arrest”).*

**Task #3:** *To become a viable deterrent, law enforcement agencies must identify barriers to effective enforcement of the texting ban and other laws prohibiting distracted driving. In 2011, WisDOT will identify options for collection of relevant data on cell phone use by drivers (e.g. via Traffic and Criminal Software (TraCS) forms, MV4000 Wisconsin Motor Vehicle Accident Reports, or observational field surveys).*

**Task #4:** *In the 2011-2012 legislation session, WisDOT and its traffic safety partners will take a proactive approach to working with concerned legislators to identify statutory changes necessary to deter distracted driving. For instance, a ban on hand-held electronic devices while driving (as recommended in Peer Exchange) might provide a false-sense of security. Research indicates hands-free devices are a “placebo” and do not eliminate the cognitive distraction of cell-phone conversations while driving. Therefore, substituting hands-free devices for hand-held devices might not appreciably decrease distracted driving.*

**Task #5:** *Encourage business and government agencies to investigate ways to deter cell phone use while driving by its employees (e.g. via work rules).*

**Task #6:** *In 2011, WisDOT will research the effects of different types of roadway signage, stationary billboards, and mobile billboards on drivers’ visual and cognitive attention.*

**Task #7:** *To increase driver alertness (a driver impairment, not a driver distraction), in 2011, State Patrol motor carrier inspections will continue stringent enforcement of hours of operations for CMV*

*drivers. In addition, WisDOT will use earned media opportunities and its website to educate motorists about ways to stay alert.*

**Related Working Groups:**

N/A

## Improve Occupant Protection

### Key Performance Measures (2005-2009 Annual Averages):

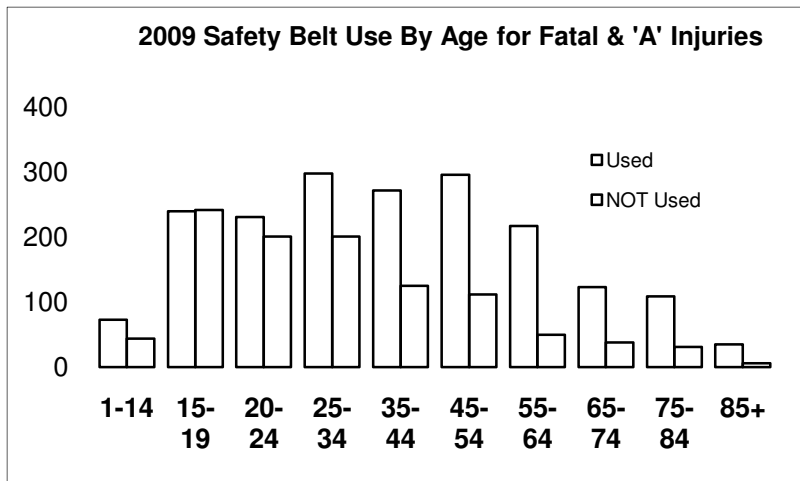
- ✓ 260 unrestrained passenger vehicle occupants killed (58% of all passenger vehicle occupant fatalities)
- ✓ 1,047 unrestrained passenger vehicle occupants suffering incapacitating injuries (34% of all passenger vehicle occupant incapacitating injuries)

### Background

In 2009, observed average statewide safety belt use was 73.8%. There were 69,533 convictions for failure to fasten safety belts, and 3,405 convictions for child restraint violations entered in Wisconsin driver records in 2008.

If you were in a fatal or injury crash for the period 1994-2009 and were not using safety equipment, you were 46.8 (7.62% vs. 0.16%) times more likely to be either partially or totally ejected from the vehicle. In addition, you were 12.3 (13.75% vs. 1.12%) times more likely to be killed than someone who was wearing a shoulder and lap belt at the time of the crash. A 13.75% fatality rate equates to approximately a one-in-seven chance of being killed, given the constraints.

The graph below illustrates not only which age groups are involved in the majority of fatal and incapacitating crashes, but also their safety belt usage (when known) in 2009. Safety belt usage lags with the most inexperienced drivers/occupants: those between the ages of 15 and 24. After that point, usage rates reverse for each age group, and occupants in serious crashes are more likely to be wearing their safety belts. The information below is from all occupants of passenger vehicles and utility trucks during 2009.



## Performance Measure Goals

### Annual Outcomes

- Increase seat belt use by passenger vehicle front seat occupants to 85% by 2013.
- Reduce the proportion of unrestrained passenger vehicle occupant fatalities to 50% by 2013.
- Reduce the proportion of unrestrained passenger vehicle occupant serious injuries to 25% by 2013.

### Outputs

- Continue with two mobilizations of “Click It or Ticket” with sustained enforcement.
- Continue with two (pre- and post-) seat belt surveys.
- Continue to support fitting stations.

## Focus Areas & Related Challenges

### 1. *Improve analysis and convene brainstorming group*

- Work with analysis section of BOTS on focusing on highest areas of fatal and incapacitating unbelted injuries
- Review measures taken in other states with low fines; provide summary of best practices for enforcement and education
- Work with new Occupant Protection State Program Manager
- Convene brainstorming group
  - Engage Child Passenger Safety (CPS) community
  - Marketing firm(s)
  - Traffic Safety Commissions within each county (TSCs)
  - Law enforcement representatives, possibly through Wisconsin Traffic Safety Officer’s Association (WTSOA) and Law Enforcement Liaisons (LELs)
  - DPI
  - Legislators

### 2. *Education for multiple target audiences*

- Law enforcement (seat belt law, CPS)
- Young/new drivers (including both teens and new drivers over age 18)
- Media, especially teen-oriented (YouTube, Facebook)

### 3. *Targeted enforcement*

- Especially young males and pickup drivers
- Focus on vehicles carrying more occupants than available seating
- Focus on groups with cultural history of misuse and non-use
- Make effective use of media/HVE

<b>SHSP Action Plan</b>
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**Task #1:** Work with communities and schools to increase awareness of primary enforcement law and the importance of wearing a seat belt. Work with employers around the state to encourage safety belt use for their employees by making it a policy. Encourage law enforcement agencies that receive federal highway safety program funds to develop and enforce an employee safety belt use policy. Encourage health providers to make questions about safety belt use a regular part of their health risk screening.

**Task #2:** Continue to encourage statewide participation from both voluntary and overtime-funded enforcement for the national high-visibility “Click It or Ticket” Mobilizations, expanded mobilizations, and nighttime enforcement.

**Task #3:** *WisDOT will develop a proactive legislative agenda on this issue area to guide Department staff during the 2011-2012 legislative session.*

**Task #4:** *Convene Working Group.*

**Task #5:** *Continue annual field seat belt use survey, but also investigate the possibility of redesigning the survey sample for 2011 to conform to expected changes in NHTSA guidelines.*

**Related Working Groups:**

N/A

## ***Improve Teen Driver Performance – Ensure Drivers are Licensed and Competent – Sustain Proficiency in Older Drivers***

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 138 deaths in crashes involving drivers 20 years old and younger (20% of all traffic fatalities)
- ✓ 14,006 injuries in crashes involving drivers 20 years old and younger (29% of all non-fatal injuries)
- ✓ 12.4% of drivers involved in fatal crashes were unlicensed (3.3%) or had no valid license for the vehicle being operated (9.1%)
- ✓ 59 deaths in crashes involving drivers age 65-74 (9% of all traffic fatalities)
- ✓ 3,888 injuries (8% of all non-fatal injuries)
- ✓ 60 deaths in crashes involving drivers age >74 (9% of all traffic fatalities)
- ✓ 3,118 injuries (6% of all non-fatal injuries)

### **Background**

In 2000, DMV implemented the phase-in of the new Graduated Driver License (GDL). The GDL law was designed to give new, young drivers a healthier, safer start to their driving careers by requiring more practice time prior to getting a probationary license, restricting teen drivers from being on the road during late night hours, limiting the number of passengers riding with teen drivers, and allowing teen drivers a longer and safer driving experience before earning an unrestricted license.

In August 2004, DMV staff conducted a long-term trend analysis of crash involvement rates of teen drivers during the first three calendar years of Wisconsin's GDL law (2001-03). The study indicated 15% fewer 16-year-old drivers were involved in traffic crashes, 18% fewer were involved in fatal crashes, and 20% fewer were involved in non-fatal injury crashes.

DMV Bureau of Field Services (BFS) and Bureau of Driver Services (BDS) provide an array of driver licensing and control functions that are designed, collectively, to ensure drivers are licensed and competent. These include licensing requirements (testing, retesting, operating restrictions), license withdrawals due to violations or disqualification, license reinstatements, and driver improvement programs.

BFS conducts more than 100,000 skills tests annually to new Wisconsin drivers. These tests not only assess driving ability for licensure, but also provide an opportunity to help educate drivers regarding skills to work on and how to be a better driver in the future. BFS and BDS staff also maintain regular contact with local driving educators and schools, taking opportunities to provide outreach on safe driving techniques.

As for older drivers, BFS conducts re-examinations to ensure sustained proficiency, and limited-area tests for those customers—both old and young—that can safely operate in a prescribed/restricted local area to ensure day-to-day travel needs can be safely met.

In 2004, DMV cooperated with municipal judges in the City of Milwaukee on an amnesty program designed to restore drivers who were suspended due to failure to pay forfeitures to full license status.

DMV offers a wide variety of products that benefit older drivers, including a large-print condensed version of the *Motorists' Handbook* called the *Wisconsin Driver's Book*, and audio files online of the *Wisconsin Driver's Book*.

DMV staff members also provide outreach to senior groups, health care professionals, support groups, health organizations, family members, and law enforcement.

## Performance Measure Goals

### Annual Outcomes

- Reduce the 5-year rolling average number of crashes involving drivers 20 years old and younger by 5%.
- Reduce the 5-year rolling average number of fatalities and incapacitating injuries involving drivers 20 years old and younger by 5%.
- Reduce the 5-year rolling average number of incapacitating injuries involving drivers 20 years old and younger by 5%.
- Reduce the 5-year rolling average number of crashes involving drivers over the age of 74 by 5%.
- Reduce the 5-year rolling average number of fatalities and incapacitating injuries involving drivers over age 74 by 5%.
- Reduce the 5-year rolling average number of incapacitating injuries involving drivers over age 74 by 5%.

### **Focus Areas & Related Challenges**

1. *DMV Safety Committee will research imposing tighter hour restrictions on weekends for teen drivers (65% of drivers 16-19 years of age who died in traffic crashes in 2006 occurred on Friday, Saturday, and Sunday). AAA recommends that GDL restrictions should begin at 10 PM, rather than 12AM as it is in WI*
2. *DMV Safety Committee will research increasing fines and wait times for instruction permit holders who violate GDL restrictions for any moving violations*
3. *The DMV Safety Committee will study the issues involved in imposing more frequent renewals for driver licenses based upon age-based standards*
4. *DMV will continue outreach to Wisconsin's medical community on reporting practices and the importance of their role. DMV will continue outreach to Wisconsin's law enforcement community on reporting practices, the importance of citations in some situations and the importance of their role in the process*
5. *DMV Customer Service Centers have information providing alternative transit options, along with aging driver information*
6. *DMV will continue to update its Motorist Handbook online as new traffic control devices emerge, such as roundabouts*
7. *Research, outreach, and coordination for each section*

### **SHSP Action Plan**

#### ***Improve Teen Driver Performance***

**Task #1:** *DMV Staff members will participate in Driver Education classes and "Parents Nights" at local area high schools.*

**Task #2:** *Continue to enhance the DMV Teen Driver website by, among other things, developing an educational Motorist's Handbook driving quiz that reinforces safe driving practices.*

**Task #3:** *Participation in Wisconsin Driver and Traffic Safety Educator Association (WDTSEA): DMV Driver Training School Coordinator will attend the WDTSEA State Conference, and will present an educational session on issues, trends, and concerns regarding novice teen driver education in Wisconsin.*

**Task #4:** *Build WisDOT participation in National Teen Driver Safety Week with actions such as radio news line teen driver messages, WisDOT press releases, an annual request that the governor proclaim*

*Teen Driver Safety Week in Wisconsin in coordination with National teen Driver Safety Week to help increase awareness, etc.*

**Task #5:** *Provide information for parents while their teenager is out on a skills test.*

#### **Ensure Drivers are Licensed and Competent**

**Task #1:** *Strengthen Commercial Driver's License (CDL) requirements and enforcement. The Division of State Patrol (DSP) and DMV currently conduct covert audits of its third-party testers. MCSAP also funds a full-time CDL auditor position within the DMV. DMV is also integrating the federal medicate certificate with the commercial driver's license, for most drivers that operate in interstate commerce.*

**Task #2:** *Increase traffic enforcement activities. In response to crash data that suggested driver-related behavior significantly contributed to the cause of large truck crashes, the DSP implemented a special emphasis program that focused additional resources on behavior-related traffic violations during high crash periods.*

**Task #3:** *New Entrant Program. Title 49 CFR, Part 385 requires that all new motor carriers receive a New Entrant Audit (NEA) within the first 18 months of operation, preferably within the first 6 months of operation. Wisconsin continues to be a national leader in the New Entrant Program in an effort to reduce crashes by educating new carriers, and assuring their compliance with the Federal Motor Carrier Safety Regulations (FMCSRs).*

**Task #4:** *DMV will continue to work with Wisconsin Community Services, a center designed to restore drivers to full license status who have been suspended due to failure to pay forfeitures.*

**Task #5:** *BOTS will continue to work with DMV to make sure motorcyclists are properly licensed.*

#### **Sustain Proficiency in All Drivers**

**Task #1:** *DMV will continue to train BFS staff to monitor for appropriate functional ability, refer drivers with potential driver fitness issues for testing, and ensure that this practice is administered fairly across the state.*

**Task #2:** *DMV will monitor the practices of other states, and the use of functional assessments to determine if there is a better method for screening.*

**Task #3:** *DMV will increase its emphasis on reducing the length of time the medical review process takes for those who have been identified as having potential driver fitness issues.*

**Task #4:** *The DMV Bureau of Driver Services (BDS) will explore the possibility for Continuing Medical Education (CME) credits for physicians who take an online course on Wisconsin Laws/Administrative Rules for driving with medical conditions. This would include the process for gaining accreditation as well as potentially making this a requirement to obtain or renew their Wisconsin credentials.*

**Task #5:** *DMV will review its driver fitness policies and procedures, and will seek input from internal and external stakeholders for suggestions on how to improve. This includes assessing available resources to assist drivers with changing physical and mental capacities that may help their families/caregivers.*

#### **Related Working Groups:**

N/A

## ***Improve Motorcycling Safety***

### ***Key Performance Measures (2005-2009 Annual Averages):***

- ✓ *2,617 crashes involving motorcycles (2.2% of all traffic crashes)*
- ✓ *92 motorcyclist deaths (14% of all traffic fatalities)*
- ✓ *2,461 motorcyclist injuries (5% of all non-fatal injuries)*
- ✓ *702 motorcyclists suffering incapacitating injuries (15% of all incapacitating injuries)*

### **Background**

In 2009, motorcycles represented only 6.4% of all registered vehicles in Wisconsin; however, motorcyclist fatalities represented 14% of all vehicle fatalities. These figures are significant when one considers that the motorcycle riding season typically averages only approximately seven months of any given year in Wisconsin.

What may not be obvious to the motoring public, and even some motorcyclists, is the fact that the cognitive skill and dexterity required to safely operate a motorcycle is significantly greater for motorcyclists than it is for all other motor vehicle operators. This being the case, motorcyclists are more susceptible to the adverse effects of weather, fatigue, and the effects of alcohol and drugs. On average, over the five year period 2005-2009, alcohol is believed to have played a role in 39% of all motorcyclist fatalities.

In addition, motorcyclists are also more likely to be injured or killed in the event of a crash, since they rely primarily on the use of protective riding gear for protection. It should also be noted that the appropriate riding gear not only serves as protection, but also serves to make the motorcyclist more conspicuous in traffic. During the five year period noted, 71% of motorcyclist fatalities were not wearing a helmet, and 32% of motorcyclist fatalities occurred at an intersection where, many times, the motorcyclist's right-of-way was violated because the driver of the other vehicle claimed not to have seen the motorcycle.

Motorcyclists, like aircraft pilots, need to continually hone their physical and cognitive skills so as to maintain a margin of safety and manage their level of risk. Motorcycling is primarily a cognitive activity, in that motorcyclists must use good judgment and decision making to reduce their level of risk and maintain a margin of safety. Nearly 51% of motorcyclist fatalities during the period noted were single-vehicle fatal crashes. The majority of these single-vehicle crashes occurred in curves, often as a result of the motorcyclist misjudging the appropriate speed for the turn, and ultimately losing control of the motorcycle. It is also likely that many of these crashes occurred as a result of the motorcyclist's inability to make proper adjustments to speed or lean angle while in the curve. Another contributing factor to motorcycle crash fatalities is an encounter with deer. Almost 9% of motorcyclist fatalities during the noted time period involved a motorcycle crash with a deer.

In order for a motorcyclist to minimize risk and become a lifelong motorcyclist, that motorcyclist must become a lifelong learner, to be continually developing and improving their motorcycle operation-related cognitive and physical skills.

## Performance Measure Goals

### Annual Outcomes

- Reduce the 5-year rolling average number of motorcyclist crashes by 5%.
- Reduce the 5-year rolling average number of motorcyclist fatalities and incapacitating injuries by 5%.
- Reduce the 5-year rolling average number of motorcyclist incapacitating injuries by 5%.

### Outputs

- Offer advanced rider courses, seasoned rider courses, returning rider courses, and scooter and moped rider education throughout the state.
- Actively promote rider training and lifelong motorcycle skills improvement for motorcyclists.
- Modify Administrative Code Trans. 129 to allow attainment of a skill test waiver for Class M endorsement after successful completion of an approved 8-hour/one-day rider training course.
- Create a state-wide system to allow for reporting hazardous roadway conditions specific to single-track vehicles/motorcycles.
- Increase the general motoring public's awareness and understanding of motorcycles.
- Gather and analyze detailed motorcyclist fatality data via vehicle crash reports and supporting documentation.
- Compare and analyze motorcyclist crash data, DMV crash and citation data, and motorcyclist formal training data.
- Create/enhance alcohol specific social marketing campaigns to promote attitudinal changes in motorcyclists regarding the use of alcohol and riding.

### Focus Areas & Related Challenges

1. *Data/information and decision-making support*
2. *Lack of accurate crash data when motorcyclists are involved*
3. *Lack of funding to gather appropriate data*
4. *The majority of motorcyclists may not believe that, once they have attained their Class M endorsement, there is a need for continued skill building and training*
5. *Many Wisconsin motorcyclists believe that it is socially acceptable to consume alcohol and then get behind the handlebars of a motorcycle*
6. *Encourage the motoring public to attain a rudimentary understanding of motorcycle capabilities as well as deficiencies, and attain a better understanding of riders*
7. *Encourage law enforcement to attain an improved working knowledge of motorcycles and their capabilities as well as their deficiencies*
8. *Educate traffic and roadway engineers as to the capabilities and deficiencies of motorcycles*

<b>SHSP Action Plan</b>
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**Task #1:** *Data/information and decision support*

- *Obtain access to data that already exists and extrapolate information to make informed decisions.*
- *Train law enforcement officers to improve accuracy of crash reports.*
- *Modify MV4000 crash reports to include motorcycle specific data necessary to make better decisions.*
- *Develop reporting systems from data extrapolation.*

- *Obtain soft data to find out what immeasurable factors may be driving trends.*

**Task #2:** *Rider training*

- *Modify Administrative Code Trans. 129 regarding what training may lead to a skill test waiver.*
- *Introduce new curricula to Wisconsin to provide for licensing opportunities and to encourage life-long learning.*
- *Promote training and life-long learning by fostering and creating incentives such as discounts and reimbursements.*
- *Provide rider education opportunities that will attract and address Wisconsin motorcycle riders at all skill and experience levels.*
- *Improve the Wisconsin Motorcycle Safety Program’s website to provide more information regarding available training (making sure the system is mobile phone friendly).*
- *Have skilled riders provide demonstrations to show what may be accomplished through additional training.*

**Task #3:** *Motorist awareness*

- *Require motorcyclist-specific education for right-of-way violations, regardless of the level of seriousness.*
- *Strengthen and increase consistency of motorcyclist awareness training component of driver education classes.*
- *Work with DMV stations to increase dissemination of motorcyclist awareness information.*
- *Use social media to promote motorcyclist awareness.*
- *Use mobile training facility (THE REF) to promote motorcyclist awareness.*
- *Increase use of public service announcements.*
- *Educate law enforcement and judiciary regarding importance of appropriate enforcement and sentencing options.*

**Task #4:** *Reduce impaired riding*

- *Promote a cultural change to discourage the acceptance of impaired riding.*
- *Educate and inform alcohol servers as well as motorcyclists.*
- *Continue “5=Zero” and “Green/Yellow/Red” campaigns.*
- *Provide demonstrations by skilled motorcyclists to promote riding with skill that is not possible while impaired.*

**Task #5:** *Increase roadway situational awareness*

- *Provide education and training to motorcyclists regarding how to handle hazardous roadway conditions, specifically those caused by road construction.*
- *Create a hot line to promote reporting of roadway conditions that are particularly hazardous to single-track vehicles.*
- *Use text blasts to announce roadway hazards to motorcyclists.*
- *Use the Internet to report hazards that are specific to single-track vehicles.*

**Related Working Groups:**

N/A

## **Create More Effective Safety Decision Processes – Improve Incident Management/Safe Travel in Bad Weather**

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 54% of traffic crashes were reported to DMV electronically via Badger TraCS software in CY2009
- ✓ 40% of adjudicated traffic citations were issued via Badger TraCS software in CY2009
- ✓ 36,068 crashes in snow/ice/slush/wet conditions (30% of all traffic crashes)
- ✓ 147 deaths in snow/ice/slush/wet conditions (22% of all traffic fatalities)
- ✓ 13,327 injuries in snow/ice/slush/wet conditions (27% of all non-fatal injuries)
- ✓ 1,033 incapacitating injuries deaths in snow/ice/slush/wet conditions (22% of all incapacitating injuries)

### **Background**

Quality data and analyses are critical components of Wisconsin's highway safety management system and are essential for development of sound public policy and effective traffic crash countermeasures. Information about roadways and their environments, user characteristics and behaviors, and traffic crashes and their outcomes, should be timely, complete, consistent, accurate, and readily accessible. State of the art technologies and procedures should be applied to gather, integrate, and utilize information. Institutional cooperation and coordination, both within and outside WisDOT, resulting in open, coordinated, defensible, decision-making processes, will ensure the best use of limited resources and improved safety on Wisconsin roadways.

As a northern tier Midwestern state, Wisconsin typically faces challenging travel conditions during winter months. Nearly one-third of all traffic crashes occur during snow, ice, slushy, or wet roadway conditions.

### **Performance Measure Goals**

#### **Outcomes**

- Increase the proportion of traffic crashes reported electronically via TraCS to 80% by 2013.
- Increase the proportion of traffic convictions from citations issued via TraCS to 60% by 2013.
- Reduce the number of fatalities and injuries in crashes in snow/ice/slush/wet conditions by 5% from the 2005-2009 average by 2013.

#### **Outputs**

- Complete Crash Mapping Phase 2 project that will create a statewide crash map on the - Wisconsin Information System for Local Roads (WISLR) -
- Complete revisions of the MV4000 crash report form using Model Minimum Uniform Crash Criteria and begin piloting/testing new form
- Begin development and implementation of the Incident Location Tool (ILT) with the TraCS software

### **Focus Areas & Related Challenges**

#### **1. Improve data and decision support systems**

- *Lack of time to devote to project/coordination*
- *Interagency coordination and collaboration*
- *Competing priorities for limited information technology resources*

## 2. Create more effective decision processes/safety management systems

- - Stovepipe organization both in federal and state DOT
- - Lack of requirement/accountability for interdisciplinary/interagency communication
- - Lack of coordination with local planners and bottom-up planning
- - Funding constraints
- - Staff reductions
- - Lack of expertise in strategic decision-making

### SHSP Action Plan

#### **Task #1:** Research and pursue recommendations from the 2010 Traffic Record assessment.

##### Statewide Injury Surveillance System

- Encourage the use of injury data in problem identification and program evaluation in the traffic safety community. An example would be applying the crash costs developed by the Crash Outcome Data Evaluation System (CODES) project in the WisDOT and TOPS publications.
- Increase support for the trauma registry system, including data quality and training services.
- Continue to support Wisconsin Ambulance Run Data System (WARDS) through ongoing recruitment of urban area agencies for submission to the state database.
- Support the linkage of Emergency Medical Services (EMS) data for injury research and traffic safety projects.
- Explore the inclusion of EMS and DMV (licensing, registration, citation) datasets in the CODES project.

##### Citation and Adjudication Records

- Record the full citation information on every disposition, including cases other than guilty, to enable the operation of a complete Citation Tracking System.
- Investigate the development and deployment of a statewide municipal court case management system that will support the sharing of case data among jurisdictions.

##### Traffic Records Coordinating Committee

- Restart the Policy Group as the executive level Traffic Records Coordinating Committee (TRCC).
- Strengthen the effectiveness of the Technical Group by reshaping its focus and preparing agendas that include more attention on:
  - Monitoring data quality and developing quality control programs.
  - Planning needed traffic records improvements without regard to funding source.
  - Instilling a sense of community by building systems that serve the interests of not only the individual members, but also public and traffic safety as a whole.

##### Strategic Planning

- Ensure TRCC involvement at all stages in future Strategic Planning efforts
- Establish a forum for discussion by the TRCC of all issues and initiatives to be addressed in the new Plan, including the findings of this Assessment. The Section 408 application should be a product of the Plan. The Plan, however, should be the working document for all traffic records improvements regardless of funding sources.

##### Crash Records System

- Dedicate information technology (IT) resources to support and maintain the crash records system. WisDOT must make a permanent investment in this system to break the cycle of long periods of inactivity punctuated by infrequent and costly major upgrades.
- Establish a comprehensive, formal, quality control program for crash data. This program should include the following components:

- *A complete set of operationally-relevant, data quality, performance measures for the crash system.*
- *A formal method of counting and tracking errors and providing feedback to law enforcement agencies.*
- *A link between error tracking and training content so that common errors can be documented and addressed in the academies and in periodic refresher training.*
- *Improved coordination with key users to ensure that errors noted by users of the data are corrected (where feasible) and addressed in training, instruction manuals, and help files for data collectors.*
- *Periodic audits of crash reports comparing the narrative and diagram to the coded information on the form.*
- *Oversight by the TRCC, to include devoting time on the agenda to review of data quality measurements.*
- *Develop a detailed presentation of the crash system update project including all major milestones. Deliver that presentation to the traffic safety stakeholders including the TRCC, and make it available on the Department's website so that users may access it and understand the plan*

**Task #2:** *Implement the Highway Safety Manual*

- *Develop a HSM Implementation Team*
- *Participate or conduct HSM training on the strategies*
- *Develop implementation plan and strategies*
- *Conduct pilot projects*
- *Develop policies and guidance*

**Task #3:** *Revise the MV4000 Uniform Accident Reporting Form*

- *Complete revisions of the MV4000 crash report form and incorporate Model Minimum Uniform Crash Criteria standards appropriate to Wisconsin*
- *Create instruction manual*
- *Begin piloting and testing new form*

**Task #4:** *Improve geo-coding of crash locations*

- *Begin development and implementation of the Incident Location Tool (ILT) with the TraCS software*
- *Crash Mapping Phase 2 – Develop a single map to locate both state and local crashes, display multiple years of crash data, and incorporate into the WisTransPortal Crash Data Retrieval Facility*

**Task #5:** *Improve travel in bad weather/poor travel conditions*

- *Expand 511, since encouraging reduction in travel in poor driving conditions is a good safety countermeasure*
- *Prioritize bridges on the STN for anti-icing/skid resistance improvement based on winter weather-related crashes*
- *Continue to work on Maintenance Decision Support System (MDSS)*

**Task #6:** Continue to investigate opportunities to upgrade and expand safety equipment and techniques used by law enforcement for improving efficiency and effectiveness.

- Equip additional State Patrol cruisers with digital video cameras
- Upgrade radio software in State Patrol cruisers for 100% trunking capability to improve first responder interoperability
- Acquire roadway/tire friction instrumentation for State Patrol crash reconstruction analysts
- Continue to practice and implement the Wisconsin Department of Transportation's "Emergency Traffic Control and Scene Management Guidelines."  
(<http://www.dot.wisconsin.gov/travel/stoc/docs/emer-tc-sm-guidelines.pdf>)

**Task #7:** Improve efficiency and effectiveness of the Highway Safety Improvement Program (HSIP) and High Risk Rural Roads Program (HRRRP) through training and evaluation.

- Continue to update the policies and guidelines
- Continue to evaluate projects, complete annual report, and present results to decision makers
- Continue to pursue and increase the development of systemic projects from both a state and local system perspective
- Pilot test the HSIP Online Annual Reporting Tool
- Continue to develop county-based projects on High Risk Rural Roads that both emphasize low cost solutions and system-wide or corridor-wide treatments
- Increase efforts to systemically identify safety problems, and potential solutions, from a WisDOT Region perspective; emphasis will be give to projects that utilize low cost alternatives

**Task #8:** Continue to create and implement Tribal Safety Plans

**Task #9:** Develop Regional Safety Improvement Plans, using a systemic approach to identify locations that have similar characteristics to implement low-cost countermeasures to address safety issues

- Develop methodology and create a plan with one region
- Investigate the needs for a state-wide deployment

**Task #10:** Create a Law Enforcement Data Warehouse that integrates data across agencies for public safety use.

- Complete pilot project within Dane County
- Investigate the needs for a state-wide deployment

#### **Implemented Strategies (2001-2009)**

- Update to the Emergency Traffic Control and Scene Management Guidelines – This is a uniform approach to incident management developed across disciplines and among several jurisdictions. The draft will soon be available for comment at the following location.  
<http://www.dot.wisconsin.gov/travel/stoc/time.htm>  
Some topics included in this document that focus on this issue include delayed recovery, ramp gates, and the supplemental training materials.
- Integration of up-to-the-minute weather information into STOC control room protocol

#### **Related Working Groups:**

- Traffic Records Coordinating Committee
- Joint Systems Operations Oversight Committee (JSOOC)
- Emergency Transportation Operations Preparation Quarterly Meetings (*these are Division of Transportation System Development (DTSD)/DSP emergency operations discussions, and also serve as an Emergency Transportation Operations (ETO) event review meeting*)
- MV4000 Revision Teams

## Part III:

### Continuing Highway Safety Issue Areas

Failure to be ranked in the high-priority highway safety issue areas for the 2011-2013 SHSP does not mean the topic is unimportant, nor does it mean WisDOT will discontinue planned or on-going initiatives and programs to strive for continued progress in the safety performance.

In some cases, these continuing highway safety issue areas overlap one or more of the higher priority issue areas identified for emphasis in the 2011-2013 SHSP (e.g. pedestrian safety is a key subset of intersection safety).

The WisDOT Traffic Safety Council will continue to monitor key performance measures in each issue area and will recommend Department-sponsored initiatives to respond to emerging challenges, as necessary.

The remaining highway safety issue areas include:

#### Curb Aggressive Driving

##### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 79,116 “Aggressive Driving”-related contributing circumstances cited in all traffic crashes  
*\*\*Fail to have control, to yield, too fast for conditions, following too close, traffic control violations, speeding, and improper overtaking\*\**

##### **Background**

Aggressive driving is a “contextual” violation. The two major components of the context are the driver’s psychological state (background and current condition) and the driver’s traveling environment. Therefore, the application of aggressive driving programs must address the context in which the behavior is exhibited:

- - Driving or attempting to drive at a speed different than the prevailing speed and maneuvering so that others are directly affected.
- - Directing verbal or nonverbal expressions of anger toward other drivers designed to encourage retaliation on the part of other drivers.
- - Deliberately ignoring traffic controls, especially by increasing speed or failing to slow for the controls.
- - Driving in a way that attempts to gain an advantage over other drivers (e.g. appearing to be taking an unfair advantage or breaking notions of equity such as violating ramp meters and driving on the shoulder).

##### **Strategies**

- **Target enforcement efforts combined with educational and public information campaigns.** Public information and education (PI&E) integrated with targeted enforcement. Programs will seek to educate first, and then subsequently enforce.
- **Change or mitigate the impact of identified elements in the environment that can trigger aggressive driving.** Manage adequate roadway capacities, minimize traffic delays, reduce or eliminate traffic conflict, promote multi-modal transportation users, and outreach to highway users anticipated changes or delays to the infrastructure.
- **Reduce nonrecurring delays and provide better information about these delays.**

Enhance 511 traffic alerts, media report, real time updates and traffic camera access via local partners, the State Traffic Operations Center, and incorporation of the latest data communication technologies.

## Enhance EMS to Increase Survivability

### **Key Performance Measures (2008-2010 Annual Averages):**

- ✓ *Injury-to-Fatality Ratio in Wisconsin Counties = 77:1*

### **Background**

- - WisDOT conducts annual inspections of ambulances and promulgates administrative rules governing ambulance equipment. The Department of Health and Family Services is directly responsible for regulating/licensing EMS personnel or coordinating improvements in EMS-related services in Wisconsin.
- - BOTS has provided \$70,000 for electronic transfer of run reports to the Wisconsin Ambulance Run Data System, for capacity building, data validation, and integration into the National EMS Information System.
- - BOTS provides \$50,000 annually in federal safety funding to train and equip first responders in rural areas.

## Make Walking / Street Crossing Safer

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ *1,343 crashes involving pedestrians (1.1% of all traffic crashes)*
- ✓ *47 pedestrian deaths (7% of all traffic fatalities)*
- ✓ *1,305 pedestrian non-fatal injuries (3% of all non-fatal injuries)*
- ✓ *261 pedestrians suffering incapacitating injuries (6% of all incapacitating injuries)*

### **Background**

- In December 2010, the Division of Transportation Investment Management (DTIM) developed the “Wisconsin Guide to Pedestrian Best Practices” that provides detailed design, planning, and program information for improving all aspects of the pedestrian environment. This guide serves as a companion document to the “Wisconsin Pedestrian Policy Plan 2020.”
  - Wisconsin Guide to Pedestrian Best Practices  
<http://www.dot.wisconsin.gov/projects/state/ped-guide.htm>
  - Wisconsin Pedestrian Policy Plan 2020  
<http://www.dot.wisconsin.gov/projects/state/ped2020.htm>
- In October 2004, the first-ever statewide Wisconsin Pedestrian/Bicycle Conference was held in Stevens Point.
- In 2009, Wisconsin Act 28 created Wisconsin Statute 84.01 (35), which requires the Department of Transportation to ensure that bicycle and pedestrian facilities are included in all new highway construction and reconstruction projects that meet certain funding and other requirements.
- In December 2010, Chapter Trans 75, Bikeways and Sidewalks in Highway Projects were - implemented. -
- In 2011 corresponding guidance developed to interpret the details of Wis. Stat. 84.01 (35) and Trans 75.
- Continue to investigate ways to make roundabouts compliant with the American with - Disabilities Act. -
- Continue to pilot pedestrian-hybrid beacons.
- Investigate other technologies and methods for making street crossing safer for all pedestrians.

## Make Truck Travel Safer

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 7,129 crashes involving large trucks (6% of all traffic crashes)
- ✓ 77 deaths in crashes involving large trucks (11% of all traffic fatalities)
- ✓ 2,488 non-fatal injuries involving large trucks (5% of all non-fatal injuries)
- ✓ 306 incapacitating injuries in crashes involving large trucks (7% of all incapacitating injuries)

### **Background**

DMV and DTSD work to balance freight movement and intersection safety:

- PRISM-related effort to link Wisconsin registration to motor carrier safety status
- Oversize/Overweight (OSOW) Priority Network deployment
- Modifying design standards along OSOW Priority Networks and other state networks to improve operations, and balance freight movement and auto safety at signalized, unsignalized intersections, and roundabouts
- Work with the Wisconsin Technical Colleges and industry to develop a best practices-based curriculum for the private businesses that escort and guide extra-dimensional vehicles on the highways.
- DTSD is conducting a joint study with Minnesota DOT to investigate roundabout design concepts to accommodate large legal semi-trucks entering and within roundabouts. The Wisconsin and Minnesota Motor Carriers Association are involved in the study.
- DTSD is participating with seven other states in a Transportation Pooled Fund Study sponsored by the Kansas DOT on Accommodating Oversized/Overweight Vehicles at Roundabouts (TPF-5(220)). This study is investigating concepts to improve operations and safety involving OSOW vehicles on the highways.

## Ensure Safer Bicycle Travel

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 1,099 bicycle-involved police-reported traffic crashes (0.9% of all traffic crashes)
- ✓ 10 bicyclist deaths in police-reported traffic crashes (1.4% of all traffic fatalities)
- ✓ 1,054 bicyclists suffering non-fatal injuries (2% of all non-fatal injuries)
- ✓ 124 bicyclists suffering incapacitating injuries (3% of all incapacitating injuries)

*\*\*These totals do not include unreported deaths/injuries that occurred off-roadway or did not involve motor vehicles\*\**

### **Background**

In 1998, DTIM produced the Wisconsin Bicycle Policy Plan, as part of the agency's long range 2020 transportation policy planning project. The plan was published online:

<http://www.dot.wisconsin.gov/projects/state/docs/bike2020-summary.pdf>

- - Detailed design, planning, and program information for bicycle facilities were addressed in DTIM's Bicycle Facility Design Handbook, which was published in January 2004, and is available online: <http://www.dot.wisconsin.gov/projects/state/docs/bike-facility.pdf>
- - DTSD and DTIM staff developed six-hour training on "Basics of Bicycle Accommodation." The course is made available several times each year to WisDOT engineering staff.
- - Wisconsin Bicycle Transportation Plan 2020
- - The first-ever statewide Wisconsin Pedestrian/Bicycle Conference was held in October 2004.
- - In 2009, Wisconsin Act 28 created Wisconsin Statute 84.01 (35) which requires the Department of Transportation to ensure that bicycle and pedestrian facilities are included in all new highway construction and reconstruction projects that meet certain funding and other requirements.

- - In December 2010, Chapter Trans 75, Bikeways and Sidewalks in Highway Projects were implemented.
- - In 2011 corresponding guidance developed to interpret the details of Wis. Stat. 84.01 (35) and Trans 75.
- - Continue to investigate bicycle traffic signals.

## Reduce Vehicle-Train Crashes

### **Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 54 train-vehicle collisions at public crossings (0.04% of all traffic crashes)
- ✓ 4 deaths in train-vehicle collisions at public crossings (0.6% of all traffic fatalities)
- ✓ 23 non-fatal injuries in train-vehicle collisions (0.05% of all non-fatal injuries)
- ✓ 6 incapacitating injuries in train-vehicle collisions (0.1% of all incapacitating injuries)

*\*\*These totals do not include deaths/injuries that occurred on private property or did not involve motor vehicles\*\**

### **Background**

DTIM manages the agency's section 130 federal funds intended to improve railroad crossing safety. At least half of these funds must be spent on railroad crossing warning devices; the remaining portion is available for warning devices and other safety-related improvements at railroad crossings (e.g. upgraded crossing surface, channelization, separation structures, roadway relocations, closures, traffic signal pre-emption).

- - DTIM staff maintains the Railroad Crossing Information System (RCIS), which includes rail crossing inventory data (track data, train crossing frequency and speed, approach roadway data, motor vehicle crossing frequency and speed). The RCIS interfaces with the Federal Railroad Administration's database, which includes crash data reported by railroad companies. DTIM staff has developed a computer procedure that uses a data set created from information in the RCIS data base. The procedure analyzes the data, and identifies and prioritizes statewide rail-highway crossing warning device upgrade needs. DTIM staff has recently undertaken a detailed review of the FRA's GradeDec.Net procedure—an internet based data and analysis system for evaluating rail-highway crossing safety improvement alternatives—to determine if WisDOT should replace its current prioritization procedure with the FRA procedure. Both procedures use a benefit-cost analysis framework.
- - Investigate the use of the Federal Rail Administration (FRA) prioritization software (GradeDec) to replace WisDOT decision tool.
- - Continue evaluation of Highway Rail Crossing HSIP projects.
- - DTIM staff is actively involved with the Wisconsin Chapter of Operation Lifesaver, Inc., a private non-profit organization dedicated to increasing public awareness of hazards associated with railroad crossings.
- - 2005 Wisconsin Act 95 was signed into law by the Governor requiring railroad companies, not later than July 1, 2007, to install and maintain a yield sign below the cross buck sign at any crossing at which the railroad is required to maintain a cross buck sign, and is not controlled by a gate, automatic signal, or stop sign.
- - WisDOT provides the Office of the Commissioner of Railroads annually \$2.7 million in federal funds and \$1.7 million in state funds for their program.

## Reduce Deer and Other Animal Crashes

**Key Performance Measures (2005-2009 Annual Averages):**

- ✓ 17,114 police-reported deer-involved crashes (14% of all traffic crashes)
- ✓ 10 deaths in police-reported deer-involved crashes (1.5% of all traffic fatalities)
- ✓ 577 non-fatal injuries in deer-involved crashes (1.2% of all non-fatal injuries)
- ✓ 92 incapacitating injuries in deer-involved crashes (2% of all incapacitating injuries)

*\*\*These totals do not include unreported deaths/injuries that occurred in "swerve-to-avoid" crashes\*\**

**Background**

- As crash data is entered into the DMV database, current extracts are provided at monthly intervals. From these, BOTS pulls the latest deer/other animal crash data to fulfill data requests from government agencies, media agencies, and the general public. Deer crash data is also provided to the public in the form of statistics in the Wisconsin Traffic Crash Facts book and the Deer Crash Monograph. Both of these documents are updated annually and provided on the DOT website:  
<http://www.dot.wisconsin.gov/safety/motorist/crashfacts/docs/deerfacts.pdf>
- Each Fall, BOTS records a radio message on deer safety that is distributed to various radio networks. This message usually contains the number of deer crashes, injuries, and fatalities in the previous year along with safety tips of what to do if you see deer while driving. Knowing that BOTS has this data available, various news outlets call annually for the latest crash statistics concerning deer. WisDOT also maintains a link to the Deer Vehicle Crash Clearinghouse:  
<http://www.deercrash.com/>

## Appendices

### SHSP Peer Exchange Participants

A one-day peer exchange was held in Madison, Wisconsin on September 15, 2009. Participation was by invitation only. A total of 110 highway safety professionals and advocates participated in the event; about two-thirds of them were WisDOT staff, and the other third were external partners. The full roster is shown below.

<i>External Partners</i>	
<b>NAME</b>	<b>AFFILIATION</b>
Balsler, John	National Highway Traffic Safety Administration – Region 5
Bill, Andrea	UW Traffic Operations & Safety Lab
Botts, David	Beloit Public Works Department; American Public Works Association; Wisconsin Local Roads/Streets Council
Bremer, Bill*	Federal Highway Administration – Wisconsin Division
Cardarella, Steve	National Highway Traffic Safety Administration – Region 5
Clauder, Tom	WI Office of Commissioner of Railroads
Dickey, Patti	WI Information Network for Safety
Drakapolous, Dr. Alex	Marquette University Dept of Civil/Environmental Engineering
Dwyer, Dave	ABATE-Wisconsin
Emerson, Nina	UW Law School Resource Center on Impaired Driving
Graves, Joni	UW-Extension
Happel, Charles	WI Department of Health Services
Harding, Patrick	WI State Laboratory of Hygiene
Hardman, Kevin	WI Bike Federation
Hinz, Roy	AAA-Wisconsin
Hirt, Jack	WI Bike Federation
Horrigan, Katie	Children’s Hospital of Wisconsin
Howard, Jane	Children’s Hospital of Wisconsin
Jansen, Jerry	WI Office of Justice Assistance
Kindschi, Beth	Safe Kids-Wisconsin
Litza, Brian	WI Department of Health Services
Lockwood, Dwight	National Highway Traffic Safety Administration – Region 5
Ludeking, Linda	Monroe County Safe Community Coalition
Lukesic, Ray	Federal Motor Carrier Safety Administration – WI Division
Lurquin, Sgt. Robert J.	WI Sheriffs & Deputy Sheriffs Association & Dane County Sheriff’s Office

Meuer, Todd	Dane County Court Commissioner
Mosher, Beth	AAA-Chicago
Newsome, Dr. Deb	Madison Area Technical College
Noyce, Dr. David	UW Traffic Operations & Safety Lab
Oesterle, Mark	Federal Motor Carrier Safety Administration – WI Division
O’Meara, Tom	WI Motorcycle Safety Advisory Committee
Patterson, Lishunda	City of Milwaukee Traffic Safety Commission & WI Highway Safety Coordinators Association
Pifer, David	Center for Driver’s License Recovery & Employability
Pudloski, Steve	UW-Extension Local Technical Assistance Program Center
Radliff, Allen	Federal Highway Administration – Wisconsin Division
Roessler, Capt. Cory	Sheboygan County Sheriff’s Department
Rusch, Pete	UW-Extension Local Technical Assistance Program Center
Schipper, Tara	WI Department of Justice Traffic Safety Resource Prosecutor
Schmelzer, Margaret	WI Department of Health Services
Schultz, Capt. Randy	Brown County Sheriff’s Office
Slavin, Libbe	Safe Kids-Wisconsin
Stetenfeld, Ernie	Stetenfeld & Associates
Szymkowski, Todd	UW Traffic Operations & Safety Lab
Thompson, Dan	WI League of Municipalities
Turpin, Rebecca	WI Department of Health Services
Warrington, Sgt. Warren	Menominee Tribal Police Department
Welch, Tom	Iowa DOT, AASHTO Standing Committee on Highway Traffic Safety
Witter, Mike	National Hwy Traffic Safety Administration – Region 5
Wittke, Cheryl	Madison Safe Community Coalition
Young, Bob	WI Motor Carriers Association

<i>Internal Partners</i>	
<b>NAME</b>	<b>AFFILIATION</b>
Alley, Rhonda	Division of Motor Vehicles (DMV)/Bureau of Vehicle Services (BVS)
Andreasson, Laura*	Division of State Patrol (DSP)/Bureau of Transportation Safety (BOTS)
Banach, Brian	DMV/Bureau of Driver Services (BDS)
Beason, Blinda	DSP/BOTS
Beekman, Tom	Division of Transportation System Development (DTSD)/Northwest Region

Bernander, Paul	DMV/BVS
Boardman, Adam*	Division of Transportation Investment Management (DTIM)/Bureau of State Highway Programs (BSHP)
Corsi, Larry	DSP/BOTS
Egan, Erin	DMV/BDS
Fernan, Patrick	DMV
Fleming, Pat	DTSD/Bureau of Project Development (BPD)
Frazier, Carson	DMV
Goetzman, Mike	Office of Public Affairs (OPA)
Hjelsand, Jill	DMV/Bureau of Field Services (BFS)
Hughes, Dennis*	DSP/BOTS
Johnson, Dewayne*	DTSD/Southeast Region
Kleist, Rick	DMV
Leucinger, Dave*	DTIM/Bureau of Planning & Economic Development (BPED)
Lewis, Linda	DMV/BVS
Lonsdorf, Major Dan*	DSP/BOTS
Lorentz, Capt. Chuck	DSP/BOTS
Luther, Joann	DMV/BDS
Matteson, Chris	DMV/BFS
McFarlane, Mary	DMV/BDS
McHugh, Kristin	DTSD/North Central Region
Neil, Brian	DMV/BDS
Nelson, Scott	DTSD/Northeast Region
Notbohm, Tom	DTSD/Bureau of Highway Operations (BHO)
Olson, Steve*	OPA
Patzer, Greg	DSP/BOTS
Pickard, Brent	DTSD/Northwest Region
Pierce, Stacey	DTSD/Southeast Region
Pruess, Dan	DTSD/Southwest Region
Richter, Anna*	Office of Policy, Budget & Finance (OPBF)
Schmit, Sheri	DTSD/Southeast Region
Schoenfeld, Brenda	DTSD/Southwest Region
Schwartz, Darlene	DMV/BDS
Sirmons, Ralph	DMV/BDS

Smith, Taqwanya*	DMV/BDS
Supple, Chuck	DMV/BVS
Szymkowski, Rebecca*	DTSD/BHO
Teasdale, Capt. Chuck	DSP/BFO
Thiede, Chuck	DTIM/BSHP
Tracey, Jim	DTIM/Bureau of Rails and Harbors (BORAH)
Vieth, Dave	DTSD/BHO
Wagner, Sgt. Eugene	DSP/BFO
Zogg, Jerry*	DTSD/BPD

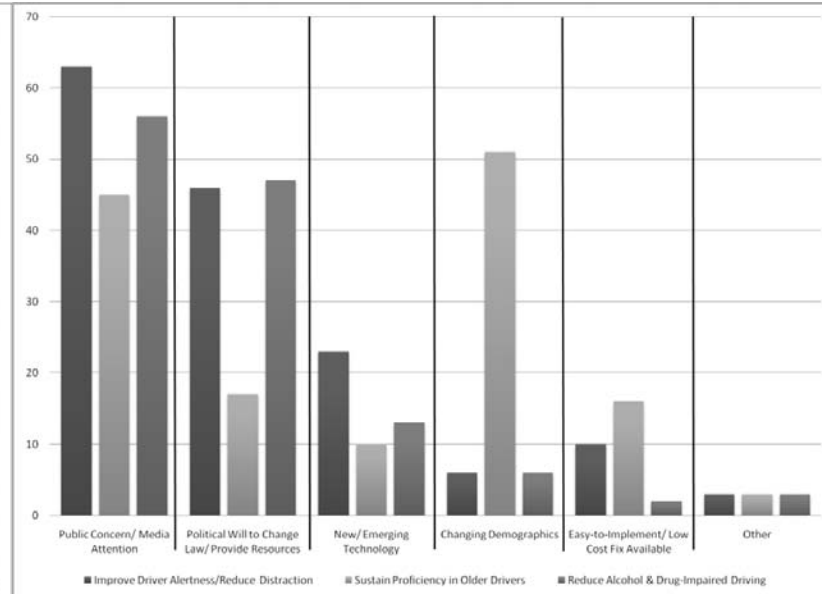
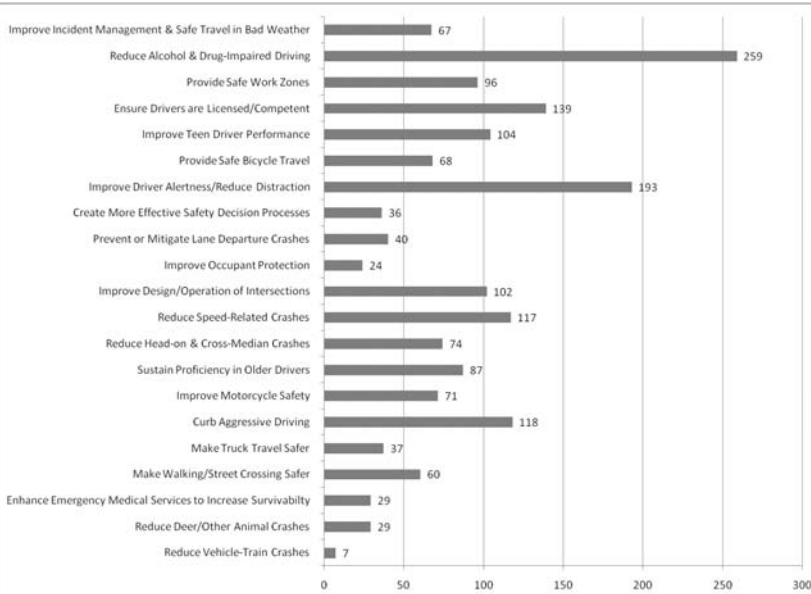
<i>Event Support Staff</i>	
<b>NAME</b>	<b>AFFILIATION</b>
Knoop, Tom	DSP/BOTS
Lebwohl, Alison	OPBF
Lordo, Kathleen	DSP/BOTS
Lyden, Donald	DSP/BOTS
Mylrea, Sharon	DBM
Nodorft, Janet	DSP/BOTS
Schwabe, Vicki	DSP/BOTS

# Survey Results

## 382 Participants

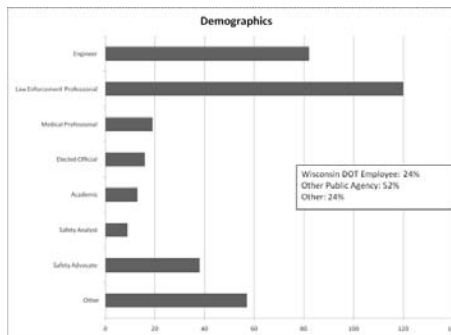
From this list, on which FIVE do you most want the State to focus its attention and resources.

The unique window of opportunity for the next top three.



### Top 5:

1. Reduce Alcohol & Drug Impaired Driving
2. Improve Driver Alertness/Reduce Distraction
3. Ensure Drivers are Licensed /Competent
4. Curb Aggressive Driving
5. Improve Teen Driver Performance



### The Next Top 3:

1. Improve Driver Alertness/Reduce Distraction
2. Sustain Proficiency in Older Drivers
3. Reduce Alcohol & Drug-Impaired Driving

## SHSP Peer Exchange Recommendations

Numerous recommendations flowed out of the SHSP Peer Exchange for each of the highest priority issue areas. These were intended to serve as thought-starters for future discussion by work groups assigned to develop action plans for each issue area. They are summarized below, sorted by initiatives that WisDOT could undertake on its own, initiatives that are dependent on statutory changes by the Wisconsin Legislature, and initiatives that other state agencies or local highway safety partners could undertake.

### Improve *Design and Operation of Intersections*

WisDOT Initiatives	Legislative Initiatives
<p><b><i>Geometric improvements</i></b></p> <ul style="list-style-type: none"> <li>• more roundabouts where appropriate</li> <li>• more roundabouts near schools</li> <li>• J-turns with access planning/modifications</li> <li>• focus on low/medium cost remedies</li> <li>• pedestrian/bike accommodations</li> <li>• transit planning/issues</li> </ul>	
<p><b><i>Increase pro-active education effort</i></b></p> <ul style="list-style-type: none"> <li>• multi-lane roundabouts</li> <li>• pedestrian/bike use of roundabouts</li> <li>• access modifications</li> <li>• business enhancements</li> <li>• conduct road safety audits</li> <li>• traffic signals</li> </ul>	
<p><b><i>Greater use of existing technology</i></b></p> <ul style="list-style-type: none"> <li>• pedestrian crosswalk countdown timers</li> <li>• signal head for each traffic lane</li> <li>• stop sign assist technology</li> </ul>	<p><b><i>Greater use of existing technology</i></b></p> <ul style="list-style-type: none"> <li>• Allow use of cameras for red-light running enforcement</li> </ul>

### Reduce Speed-Related Crashes

WisDOT Initiatives	Legislative Initiatives
<p><b>Assess emerging technologies</b> (costs/benefits, conduct policy analysis, gauge political support)</p> <ul style="list-style-type: none"> <li>feasibility/logistics of camera-based enforcement</li> <li>speed feedback signs</li> <li>speed governors</li> </ul>	<p><b>Greater use of existing technology</b></p> <ul style="list-style-type: none"> <li>Allow use of cameras for speed enforcement</li> </ul>
<p><b>Use traffic safety schools to educate about speed related hazards</b> (posted speeds vs. speed too fast for conditions)</p>	
<p><b>Work with judiciary to better address speed related safety issues</b> (greater consistency in adjudicating speed citations)</p>	<p><b>Graduated fine structure</b> (higher fines for repeat offenders)</p>
<p><b>Provide more resources for speed enforcement</b></p> <ul style="list-style-type: none"> <li>specialized traffic enforcement units</li> <li>overtime for enhanced enforcement efforts</li> <li>more consistency in speed tolerance, speed enforcement, LE visibility/presence</li> <li>measure performance via citations/person-hours/travel speeds/speed related crashes</li> </ul>	

### Reduce Head-On and Cross-Median Crashes – Prevent/Mitigate Lane-Departure Crashes

WisDOT Initiatives	Legislative Initiatives
<p><b>Install centerline and shoulder rumble stripes</b> on 2-lane highways at high crash locations; follow up with annual monitoring of installations</p>	
<p><b>Improve behind-the-wheel or driver education instruction</b> to avoid over-correction; include related test questions on DMV driver knowledge exam</p>	
<p><b>Implement corridor approach to median protection</b>; follow up with annual monitoring of installations</p>	

**Design Safer Work Zones**

<p style="text-align: center;"><b>WisDOT Initiatives</b></p>	<p style="text-align: center;"><b>Legislative Initiatives</b></p>
<p><b>Enforcement</b></p> <ul style="list-style-type: none"> <li>• supplemental</li> <li>• flexible</li> <li>• increased visibility</li> <li>• camera-based enforcement</li> <li>• rational speed limits</li> <li>• design accommodations for safe enforcement and emergency vehicle turnaround</li> </ul>	<p><b>Enforcement</b></p> <ul style="list-style-type: none"> <li>• Allow use of cameras for work zone speed enforcement</li> </ul>
<p><b>Traveler Information</b></p> <ul style="list-style-type: none"> <li>• awareness of WZ traffic law</li> <li>• media/public outreach effort</li> <li>• improved real-time information on road/traffic conditions via electronic signs, 511 system and IntelliDrive</li> <li>• funding for annual media campaign</li> </ul>	
<p><b>Data</b></p> <ul style="list-style-type: none"> <li>• better use of data to ID key problems and engineering solutions</li> <li>• use portable cameras/video systems</li> <li>• systematic monitoring of WZ statewide</li> <li>• system-wide crash analysis</li> </ul>	

**Reduce Alcohol/Drug Impaired Driving**

WisDOT Initiatives	Legislative Initiatives	Non-WisDOT Initiatives
<p><b>High-visibility enforcement;</b> increase perceived risk of apprehension</p> <ul style="list-style-type: none"> <li>• sobriety checkpoints</li> <li>• pro-active enforcement targeting repeat offenders</li> <li>• saturation patrols</li> </ul>		<p><b>High-visibility enforcement;</b> increase perceived risk of apprehension</p> <ul style="list-style-type: none"> <li>• sobriety checkpoints</li> <li>• proactive enforcement targeting repeat offenders</li> <li>• saturation patrols</li> </ul>
	<p><b>Change OWI penalties</b></p> <ul style="list-style-type: none"> <li>• Increased penalties for OWI</li> <li>• Ignition Interlock Devices for all offenders</li> <li>• Increased/expanded use of probation</li> </ul>	
	<p><b>Increased funding for alcohol-related initiatives</b></p> <ul style="list-style-type: none"> <li>• higher OWI surcharge</li> <li>• improve payment of OWI surcharge via income tax intercept</li> <li>• create fee for FPF suspensions</li> <li>• higher beer excise tax</li> <li>• higher fees for alcohol sales permits</li> </ul>	
<p><b>Change Wisconsin's OWI "culture"</b></p> <ul style="list-style-type: none"> <li>• school-based initiatives</li> <li>• broaden focus to prescription drugs</li> <li>• social marketing</li> <li>• community-based initiatives</li> <li>• employer partnerships</li> </ul>	<p><b>Change Wisconsin's OWI "culture"</b></p> <ul style="list-style-type: none"> <li>• lower PAC level from 0.08</li> <li>• lower MLDA to 19</li> <li>• increase Not-a-Drop age to 25</li> </ul>	<p><b>Change Wisconsin's OWI "culture"</b></p> <ul style="list-style-type: none"> <li>• school-based initiatives</li> <li>• broaden focus to prescription drugs</li> <li>• social marketing</li> <li>• community-based initiatives</li> <li>• employer partnerships</li> </ul>

**Improve Driver Alertness / Reduce Driver Distraction**

WisDOT Initiatives	Legislative Initiatives
<i>Track/analyze inattentive driving violations/crashes</i>	
<p><b>Education campaign on dangers of inattentive driving</b></p> <ul style="list-style-type: none"> <li>• public service announcement</li> <li>• podcasts, webcasts, tweets</li> <li>• part of driver education curriculum</li> <li>• use more hard-hitting/graphic PSA's</li> <li>• develop risk assessment tool</li> <li>• "Take-a-Nap" campaign</li> <li>• targeted enforcement effort</li> </ul>	
<p><b>Improved signage</b></p> <ul style="list-style-type: none"> <li>• improve visibility by removing roadside obstructions</li> <li>• increase retro-reflectivity</li> <li>• use solar-powered LED's</li> <li>• limit location/number of electronic advertising</li> </ul>	
	<p><b>Ban the use of hand-held electronic telecommunication devices while driving</b> (stage the changes, starting as GDL restrictions or only in metropolitan areas)</p>
	<p><b>Higher penalties for inattentive driving</b> if texting while driving</p>

**Improve Occupant Protection**

WisDOT Initiatives	Legislative Initiatives
<p><b>Education for multiple target audiences</b></p> <ul style="list-style-type: none"> <li>• Law enforcement (seat belt law, CPS)</li> <li>• Young/new drivers (including both teens and new drivers over age 18)</li> <li>• Media, especially teen-oriented (YouTube, Facebook)</li> </ul>	
<p><b>Targeted enforcement</b></p> <ul style="list-style-type: none"> <li>• especially young males and pickup truck drivers</li> <li>• focus on vehicles carrying more occupants than seating available</li> <li>• focus on groups with cultural history of misuse/non-use</li> <li>• make effective use of media/HVE</li> </ul>	
	<p><b>Increase consequences for misuse/non-use</b></p> <ul style="list-style-type: none"> <li>• higher fines for seat belt violations</li> <li>• tiered fines for repeat violations</li> <li>• include court costs</li> <li>• demerit points</li> </ul>
	<p><b>Allow seat belt checkpoints</b></p>

***Improve Teen Driver Performance – Ensure Drivers are Licensed and Competent – Sustain Proficiency in Older Drivers***

<p style="text-align: center;"><b>WisDOT Initiatives</b></p>	<p style="text-align: center;"><b>Legislative Initiatives</b></p>
<p><b><i>Education for Parents of Teen Drivers</i></b></p> <ul style="list-style-type: none"> <li>• parental guidelines for behind-the-wheel supervision</li> <li>• information about risks of teen drivers and GDL guidelines</li> <li>• how to model good behavior</li> </ul>	<p><b><i>Limit suspension/revocation of driver license to safety/driver behavior</i></b></p> <ul style="list-style-type: none"> <li>• eliminate DL susp/rev for FPJ/FPF and 4<sup>th</sup> or subsequent revocation</li> <li>• encourage collecting unpaid forfeitures via income tax refund intercept</li> </ul>
	<p><b><i>Consistent enforcement of OWS/OAR violations</i></b></p>
	<p><b><i>Mandatory re-testing for problem drivers</i></b></p> <ul style="list-style-type: none"> <li>• habitual traffic offenders</li> <li>• drivers with excessive number of traffic convictions/crashes per year</li> <li>• at-fault drivers in crashes</li> </ul>
	<p><b><i>Strengthen Graduated Driver License (GDL) law</i></b></p> <ul style="list-style-type: none"> <li>• no cell phone use</li> <li>• move begin time for curfew from Midnight to 10PM</li> <li>• require more supervised practice driving time</li> <li>• increase behind-the-wheel time</li> <li>• apply GDL restrictions to all drivers</li> <li>• increase GDL enforcement</li> </ul>

**Improve Motorcycle Safety**

<p style="text-align: center;"><b>WisDOT Initiatives</b></p>	<p style="text-align: center;"><b>Legislative Initiatives</b></p>
<p><b><i>Rider Education</i></b></p> <ul style="list-style-type: none"> <li>• increase training opportunities for experienced riders</li> <li>• develop new rider education curriculum</li> <li>• promote training</li> <li>• create incentives to take training</li> <li>• make training more available</li> </ul>	
<p><b><i>Improved motorist awareness of motorcycles</i></b></p> <ul style="list-style-type: none"> <li>• produce MC-specific media targeting motorists</li> <li>• use mobile classroom to promote motorist awareness and value of continued rider education for MC operators</li> </ul>	
<p><b><i>Focus on impaired motorcycle riding</i></b></p> <ul style="list-style-type: none"> <li>• target both motorcycle operators and alcohol servers</li> <li>• promote cultural change</li> <li>• continue “5=Zero” and “G/Y/R” campaigns but expand to include law enforcement component</li> </ul>	<p><b><i>Focus on impaired motorcycle riding</i></b></p> <ul style="list-style-type: none"> <li>• Reduce PAC limit for motorcycle operation</li> </ul>

**Create More Effective Safety Decision Processes – Improve Incident Management/Safe Travel in Bad Weather**

WisDOT Initiatives
<p><b>Data System Improvements</b></p> <ul style="list-style-type: none"> <li>• MUTCD change compliance</li> <li>• Develop real-time GPS coordinate crash location/ reporting system</li> <li>• Revise MV4000 crash report form every 3-5 years</li> </ul>
<p><b>Improved Application of Safety Data</b></p> <ul style="list-style-type: none"> <li>• Statewide uniformity crash rate safety standards</li> <li>• Continue efforts on signage and simplistic designs; look at interchanges or overpasses</li> <li>• Review and incorporate appropriate international approaches to improving safety</li> <li>• Provide financial support to community traffic safety coalitions</li> <li>• Better data needs to be provided to enforcement agencies so limited resources can be targeted</li> </ul>
<p><b>Improved Incident Management</b></p> <ul style="list-style-type: none"> <li>• Promote integration of EMS operations with highway safety</li> <li>• Ensure quick responses to slick/snowy highways and utilize the latest de-icing techniques</li> <li>• Provide training and funding for joint multiple jurisdiction training exercises</li> <li>• Pilot test dynamic speed signs tied to RWIS</li> <li>• Increase ITS along regional freeways</li> <li>• Re-evaluate winter road maintenance practices</li> </ul>

## Recommendations of SCAODA Work Group (2010)

In 2009, a work group formed by the State Council on Alcohol and Other Drug Abuse (SCAODA) considered options to improve Wisconsin's alcohol "culture." WisDOT was represented on this SCAODA work group. In February 2010, the work group issued a variety of recommendations, including 21 that would require initiative at the state level, especially statutory changes. The seven recommendations relevant to WisDOT scope of program authority or policy interest included the following:

- Repeal the prohibition on sobriety checkpoints
- Retain the 21 Minimum Legal Drinking Age (MLDA)
- Change OWI law to narrow the look-back period for counting purposes to a ten-year window from the time of the current offense, but require DMV records to continue to reflect all convictions, revocations, and suspensions as of January 1, 1989, and retain the look-back period to January 1, 1989 for homicide by intoxicated use, and great bodily harm by intoxicated use
- Require that law enforcement enter underage absolute sobriety violations with blood alcohol less than 0.08 on the citation, and release the offender to a responsible adult, without the transport and processing required of an adult charged with OWI
- Expand the number of alternative patron/customer transportation programs eligible for funding collected from the OWI surcharge
- The Department of Health Services or another designated state agency should undertake a long-term media campaign outlining adult responsibilities and liability exposure that may occur as a result of purchasing, providing, or pouring alcohol for underage individuals other than their own child or spouse
- Establish a statewide goal of 80% licensed retail compliance with minimum legal drinking age laws, and support local alcohol age compliance checks in the form of coordinated federal and state funding streams for law enforcement overtime, equipment purchases, and civilian support services

## List of Acronyms

AASHTO	American Association of State Transportation Officials	MnDot	Minnesota Department of Transportation
BDS	Bureau of Driver Services	MPO	Metropolitan Planning Organization
BFS	Bureau of Field Services	MUTCD	Manual on Uniform Traffic Control Devices
BOTS	Bureau of Transportation Safety	MwRSF	Midwest Roadside Safety Facility
CDL	Commercial Driver's License	NCHRP	National Cooperation of Highway Research Program
CMC	Cross Median Crash	NEA	New Entrant Audit
CME	Continuing Medical Education	NHTSA	National Highway Traffic Safety Administration
CMF	Crash Modification Factor	NSC	National Safety Council
CMV	Commercial Motor Vehicle	OSOW	Oversize/Overweight
CODES	Crash Outcome Data Evaluation System	OWI	Operating While Intoxicated
CPS	Child Passenger Safety	PCC	Possible Contributing Circumstance
DMV	Division of Motor Vehicles	PSAs	Public Service Announcements
DPI	Department of Public Instruction	RICAS	Rural Intersection Collision Avoidance System
DSP	Division of State Patrol	ROR	Run-off-the-road
DTIM	Division of Transportation Investment Management	SCAODA	State Council on Alcohol and Other Drug Abuse
DTSD	Division of Transportation System Development	SDD	Standard Detail Drawings
EMS	Emergency Medical Services	SHSP	Strategic Highway Safety Plan
ETO	Emergency Transportation Operations	SIMS	Signing Inventory Management System
FDM	Facilities Design Manual	SPF	Safety Performance Functions
FHWA	Federal Highway Administration	STH	State Trunk Highway
FMCSA	Federal Motor Carrier Safety Administration	STIP	State Transportation Improvement Plan
FYA	Flashing Yellow Arrow	STOC	Statewide Traffic Operations Center
GDL	Graduated Driver Licensing	TGM	Traffic Guidelines Manual
HRRRP	High Risk Rural Road Program	TMPs	Transportation Management Plans
HSIP	Highway Safety Improvement Program	TOPS Lab	Traffic Operations and Safety Laboratory
HSM	Highway Safety Manual	TRB	Transportation Research Board
HVE	High Visibility Enforcement	TRCC	Traffic Records Coordinating Committee
ICE	Intersection Control Evaluation	TSC	Traffic Safety Council
IID	Ignition Interlock Device	TSDM	Traffic Signal Design Manual
ILT	Incident Location Tool	TSEWG	Traffic Safety Engineering Workgroup
ISET	Intersection Safety Evaluation Tool	UW	University of Wisconsin-Madison
JSOOC	Joint Systems Operations Oversight Committee	VMT	Vehicle Miles Traveled
LEL	Law Enforcement Liaison	WARDS	Wisconsin Ambulance Run Data System
LiDAR	Light Detection and Ranging	WDTSEA	Wisconsin Driver and Traffic Safety Educator Association
LTAP	Local Technical Assistance Program	WisDOT	Wisconsin Department of Transportation
MCSAP	Motor Carrier Safety Assistance Plan	WISLR	Wisconsin Information System for Local Roads
MDSS	Maintenance Decision Support System	WTSOA	Wisconsin Traffic Safety Officer's Association
MIMS	Marking Inventory Management System	ZIW	Zero in Wisconsin

## **WisDOT Traffic Safety Council (2011-2013)**

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