

CROSSROADS



WISCONSIN TRANSPORTATION INFORMATION CENTER – LTAP at the University of Wisconsin–Madison

Reduce risks of distracted driving

For local governments, reducing the risks of distracted driving in street and highway operations requires vigilance and strategies that address the root causes.

DISTRACTED DRIVING and driver fatigue are significant issues, both locally and nationally. Activities that divert attention from the road, like texting or cell-phone use, escalate a driver's risk of having an accident. Wisconsin is one of several states that outlaw texting and, although using a cell phone while driving remains legal in the state, authorities discourage drivers from holding cell-phone conversations while in traffic. Fatigue also raises crash risks. Long hours behind the wheel or at the controls in a demanding job can diminish critical response time.

For local governments, reducing the risks of distracted driving in street and highway operations requires vigilance and strategies that address the root causes. This article explores relevant research



CREDIT: POLK COUNTY

Operating a plow truck requires the driver stay alert to road conditions, other vehicles, potential hazards and an array of complex equipment controls. Unnecessary distractions can create a crash risk.

and looks at ideas from simulator training to policies on shift limits for improving a department's drive-safe record. A future issue of *Crossroads* will address drowsy driving and discuss useful prevention strategies.

Every second adds risk

Why is distraction such a big deal? Chances of a crash increase when people drive distracted. Tasks associated with driving and non-driving activities divert drivers' eyes from the road and every second away from the road counts. John Lee, a professor in the Department of Industrial and Systems Engineering in the College of Engineering at the University of Wisconsin–Madison who researches causes of driver distraction, notes that studies dating back to the 1960s found the maximum time the eye can

be diverted from a driving task without significant adverse effect is 1½ to 2 seconds. Attention to the road deteriorates dramatically the longer a driver looks away.

There is little driver distraction research specific to street and highway vehicle operations. But Lee suggests that studies of driver distraction in commercial truck and bus operations shed useful light on factors relevant in all these sectors.

A 2009 Virginia Tech study involving commercial truck and bus drivers calculated the "odds ratios" for different driver tasks that could distract them. The ratios measure how many times more likely it is a safety-critical event will occur when a driver does a particular task versus when not engaging in the task. For example, the study found that texting while



Odds Ratios for Driving Distractions

Type of risky distraction	Times more likely an event will occur
Compose/send text message	23.24
Interact with keyboard and screen	9.93
Write on pad or notebook	8.98
Read a map	7
Use electronic device, including 2-way radio	6.72
Dial cell phone	5.93
Read newspaper/do paperwork	3.97
Reach for object in vehicle	3

Virginia Tech researchers identified the odds of a safety-critical event occurring when drivers engaged in certain non-driving tasks behind the wheel. This partial list indicates the likelihood that they will create a safety risk.

De Pere finds anti-icing benefits entire snow operation

Bringing brine production in-house allows the department to customize the salt brine blends they use and manage availability of the right mix to treat local roads, bridges and streets.

TWO SEASONS of putting a limited anti-icing program to the test persuaded the City of De Pere Public Works Department to do more. This summer, they are installing brine-making equipment so they can produce the quantity and quality of material needed to expand anti-icing efforts this winter.

De Pere Director of Public Works Scott Thoresen says bringing brine production in-house allows his department to customize the salt brine blends they use and manage availability of the right mix to treat local roads, bridges and streets. Set-up is a work in progress, but

the course Thoresen and his crew followed to explore the benefits of both anti-icing and pre-wetting provided them with proof of how these winter maintenance strategies can benefit and improve their entire snow operation.

More with less

Until 2008, De Pere used the traditional approach of applying rock salt followed by plowing in response to snow events. The limitations of salt—ineffective below a certain temperature, sometimes requiring repeat applications—prompted Thoresen to try something else. The department purchased a liquid salt product (Geomelt) for the 2008-09 snow season to mix with its salt supplies before putting them into storage. The goal of the mixture was to help the road salt melt snow and ice efficiently, reduce application rates and work at lower temperatures. “It was our first experience using a modified salt product and we wanted to see what it saved us in time and materials,” he recounts. In the end, the city reaped minimal savings so Thoresen and his crew members started to research how other communities were doing more with less.

They visited street and highway operations in Wisconsin and Illinois that use anti-icing and pre-wetting in their winter maintenance arsenals. Thoresen had no interest in “reinventing the wheel” so he reached out to a network of these other public works and highway departments to get the answers quickly. “There’s a lot of knowledge and experience in the field,” he notes, “and people willing to share what they know.”

Trial year gets results

Anti-icing involves putting down a liquid salt brine mix prior to or at the onset of a storm, immediately breaking the bond between pavement surface and snow.

The process helps melt the initial accumulation of snow and prevent snow from bonding to the pavement for easier, more complete snow removal. In the case of pre-wetting, once a snow event begins, operators add a chemical liquid to the salt solids via the spreaders as they treat a roadway. It helps activate the salt on contact and reduces the amount that bounces off the road by more than 25 percent.

Thoresen saw these approaches were gaining advocates across the state and felt one or both had potential for his own operation as long as he had reasonable access to a supply of salt brine. He worked with Brown County Highway Department the next year to supply the salt brine his department needed to test the benefits of anti-icing.

The arrangement initiated De Pere’s program. “We started small, putting down a couple thousand gallons prior to a storm mostly on major arterials, bridges and trouble spots,” explains Thoresen.

The results were encouraging. On brine-treated test sections, it was apparent the plow operators could clear snow accumulation down to bare pavement. They also observed that the initial accumulation melted and did not adhere to pavement sections where they had applied the salt brine.

Manage expansion, control mixes

Expanding the operation beyond primary arterials made strategic sense. But costs associated with transporting the salt brine and scheduling pick-ups from the county site limited De Pere’s capacity and efficiency. The city also competed with other municipalities for the county supplies.

Another consideration was the opportunity to improve the effectiveness of the anti-icing



Photos taken during an anti-icing pilot De Pere conducted two years ago show the contrast between the brine-treated half of a city street on the right and the untreated side. Application at the onset of a storm helped break the bond of snow and ice to pavement, making clean removal easier.

liquids at low temperatures by blending calcium chloride, magnesium chloride and agricultural byproducts like Geomelt with the salt brine. Thoresen felt the best chance of doing this well was to have their own equipment in-house so they could blend on the spot. Because the new brine-making system has the capacity for blending the other additives to the base brine, Thoresen says they plan to monitor air and pavement temperatures during snow events so they can develop brine blends customized to weather conditions, starting with a general recipe of about 80 percent salt brine, 10 to 15 percent calcium chloride, and 5 to 10 percent Geomelt.

As the department refines its brine-making and blending process, De Pere hopes the anti-icing operation—and a pre-wetting program that begins this season—will reduce salt use by 25 to 35 percent and help keep labor costs in check, especially reducing the need for overtime. Pre-wetting alone could produce most of the savings once operators adjust salt application rates downward and lock them in.

Using less salt also reduces the impact of winter road operations on the environment, a fact Thoresen describes as another benefit of their approach.

Running the numbers

Thoresen did his homework on the brine-making equipment to judge its payback value and provide City Council members good reason to

The results were encouraging. On brine-treated test sections, it was apparent the plow operators could clear snow accumulation down to bare pavement.



A test street in De Pere during a snow event illustrates the impact of an anti-icing operation. Treated pavement resists initial snow and ice accumulation prior to plowing.

approve the expenditure of approximately \$125,000 for the brine-making system—which they did. The city also invested about \$125,000 to equip two trucks for anti-icing and install pre-wetting equipment on all its salt trucks.

He anticipates at least 20 years of service from the system and the ability to recoup the investment in six or seven years. The department's \$100,000 snow removal budget for last year, projections of \$30,000 in salt savings annually and the real potential of streamlining deployment of operators and trucks, puts the upfront costs into perspective. Thoresen expects that taking control of brine production for De Pere's anti-icing and pre-wetting programs will improve the performance of the department's winter maintenance operation overall.

In addition, De Pere is the first among area cities and villages to set up an operation like this. Inquiries from smaller communities suggest once the operation is up and running, the department can offset some costs by supplying neighboring cities and towns with brine mixes.

Ready response

For the upcoming snow season, De Pere has two trucks dedicated to anti-icing and all the city's trucks equipped for pre-wetting. The plan is to continue treating primary streets first and then move on to treat all other streets and roads as resources and storm events allow.

Thoresen says it might take the department a few years to perfect the recipe or recipes that are effective for snow and ice control in their region. "But the technology behind the state-of-the-art equipment our crews are training on now gives us the tools to keep improving our approach and response time."

Public works directors, street supervisors and other local road officials can learn more about a variety of cost-effective winter maintenance practices, including anti-icing and pre-wetting, at an upcoming **Winter Road Maintenance** workshop session. The Wisconsin Transportation Information Center is offering the program in October. Check the **Calendar** on page 12 for information on dates, locations and how to register. ■

"The technology behind the state-of-the-art equipment our crews are training on now gives us the tools to keep improving our approach and response time."

Contact

Scott Thoresen
City of De Pere
920-639-1003
sthoresen@mail.de-pere.org

Resource

tic.egr.wisc.edu
Follow links to workshops on this page for more information about *Winter Road Maintenance*.

Reduce risks of distracted driving

from page 1

Training drivers to recognize distractions and the factors affecting their attention to the road is an important strategy for combating distracted driving.

Resources

Driver Distraction in Commercial Operations (No. FMCSARRR-09-042), Virginia Tech, Sept. 2009. www.distraction.gov/research/PDF-Files/Driver-Distraction-Commercial-Vehicle-Operations.pdf

Distraction in Commercial Trucks and Buses: Assessing Prevalence and Risk in Conjunction with Crashes and Near-Crashes (Report No. FMCSA-RRA-10-049)

Tech Brief: www.fmcsa.dot.gov/facts-research/research-technology/tech/Distraction-in-Commercial-Trucks-and-Buses.pdf

Full report: www.fmcsa.dot.gov/facts-research/research-technology/report/Distraction-in-Commercial-Trucks-and-Buses-report.pdf

driving is nearly 24 times more likely to create an unsafe situation than *not texting* under similar conditions. The odds ratio for using a keyboard and screen scored close to 10—the odds of how much more likely it is that entering information on the device while driving could cause a safety-critical event. See the list on page 1 for more examples.

In the study, some seemingly distracting tasks did not have high odds ratios. The ratios for talking or listening to a phone call using a hand-held or hands-free phone, or consuming food and drink were only slightly higher than 1.

Lee points out that other studies suggest *any* cell phone use while driving can cause distraction, even when that use does not divert the eyes from the road.

Text messaging clearly rates as the riskiest driving behavior. But other distractions cited in the study as posing a significant hazard are comparable to tasks engaged in by street and highway department vehicle operators.

Simulating risks

Training drivers to recognize distractions and the factors affecting their attention to the road is an important strategy for combating distracted driving. Drivers can learn to minimize the length of time they look away or do so at locations with fewer potential conflicts.

“Some professional drivers know how to time their glances, unlike teens or other new drivers,” Lee observes, although he says they cannot glance away from the driving task any longer than other drivers.

Sauk County uses a driving simulator for 95 percent of the training it does in defensive driving for police, fire, public works and highway crews. Safety Risk Manager Carl Gruber says the simulator improves on traditional programs that train drivers to manage distractions while handling plowing equipment on summer pavements. The

simulator effectively replicates a variety of road/pavement types and weather conditions. It can run hundreds of scenarios with situations that highway department drivers encounter in a snow event or road project, like high-volume traffic, tailgating, reduced visibility or a blown tire.

Teaching drivers to manage distraction is part of the simulator training where Gruber can create complex challenges impossible to duplicate in on-the-road training. He recently programmed a test drive that required an operator to control the truck using only the steering wheel and gas pedal but no brakes in simulated snowstorm conditions. Among the advantages of honing people’s skills this way, he notes, is putting them in a realistic situation with only simulated damage if a maneuver fails. “You just hit reset!”

Besides simulator training every November, county crews attend the Highway Safety ROADeo sponsored each spring by the Wisconsin County Mutual Insurance Corporation. It features a driver skills course, vehicle inspection training, a written exam and other programs. Gruber says it gives employees a chance to try truck maneuvers in tight situations and to refresh their knowledge of safety issues.

The county updates its simulator training module every year to address any problems that may have occurred in the previous snow season. Gruber explains, “It allows us to keep employees driving defensively in a whole range of situations that put them or the public at risk.”

Rethink the equipment and the tasks

There is no question that more electronic devices behind the wheel increase the risk of glancing away from the road for too long. So how do local street and highway departments limit driving distractions in the cabs of department vehicles outfitted with two-way radios, Smart Phones, GPS

units, laptop computers, and an array of levers, knobs and touch screens that control truck-mounted equipment like plows and spreaders? The complexity inherent in this workplace on wheels might be inevitable. But accidents are not if agencies rethink the set-up of important communication and control equipment, and take a critical look at tasks and policies that define local snow and ice operations.

Make sure the after-market in-cab operator controls in trucks, including those for plows and spreaders, are positioned so drivers can reach them easily. Minimize the distance the eye must travel between road and driving task so the total time glancing away is no more than 2 seconds. Tasks that involve scrolling through on-screen menus or require the input of data are especially difficult to accomplish in this time frame. Keep tasks involving a series of steps to 1½ seconds per step and limit the total time for completing all the steps. GPS navigation systems often use SAE guidelines that provide for a total time of from 15 to 20 seconds for multi-step tasks depending on the measurement method.

When specifying controls for new vehicles, keep in mind the need to minimize driver distraction. Verify the installer understands where to place each control and does not deviate from those specifications without approval.

Policies influence practice

Policies are another way local governments influence safe practices behind the wheel, like a no-cell-phone policy or a prohibition against texting. When cell phones are necessary work tools, a policy that requires the operator to place or take calls only after safely stopping out of traffic helps reduce the crash risk.

Sauk County has a policy of no cell phones in county vehicles. Gruber says the county’s truck and plow operators communicate via radio and use the devices sparingly.



Sauk County road maintenance crews practice plow truck maneuvers on an obstacle course at the Highway Safety ROAdeo sponsored by Wisconsin County Mutual Insurance Corporation. These programs augment training sessions on the county's driving simulator.

Other policies could prohibit map reading, or doing paperwork while in motion. Adopt a policy of "no driving" while typing information or navigating multiple menus on touch screens or keyboards in the truck cab.

Make sure policies have the intended impact: Train employees to follow them and be prepared to enforce them.

Role of technology

Advances in technology may help reduce driver distraction. New Hampshire recently installed voice-activated technology in over 1,000 police cars in the state. The system uses a single interface operated by voice or touch screen to control multiple in-car technologies from different vendors. It is likely similar technologies will be available in the future for public works and highway applications.

A new generation of Head-Up displays are another tool on the horizon. The displays project information from sensors onto the windshield glass, enhancing the driver's ability to see objects in the road ahead. While the technology is improving, Professor Lee cautions it has limitations because drivers can only see and process a few things at a time. It takes careful design to display key information without creating excess visual stimulus that distracts the driver.

Alert to distractions

As Lee points out, "There's always a risk when a driver looks away from the road since there is no certainty about when an incident will happen. And this risk increases as the length of time they looking away increases."

Local road officials committed to making operations like winter road maintenance safer for plow operators and the general public need to address the risks of driver distraction. Both new and experienced drivers benefit from regular training that helps them better identify the hazards. Such training also should improve their ability to work safely in a

cab equipped with a range of communication and control devices that demand their time and attention.

Local governments have to manage many risks. A critical one is keeping street and highway crews alert to conditions that cause distracted driving. ■

Make sure policies have the intended impact: Train employees to follow them and be prepared to enforce them.

Contacts

Carl Gruber
Sauk County
608-355-4400
CGruber@co.sauk.wi.us

John Lee
UW-Madison
608-890-3168
jlee@engr.wisc.edu

Compliance dates change, standards remain

On August 30, the U.S. Department of Transportation published for comment a proposed amendment that extends or eliminates compliance dates for meeting a range of standards in the *Manual on Uniform Traffic Control Devices* (MUTCD). One change would extend by two years the compliance date for implementation of a sign management or assessment method to meet retroreflectivity standards. And, although another amendment proposes eliminating the compliance dates for meeting those standards, local governments are still responsible to comply as they replace worn out signs. The FHWA is asking for feedback on the proposed amendment during a comment period that ends October 31. Local road officials can review and post comments by going to <http://www.regulations.gov> and entering ID number FHWA-2010-0159-0646.



TIC adds enforcement to its traffic safety outreach



Wisconsin's Law Enforcement Liaisons are, L-R: George Silverwood, Terry Askey, Alvin Bishop, Bill Gau, and Ken Berg.

The LEL program gives local road officials an opportunity to improve the impact of their traffic safety efforts by collaborating with area law enforcement.

Contact

Local governments can learn more or connect with the LEL in their region by contacting the Wisconsin Transportation Information Center at 800-442-4615 or tic@epd.engr.wisc.edu or <http://tic.engr.wisc.edu>

Resources

<http://www.nhtsa.gov/Research> Link to research on crash causes and crash avoidance by the National Highway Traffic Safety Administration

WISCONSIN recorded 517 fatal crashes in 2010 that resulted in 562 deaths and 29,380 crashes that left 40,889 persons injured. Despite being the lowest number of such crashes in the state in six years, these statistics are a reminder that any death or injury is a tragedy that did not have to happen. Authorities once called these accidents. Not anymore. They are crashes and they are preventable.

Traffic crashes result from a number of contributing factors, and officers always identify those factors when they fill out the state crash report. Reported causes usually are behavioral, like impaired driving, distracted driving, excessive speed or driver error. Alcohol was a factor in more than 39 percent of Wisconsin fatalities in 2010, and speed a factor in nearly 30 percent. The most troublesome statistic is the lack of seat belt use, a factor year after year in more than 50 percent of traffic fatalities. This is dangerous and preventable.

Wisconsin seat belt use in 2009 was just under 74 percent, 10 percent below the national average and nearly 20 percent below that of five neighboring states. Education and vigorous enforcement of the state's recently adopted primary seat belt law should improve the numbers.

This effort includes the *Zero in Wisconsin* campaign, based on a national initiative that promotes a goal of reducing traffic fatalities to zero. Crash data show the state is making progress thanks to a focus on the 4 Es: **Engineering, Enforcement, Education and Emergency Services.**

The Wisconsin Transportation Information Center has long focused its traffic safety efforts on engineering. TIC works with local governments to encourage proper use of traffic signs and pavement markings, maintenance of safe rights-of-way, effective snow and ice control, and the design and construction of roadways that meet safety standards.

Now TIC adds the *enforcement "E"* to its traffic safety focus by incorporating the Wisconsin Bureau of Transportation Safety's Law Enforcement Liaison (LEL) Program into the organization's outreach. The goal is to enhance the joint strength and capability of local traffic enforcement and street and highway engineering and maintenance operations.

LELs in Wisconsin are responsible for contacting approximately 450 law enforcement agencies that do not receive overtime grant funding to encourage participation in focused enforcement and traffic safety programs like *Click It or Ticket*. Liaisons also provide public safety education at safety conferences and professional meetings.

Members of the LEL team are retired law enforcement professionals with vast experience in traffic safety. Four of them work in the field, the fifth coordinates and supports activities from Madison. Wisconsin's LELs are:

Alvin Bishop – SE Region LEL. Retired District Commander with the Wisconsin State Patrol with 26 years of experience in enforcement, training and leadership.

Ken Berg – NW Region LEL. Retired Undersheriff of Eau Claire County after 32 years in enforcement, training and leadership. Served as county

highway safety coordinator and adjunct instructor at Chippewa Valley Technical College.

Terry Askey – NE Region LEL. Retired City of Fitchburg Chief of Police. During 29 years managed department growth at a time when the city's population grew from 5,000 to 20,000 residents.

Bill Gau – SW Region LEL. Retired Captain of Operations for Fond du Lac Sheriff's Department with 34 years of experience in communications, enforcement, training and supervision. Served as county highway safety coordinator for 19 years.

George Silverwood – Madison-based LEL. Retired from Madison Police Department in 2004 after 32 years in Patrol, Personnel and Training, Traffic Support and as Executive Captain to the Chief of Police. Supervised Traffic Enforcement Safety Team and Crash Investigation Specialists. ■

CROSSROADS provides road and bridge information for local officials. Published quarterly by the Wisconsin Transportation Information Center (TIC) at the University of Wisconsin–Madison, it is part of the nationwide Local Technical Assistance Program (LTAP). TIC is operated by the University of Wisconsin–Madison and sponsored by the Wisconsin Department of Transportation and the Federal Highway Administration. Please contact us for permission to reproduce articles or graphics.

Steve Pudloski, Director
pudloski@epd.engr.wisc.edu

Ben Jordan, Staff Engineer
jordan@epd.engr.wisc.edu

Joni Graves, Program Director
graves@epd.engr.wisc.edu

Katie Pawley, Program Associate
pawley@epd.engr.wisc.edu

Mary Maher, Writer/Editor
WRITING & CREATIVE CONCEPTS

Susan Kummer, Graphic Designer
ARTIFAX, PUBLICATIONS BY DESIGN



TIC hosts Safety Edge Demonstration Day

The Wisconsin Transportation Information Center invites local road officials to attend an **Every Day Counts Safety Edge Demonstration Day** on Wednesday, October 12, at the Paradise Shores Resort in Holcombe, Wisconsin.

Safety Edge reduces run-off-the-road crashes and crash severity, and significantly improves safety on local rural roads when combined with other low-cost safety improvements. The technique is easy to implement in asphalt paving and asphalt overlay projects. Participants in the event will:

- Hear about pavement edge drop-off safety hazards
- Learn how Safety Edge can reduce those hazards
- See installation of Safety Edge on two-lane asphalt road project

The program also showcases some of the other low-cost safety improvements that work well with Safety Edge:

- Modify super-elevation, horizontal curves and vertical curves in a full-depth reclamation project
- Improve guardrails
- Upgrade warning signs and pavement markings
- Improve sight distances

TIC will hold the October 12 program rain or shine. If the weather prevents an outdoor session, organizers will demonstrate Safety Edge and other improvements through presentation and discussion. Go to <http://tic.egr.wisc.edu/Workshops> to register or call (800) 462-0876. ■

RESOURCES

Print copies of listed publications are available free from TIC. Download or request items at [Publications](#) on TIC website. Videos, CDs, and DVDs loaned free at county UW-Extension offices. Also see [Video Catalog](#) on TIC website.

<http://tic.egr.wisc.edu/>

Publications

Using Salt and Sand for Winter Road Maintenance, TIC Bulletin #6, 4 pp., 2005. Information about using chemicals and sand in winter maintenance operations.

Pre-wetting and Anti-icing, TIC Bulletin #22, 8 pp., 2005. Guidelines on using these winter maintenance techniques.

Web Sources

The **Minnesota Safety Council** offers distracted driving prevention training resources. Download presentation file, participant guide and instructors guides, sample policy and other useful tools. www.minnesotasafetycouncil.org/traffic/distracteddriving/

Source for distracted driving prevention training materials, a training video and computer-based training. Targets transit bus operators but the concepts apply to training of public works and highway operators. www.transitoperations.org/distracteddriving/florida.html

Links to distracted driving info. www.distraction.gov

DriveCam video center offers clips of actual distracted driving incidents with shots of the driver and the driver's view through the windshield.

www.drivecam.com/resource-center/video-center

Federal Highway Administration site has information, specifications and reports on Pavement Edge drop-offs and Safety Edge.

http://safety.fhwa.dot.gov/roadway_dept/pavement/safedge/

AAA Foundation for Traffic Safety report on Safety Impacts of Pavement Edge Drop-offs.

www.aaafoundation.org/pdf/PEDO_report.pdf

Five-year crash statistics (2005-10) for Wisconsin by crash type and cause, and by county.

www.dot.wisconsin.gov/drivers/drivers/traffic/crash/

National Highway Traffic Safety Administration's State Motor Vehicle Crash Statistics (2005-09). Includes data on injuries and deaths for the 50 states and U.S. territories.

www.nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/stsi/usa_web_report.htm

Community Maps-Crash provides Wisconsin's local law enforcement, traffic engineers, and Traffic Safety Commissions with an online tool for visualizing and mapping crash data. Fatal crash locations mapped from 2001 to the present.

http://tic.egr.wisc.edu/Community_Maps/index.lasso

Tips on avoiding distracted driving with video clips and discussion questions. Can use in driver training.

www.fmcsa.dot.gov/about/outreach/education/driverTips/Driver-Distraction-all.htm

DVD/VHS/ Multimedia

Anti-icing/RWIS Training, American Association of State Highway and Transportation Officials, 2003, #18790 CD. Inter-active hands-on learning for those working in anti-icing operations. Covers weather forecasting and application of anti-icing chemicals. Includes seven lessons.

Winter Operations Training Series, Iowa Department of Transportation, 1997, 80 min., Programs 1-4, #18993 DVD. Includes Introduction to Winter Operations, Pre-Season Preparation, Equipment Operation and Plowing Techniques. In VHS as #18172-18175.

Winter Operations Training Series, Iowa Department of Transportation, 1998, 65 min., Programs 5 & 6, #18994 DVD. Anti-icing, deicing and winter weather resources, including Road Weather Information System and forecasting. In VHS as #18187.

FEEDBACK

CONTACT US VIA EMAIL, PHONE, FAX OR MAIL ►

NAME _____ TITLE/AGENCY _____
ADDRESS _____ CITY _____ STATE _____ ZIP _____
PHONE _____ FAX _____ EMAIL _____

Mailing list change/addition Information/resource request Idea/comment Email delivery only

EMAIL tic@epd.egr.wisc.edu
TEL 800.442.4615
FAX 608.263.3160

Wisconsin Transportation Information Center
432 N. Lake Street Rm 811
Madison, WI 53706

<http://tic.egr.wisc.edu>

CROSSROADS

Wisconsin TIC
UW-Madison

<http://tic.egr.wisc.edu>

SUMMER
2011

7



<http://tic.engr.wisc.edu>

- 1 Reduce risks of distracted driving
- 2 Anti-icing benefits snow operations
- 5 MUTCD alert on compliance dates
- 6 TIC adds enforcement to safety outreach
- 7 Safety Edge demo day
- 7 Resources
- 8 Calendar

“Some professional drivers know how to time their glances but they cannot glance away from the driving task any longer than other drivers.”

– page 5

CROSSROADS



Wisconsin Transportation Information Center
 432 N. Lake Street Room 811
 Madison, WI 53706

PRSR-STD
 U.S. Postage
 P A I D
 Madison, WI
 Permit No. 658

CALENDAR

TIC Workshops

Details, locations & registration forms sent to Crossroads recipients prior to each workshop. More information & online registration at <http://tic.engr.wisc.edu/workshops/listing.lasso>

Winter Road Maintenance

Topics include winter driving safety, effective use of salt and sand, anti-icing and liquid chemicals, plowing, and policies and procedures. Fee \$60

OCT 6 BARNEVELD	OCT 14 STEVENS POINT
OCT 7 PEWAUKEE	OCT 14 STEVENS POINT
OCT 10 GREEN BAY	OCT 20 TREGO
OCT 13 EAU CLAIRE	OCT 21 CRANDON

Every Day Counts Safety Edge Demonstration Day

Learn low-cost techniques that reduce run-off-the-road crashes and crash severity. Features a demo of Safety Edge paving and how to improve safety on rural roads by combining it with other low-cost safety improvements. Fee \$40

OCT 12 HOLCOMBE

Highway Safety Review the basics of signing and marking, including major changes in the 2009 MUTCD. Highlights good sign installation and maintenance practices on local roads, as well as low-cost safety improvements and a discussion of new minimum retroreflectivity standards and plans to meet them.

NOV 10 BARNEVELD	NOV 16 HAYWARD
NOV 11 WAUKESHA	NOV 17 TOMAHAWK
NOV 14 TOMAH	NOV 18 GREEN BAY
NOV 15 EAU CLAIRE	

On-Site Workshops

Training that is tailored to specific needs at your shop or office saves time and travel costs. On-site workshops let you train more people for the same cost or less. Include staff from other municipal departments, nearby communities, or businesses you contract with. Contact TIC to book a topic and date that fit for you. Workshops include:

- Basic Surveying for Local Highway Departments
- Basic Work Zone Traffic Control
- Flagger Training

UW-Madison Seminars

Wisconsin local government officials are eligible for a limited number of scholarships for these Engineering Professional Development courses to be held in Madison. Details at <http://epd.engr.wisc.edu> or 800-462-0876.

SEPTEMBER

- 12-13** Introductory Principles of Engineering Project Management M595
- 14-15** Management Skills-Engineering Capital Projects M596
- 19-21** Preventing and Detecting Deficiencies in Design and Construction Documents M594
- 28-29** Keys to Maximize Maintenance Performance M441

OCTOBER

- 3-4** Essentials of Hydraulics for Civil Engineers and Designers M523
- 17-18** Managing Snow and Ice Control Operations M845
- 24-28** Structural Design for Non-Structural Engineers L566

- 24-25** Maintenance Management: Organization and Systems M439
- 26-27** Upgrading, Maintaining, and Repairing Parking Facilities M904

NOVEMBER

- 1-2** Right-of-Way Fundamentals for Utility Engineers, Technicians & Managers M885
- 2-3** Effective Concrete Bridge Repair Workshop M906
- 14-15** Effectively Planning and Scheduling Your Maintenance Operations M861
- 15-16** Soil Engineering for Non-Soils Engineers and Technicians M675
- Nov 29–Dec 1** Traffic Engineering Fundamentals M983

DECEMBER

- 5-9** Physical Plant Engineering Design and Management L904
- 5-7** Highway Bridge Design M676

Independent Study Project Management 100: The Basics, Plus Important Insights M825
ENROLL ANYTIME