Toward Zero Deaths Conference

October 28–29, 2009

Duluth Entertainment Convention Center, Duluth, Minnesota

A SUMMARY REPORT

The Minnesota Toward Zero Deaths (TZD) program is a multiagency partnership that includes representatives from the Minnesota Departments of Transportation, Public Safety, and Health, Federal Highway Administration, and the Center for Transportation Studies at the University of Minnesota. The ambitious goal of this program is to move toward zero deaths on Minnesota roads, using each of the "four Es" of traffic safety: education, enforcement, engineering, and emergency services. Using these strategies, TZD partners are working to raise awareness of traffic safety issues and to develop tools to reduce the number of deaths and injuries resulting from traffic crashes on Minnesota roads.

The annual TZD conference provides a forum for reporting progress, sharing best practices in the areas of the four Es, and charting the course for a future with fewer traffic fatalities and life-changing injuries.

Sponsored by:
Minnesota Department of Public Safety
Minnesota Department of Transportation
Minnesota Department of Health
Minnesota Toward Zero Deaths Program

Hosted by:
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Welcome and Opening Remarks

Cheri Marti, Minnesota TZD Program Co-Chair and Director, Office of Traffic Safety, Minnesota Department of Public Safety
Sue Groth, Minnesota TZD Program Co-Chair and Director, Office of Traffic, Safety, and Technology, Minnesota Department of Transportation
Commissioner Michael Campion, Minnesota Department of Public Safety
Commissioner Tom Sorel, Minnesota Department of Transportation

With music playing and the audience clapping along, Cheri Marti opened the 2009 Toward Zero Deaths (TZD) conference, calling it the "first-ever TZD celebration event." Since the TZD program began, she continued, "We've had landmark successes in traffic safety. We are saving lives on Minnesota roads, and we are here to celebrate."

A small group of Click4Life students and staff helped kick off the event by performing several original traffic-safety-related songs. Click4Life (www.click4life.org) is a teen driver safety project undertaken by students from the High School for Recording Arts in St. Paul, Minnesota, and Los Angeles, as well as "The Fo-Show" radio program (www.thefoshow.com), with funding from State Farm Insurance.

Minnesota's traffic fatality rates had been on the rise until 2003, when the statewide TZD program was launched as a deliberate, interdisciplinary approach to traffic safety, Marti noted. Since then, Minnesota's traffic fatality rates have gradually moved downward. "There are 656 people alive today who wouldn't be here if [in 2003] we had changed nothing and stayed the course we were on," she said.

"Take a look around," Sue Groth added. "The number of people in this room is about the number of people whose lives we have saved since 2003."

Although there is much to celebrate, Marti said, there is still work to do. "While our ultimate vision is zero deaths, our statewide goal for 2010 is fewer than 400 traffic-related fatalities and fewer than 1,400 serious injuries. We have developed various strategies and performance measures to monitor how we are doing in our efforts toward these goals."

"We are here to celebrate," Commissioner Tom Sorel agreed, "but we can't rest on our laurels." Sorel said Minnesota is embarking on several new transportation initiatives, including a program directed toward greater Minnesota to implement low-cost safety measures such as cable median barriers and intersection lighting to help reduce the number of traffic fatalities and "continue onward to our goal of toward zero deaths."

"Today we celebrate and recognize some of the most significant advancements in traffic safety in the state of Minnesota in decades," Commissioner Michael Campion added. "We've created the safest driving environment in our state since 1945. The outcomes of our collaborative efforts are hundreds of people whose lives are saved and thousands who will not have to live for years upon years with life-changing injuries."

Campion then introduced Dr. Irwin Goldzweig from Meharry Medical College, the nation's largest private, independent, historically black academic health center dedicated solely to educating minority and other health professionals. In 2002, Meharry College and State Farm Insurance created the Meharry–State Farm Alliance to address a critical public health problem: the disparities in seat belt and child seat use among African Americans. The primary goal of the Alliance is to increase the use of passenger restraints to save

Tom Sorel

Michael Campion

Irwin Goldzweig

A student from St. Paul's High School for Recording Arts and member of the Click4Life project performed an original song advocating safe driving.

lives and reduce the severity of injuries from motor vehicle crashes among African Americans.

On behalf of the Alliance, Goldzweig presented its 2009 Seat Belt Champion Award to Minnesota State Senator Steve Murphy and Minnesota House Representative Kim Norton, who each helped pass the landmark primary seat belt law in Minnesota. The Meharry–State Farm Alliance has presented its Seat Belt Champion Award to only 16 others since 2003, including then-Illinois Senator Barack Obama in 2004.

Following Goldzweig, humorist and motivational speaker Father Nick Mezacapa shared his experiences as a teacher, coach, priest, father, and cancer survivor to motivate audience members in their quest toward zero deaths.

"You and I do the same work…we have a vision… that requires perseverance and change," he explained. "Cultural changes are difficult to make, but it's an ongoing process. Often, the first response you'll hear to an exciting proposition such as [TZD] is, 'No! You can't do that.'"

Despite the naysayers, he continued, "You need to be a team with the people you work with and come through for each other when the heat is on," he said. "Think about football; no coach ever gathers the team together at the beginning of the season and says, 'We're shooting for [a win/loss record of] 6 and 4.' Despite all odds, a coach says, 'Maybe there will be some bumps along the way, but we're shooting for 10 and 0; that's our vision.' I want you to consider your own vision [of TZD] the same way."

To further highlight TZD's successes since 2003, Sorel presented a video describing the program from its beginnings. The video (which can be viewed at www.minnesotatzd.org/news/videos/index.html) included interviews with TZD founders and key players and highlighted several traffic safety successes in Minnesota, including passage of the 0.08 blood alcohol content (BAC) law, creation of the statewide trauma system, integration of the driving while impaired (DWI) ignition interlock pilot, and passage of primary seat belt and booster seat laws as well as legislation prohibiting driving while texting, e-mailing, or accessing the Web.

Jim Hedlund

Luncheon Presentation: Changing the Traffic Safety Culture in Minnesota and the United States

Jim Hedlund, Highway Safety North

One of the most troubling topics on the minds of transportation officials across the United States is the problem of distracted driving. With more and more states considering bans on text messaging and cell phone use while driving, distraction has been pushed to the front of the traffic safety agenda.

In his luncheon presentation, Jim Hedlund discussed the distracted driving pandemic in terms of "traffic safety culture," offering insights on driver behavior and attitudes and why we need to change them.

In 2006, the AAA Foundation for Traffic Safety commissioned Hedlund to synthesize several research articles addressing safety culture from the perspectives of more than 20 top researchers in fields that included public health, public policy, social psychology, and civil engineering. [The report, *Improving Traffic Safety Culture in the United States: The Journey Forward*, is available at www.aaafoundation.org/pdf /SafetyCultureSummaryandSynthesis.pdf.]

Generally speaking, the term "culture" encompasses several characteristics, Hedlund explained. "It is the shared values and beliefs that determine how society organizes and acts. It's also what is considered standard, normal, and accepted, as well as what we value and find important."

The key characteristics of culture as it relates to traffic safety in the United States include complacency and indifference. "As a nation, we accept more than 40,000 traffic fatalities and 2.5 million injuries each year. Traffic crashes are the leading cause of death for children, adolescents, and young adults in the United States, but they are not seen as a major public health problem."

"Our behavior toward traffic safety laws varies considerably… we stop at red lights, but we view speed limits as vague suggestions."

Compare that with other safety cultures, Hedlund continued. "Do we accept this [many deaths] from the food we eat or medications we take? We don't accept 40,000 deaths; we don't accept 400; we don't accept even four deaths," he pointed out.

This view of traffic safety stems, in part, from a general sense of "it won't happen to me" or "we're all good drivers and crashes are caused by bad drivers," he said. "There's also the notion that we are anonymous in our cars…you'll never know that I was the jerk who cut you off. We treasure our privacy in our cars as well, and we don't want things like cameras, electric speed monitoring, or tracking where we drive."

In addition, traffic safety laws and policies may not be based on science and data, he explained. Sometimes enforcement of laws may be lax and the penalties for breaking the law too lenient. "Thus, our behavior toward traffic safety laws varies considerably…we stop at red lights, but we view speed limits as vague suggestions," he said. "Clearly, this needs to change and to do so we need to understand what the obstacles to change are."

According to Hedlund, national, state, and local

governments themselves get in the way of changing traffic safety culture primarily because such a change isn't a priority. "There's no sense of outrage at the highest levels," he noted. Scarce resources and issues surrounding the government's role versus individual control are obstacles as well.

Despite the obstacles, it has been possible to make certain culture changes, he explained, using recycling and smoking as examples. And a positive traffic safety culture change is that of child passenger safety seat use, which is now universal. "You can't take your baby home from the hospital without the proper safety seat," Hedlund said. "Thirty-five years ago, we didn't know what a child safety seat was."

Our society has even seen some changes in the drinking and driving culture, Hedlund added. In 1982 there were 21,113 crash fatalities in which the driver registered a BAC over 0.08. In 2008, there were 11,773 of these types of fatalities, which is a 44 percent reduction, he said. "Now the old tagline 'one for the road' has been replaced with 'designated driver.'"

Unfortunately, Hedlund said, some things have changed for the worse: speeding, cell phone use while driving, and lack of motorcycle helmet use, for example.

"In order to work toward changing these issues, we need a vision of what the traffic safety culture should be," Hedlund said. "In the United States, our vision is to have fewer than 30,000 fatalities per year by 2011. We also need to recognize that as individuals, we need to do our part to help influence others at work and in our personal life. And we need to learn from experience," he said. "Look at examples of what cultures have changed and what the change agents were: can strategies used there be adapted elsewhere? Don't be discouraged if change doesn't happen tomorrow. The bottom line is that traffic safety culture can change; it has changed, and you can make a difference."

Political Dimensions of Traffic Safety

Representative Melissa Hortman, Minnesota House of Representatives
Colonel Mark Dunaski, Minnesota State Patrol
Professor John Adams, Department of Geography, University of Minnesota
Moderator: **Lieutenant Matt Langer**, Minnesota State Patrol

The many considerations involved in passing and enforcing traffic safety laws and regulations are often more complex than they appear on the surface. This question-and-answer session provided a look at a few such issues from law enforcement, political, and academic perspectives.

Moderator Question: Minnesota has a law banning text messaging while driving, although it is a difficult law to enforce. What's next with the distracted driving issue?

Representative Melissa Hortman: [As legislators] we know there are laws on the books that aren't always enforced. We want to know what we can do to help enforce the laws already in place.

Colonel Mark Dunaski: Cell phone use and text messaging are merely symptoms of the bigger problem of people not taking driving as seriously as they need to. We can't piecemeal these issues by passing laws for one symptom at a time. We need to address distracted driving as a whole.

Professor John Adams: I agree. There is something else going on, and we need to tackle this in another way rather than passing one law against text messaging while driving, then one against reading while driving, and so on. I'm not sure what the answer is, but I know we can't continue to accept 40,000 plus deaths every year [from traffic crashes].

Q: What do you think about automated traffic enforcement systems, including cameras to catch red-light running and speeding?

Hortman: I thought the reason that we couldn't use the red-light cameras [in Minnesota] was the constitutional issue of presumption of guilt versus the presumption of innocence. I thought we could make it a civil violation rather than criminal, but apparently that won't fix the problem. It seems like we should be able to fix this at the state legislature, and I don't know why we can't.

Dunaski: Law enforcement has some concerns about automated enforcement. If it is used at select intersections based on crash data and done in a way that doesn't violate the state constitution, I wouldn't have a problem. However, what happens is in the haste to put [automated] programs out there, we end up with bad case law that throws a bucket of water on the whole issue.

Adams: In Europe it's taken for granted that if you get caught [violating a traffic law] by an automated enforcement system, you have no defense. In this country, it's very different in that people feel they

Melissa Hortman, Mark Dunaski, and John Adams

can do whatever they want, but the consequences should be imposed on somebody else. Implementing automated enforcement still doesn't get at the fundamental problem of why people in this country don't think they have to obey the law.

Q: How do you feel about the "speed-to-pass" legislation, allowing Minnesota drivers to exceed the speed limit to pass slower vehicles, that was attached to the primary seat belt bill?

Dunaski: This [speed-to-pass law] sends a poor message to citizens…that the law isn't really the law. Through Minnesota's speed management program, called HEAT (highway enforcement of aggressive traffic), we raised speed limits on select highways and at the same time put out visible, enhanced enforcement. Everyone going over the speed limit by any amount was stopped. We saw…a reduction in crashes on those highways. This shows there are enforcement efforts that eventually can change…the culture of the driving public.

Q: Minnesota recently passed several pieces of traffic safety legislation including the 0.08 blood alcohol content (BAC) limit, primary seat belt, and no text messaging while driving laws. What's next with regard to traffic safety legislation in Minnesota?

Hortman: Before we do anything major, we need the data to see that the laws we've already passed are working.

Dunaski: There's a new national program called DDACTS (Data-Driven Approaches to Crime and Traffic Safety) that relies on crash and crime data to help law enforcement agencies make tactical and strategic decisions. From what I understand regarding reauthorization [of SAFETEA-LU], the federal government will not hand out funding for programs unless there are data supporting them.

Q: The number of motorcyclist deaths is rising; data show that wearing a helmet saves lives. Is Minnesota ready to pass a helmet law?

Hortman: We may not be ready to pass a helmet law, but the campaign to pass it should start now because it is a long process.

Dunaski: In many crashes involving motorcycles, and for that matter, those involving commercial vehicles, it's the activity of automobile drivers that is the primary cause. We need to address this issue, too, even while we're talking about seat belts and helmets.

Adams: We aren't there yet, and I hope [passing a helmet law] doesn't take as long as it took to pass the primary seat belt law. The biggest issue I see is that there aren't a lot of people jumping up and down for a helmet law.

Q: What's the best way to get highway safety on the minds of our governor and legislators—including those who will be running for open offices in the future?

Hortman: The burden is on individuals to approach candidates. Go to gubernatorial candidate forums and ask questions about traffic safety or contact candidates and ask them to do a ride along. Candidates are most receptive to political pressure when they are running for a particular office the first time.

Dunaski: I'm constantly amazed at the apathy toward traffic safety. I'd like to harness what [law

enforcement officers] go through emotionally when we have to knock on a door to [notify a family member of someone's death] and pass those feelings along to our political leaders.

Adams: Another way to think about this involves behavioral economics and the way in which people's behavior can be modified by immediate economic consequences—either positive or negative. In the United States, a DWI arrest often doesn't affect behavior. Some of us wonder why the fines are so modest for behaviors that are so dangerous. Perhaps we need more empirical knowledge, such as how high the fine [for driving impaired] has to be before it's a serious deterrent.

Safe Intersections Through Technology

Max Donath, Intelligent Transportation Systems (ITS) Institute, University of Minnesota
Thomas Sohrweide, Short Elliot Hendrickson Inc.
Jon Jackels, Minnesota Department of Transportation
Moderator: **Dennis Foderberg**, Short Elliot Hendrickson Inc.

Each year, two million crashes occur at intersections nationwide, resulting in approximately 6,700 fatalities. Technology, however, is providing opportunities to help drivers make decisions that improve traffic safety at intersections. Intelligent transportation systems (ITS), "can and do have an impact on crashes," began moderator Dennis Foderberg. "We need to look to technology to prevent crashes in the first place."

Professor Max Donath first described University of Minnesota research on a stop sign assist (SSA) system to reduce collisions at unsignalized intersections. The research is part of the U.S. Department of Transportation's multi-state Cooperative Intersection Collision Avoidance Systems (CICAS) research initiative; in Minnesota, the focus is on rural intersections.

Since 2003, the number of crashes in the state at rural unsignalized intersections has decreased, but the number of fatalities in these crashes has increased, Donath said. Research has found that driver failure to select a safe gap in traffic when entering an intersection is a factor in more than three-quarters of the crashes that occur at Minnesota's rural intersections. The problem is particularly acute at intersections where a high-speed rural highway crosses a secondary road.

"We need to assist drivers in judging gap intervals, clearance, and timing," Donath said. To that end, University of Minnesota researchers and the Minnesota Department of Transportation (Mn/DOT) are testing a system that uses multiple roadside sensors to monitor gaps in traffic. Information from these sensors is fed to dynamic electronic signs to warn drivers waiting on the secondary road if a gap in highway traffic may be too small for them to safely cross or enter the highway.

The design and placement of the electronic signage are key issues, Donath said. Signs are best located where a driver would look for other vehicles, but must not interfere with the driver's view of oncoming traffic. The signs must also display messages that are unambiguous and easy to understand.

A three-year field operational test beginning in early 2010 will monitor the system's effectiveness.

Next, Thomas Sohrweide described several low-cost safety systems for use at rural low-volume intersections. One is the Intersection Warning System (IWS). From 2007 through 2009, Mn/DOT used a number of different sensors to detect vehicle presence and speed at intersections. A dynamic sign that warned drivers when it was unsafe to enter an intersection was field-tested at a Hennepin County intersection. Data that included vehicle speed, speed at the detection location, and vehicle presence were also collected. Evaluation of the project data found a 54 percent reduction in the number of conflicts, and a survey of intersection users showed that 94 percent were aware of the sign and 88 percent understood its meaning.

A primary type of fatal crash at rural intersections is right-angle crashes, said Jon Jackels. He described three basic intersection-warning systems: mainline warning, cross street, and gap assistance. "There's a place for all three types of systems but we need to learn which intersections need which systems," Jackels said.

Mn/DOT's next project will be assessing off-the-shelf products to find those that are effective, low cost, easy to maintain, and readily deployed in rural areas and that have a standard display drivers understand, he said.

Max Donath

Panel Discussion on Aggressive Enforcement

Lieutenant Jim Mortenson, St. Cloud Police Department
Deputy Sheriff Tim Entner, Ramsey County Sheriff's Office
Sergeant Kevin Otto, Ramsey County Sheriff's Office
Moderator: **Bob O'Brien**, Department of Public Safety

Tim Entner

Deputy Sheriff Tim Entner opened the aggressive enforcement panel discussion by describing the mission of the Ramsey County Traffic Safety Initiative (RCTSI), which is to identify traffic safety problems to reduce death and injury on Ramsey County roadways. The goal is to involve state, county, and local agencies as well as the Bureau of Alcohol and Gambling Enforcement, media, local liquor establishments, and schools to raise public awareness and enforce all traffic regulations.

Entner noted that the Department of Public Safety's Office of Traffic Safety awards grants to aid enforcement of laws related to speeding, seat belts, child restraint, distracted drivers, the "Move Over" law, and impaired driving.

One way Ramsey County educates drivers about speeding is through equipment that monitors and displays motorists' speed. "We do a lot of public education with speed trailers," Entner said. "They're actually a great tool, they work 24 hours a day, and the public responds well to them."

Entner described and showed several types of equipment used to monitor speed, including dash-mounted radar, handheld radar, handheld laser, and tripod laser. These tools allow individual traffic enforcement officers to work without using other resources or personnel. Handheld radar, which is less costly than dashboard-mounted radar, is also effective. "I didn't think much of handheld radar but when I started using it I found that it's one of the most effective tools," Entner said. He also singled out the department's electronic ticket writer as another helpful tool.

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Ramsey County also partners with other agencies in high-visibility DWI events, using 20 to 25 officers. Entner said they average 15 to 20 DWI arrests each night they conduct these events.

Sergeant Kevin Otto added that motorcycles offer a major advantage to a department in that they are "unexpected, versatile, and maneuverable." Ramsey County uses four motorcycles equipped with radar holders for enforcement.

Lieutenant Jim Mortenson gave an overview of how saturations are run in the St. Cloud area. The first step in the process is briefing all involved to provide objectives and instructions and the radio frequency that will be used. "I can't stress the importance of briefings enough—you have to get everyone on the same page," Mortenson said. He also suggested having citation books on hand that are already filled out, as well as statute "cheat sheets" and local fine amounts.

Mortenson offered tips learned in the St. Cloud saturation events. He said the best hours to work on seat belt enforcement are between 6 p.m. and midnight; after that, the focus will shift to DWIs. The location selected for the enforcement event should have high traffic volume but also allow traffic to safely slow down so officers can look inside vehicles.

Mortenson suggested issuing a media release afterward to let the public know why the event was staged and what the results were. For example, one four-hour saturation event in the St. Cloud area resulted in 121 seat belt citations. "This was really four times more successful than I thought it would be," he said.

Problems to anticipate include reactions from various members of the public. To avoid challenges to the officers' tactics, it's important to talk with the county prosecutor, Mortenson said. Because bars in downtown St. Cloud are a major business, some bars complained to the city council. His advice: "Find ways to work with them." Cab drivers also were upset, Mortenson said, "because we started motioning them in and none of them were buckled up." Officers told cab drivers to radio other drivers and let them know they and their passengers needed to buckle up. The dispatcher at the cab company was informed as well, Mortenson said.

Panel moderator Bob O'Brien summed up the value of aggressive enforcement. "People are alive, are not in the hospital, and aren't repairing their cars because of what you do," he concluded.

Communicating with Constituents

Sergeant Nick Francis, Apple Valley Police Department
Nathan Bowie, Minnesota Department of Public Safety
Moderator: **Amy Roggenbuck,** Minnesota Department of Public Safety

Having to create media campaigns promoting safety-related messages and programs often pushes law enforcement professionals into uncharted territory. In this session, panelists provided a few tips and tactics to make the process easier.

Sergeant Nick Francis first explained that effective media campaigns can help law enforcement agencies garner much-needed support from city, county, and state government leaders. Perhaps more important, spreading messages about enforcement programs is often an effective deterrent, he added.

When planning a media campaign, there are many options to consider, ranging from larger regional television broadcasts and newspapers to smaller community-access television and local newspapers, he said. TV news wants only out-of-the ordinary stories and cutting-edge events, but media campaigns don't have to be big to be successful. "As long as your topic, project, or program directly impacts your community, smaller media outlets will be interested. Local media is constantly looking for interesting local stories," he said.

It's important to put a face with your project, Francis continued. Start by designating a public relations person in your office to be the contact listed on media releases. Use media releases strategically, he noted—to announce new programs or major events, "not for every little thing." Media releases should contain a quote from someone directly involved in the project being promoted and should be sent to media contacts no earlier than one to two days before the project, he said.

Francis also recommended working with local cable providers, city council members, or high schools to produce videos that can be aired on local or regional cable stations, shown at movie theaters, streamed on department and city Web sites, or even posted on YouTube. "Use videos to make examples of high-profile crashes in your community," he suggested as an example. "Shock value goes a long way when there is a local connection."

Newsletters—sent to police chiefs, city council members, and judges as well as posted online—provide another simple way to promote safety-related projects. Francis also suggested hanging banners with the agency's logo and message on it before and during enforcement events. "It is a positive way to educate and inform people before they get in their cars that we will be out [conducting DWI and traffic safety enforcement]," he said.

Whatever your media efforts, don't expect to be perfect. "We're cops, not media experts," Francis concluded. "Start small and don't bite off more than you can chew. Partner with those in your community who have the time and resources to assist you, and have fun. A little creativity can go a long way."

"When implementing a media campaign, it's imperative that you target the right media for your target audience," Nathan Bowie said. This includes not only traditional media such as television newscasts, newspapers, and news radio but also places that can deliver your message, such as bars, fast food restaurants, pool halls, high schools, fitness centers, gas stations, and community colleges.

Bowie offered several basic strategies for effectively working with the media. First, build a media contact list and go out and meet these people face-to-face, he said. Learn when their deadlines are and be available to them for follow up. Proactively pitch story ideas to them. "Always think about what can be news," he suggested. "Use things like DWI arrest milestones, [stories of crash survivors] saved by the belt, and shocking dash cam videos. Invite media representatives on ride-alongs…or to attend other activities that provide good visuals."

Other outlets to explore include social media such as Twitter, Facebook, and YouTube. "These are target-rich [sources]," he explained. "[Users] spend a lot of time on these sites, so consider putting them in your media mix," Bowie said. Finally, he suggested trying the new "viral" media technique, which involves spreading messages, videos, photos, or audio files electronically.

To help law enforcement agencies promote their safety programs, the Department of Public Safety (DPS) offers a variety of media and outreach resources, Bowie explained. Items such as media kits, brochures, posters, banners, coasters, window clings, and other materials can be ordered from the DPS resource catalog at www.dps.state.mn.us/ots (click on the Resource Catalog tab). For more information, contact Nathan Bowie at 651-202-7571 or nathan.bowie@state.mn.us.

> "Use videos to make examples of high-profile crashes in your community. Shock value goes a long way when there is a local connection."
>
> —*Sgt. Nick Francis*

A Minnesota Crash Victims Memorial Web site (www.minnesotacrashvictims.org) has been established to memorialize those who have died in traffic crashes and enable loved ones left behind to connect with other families that have suffered a similar loss. Families can post photos and stories, and friends can sign a guest book. The goal is to help people better understand the tragedy of traffic crashes and remember to always drive safely.

Change May Be Coming—Administrative Driver License Sanctions Review and How Ignition Interlock May Be Used

Jean Ryan, Minnesota Department of Public Safety
Robert Roeglin, Hennepin County Department of Community Corrections
Moderator: **Jody Oscarson,** Minnesota Department of Public Safety

Minnesota recently completed an extensive review of its Administrative Driver License Sanctions for driving impaired. The purpose of this review and the resulting proposed changes was to streamline administration of the law and enhance rehabilitation of repeat offenders.

"We are proposing changes to the administrative (not criminal) sanctions that will be effective in reducing alcohol-related fatalities based on national best practices, research, and data," Jean Ryan explained. The proposed changes, she continued, "offer specific sanctions for first-time as well as repeat DWI offenders. But these are just proposals at this point. Nothing is set in stone. It will require legislative action to implement any changes."

National studies show that two-thirds of drunk driving offenders continue to drive even when their license is suspended. Thus, the proposed sanction changes integrate an electronic device, called an ignition interlock, that prevents drivers from starting their car if they've been drinking. "We know many DWI offenders drive illegally [after license revocation]. Our goal is to get them back on the road legally and safely, and be able to monitor any drinking," Ryan said. The proposed sanction changes offer a shorter license revocation time and provide some level of driving privileges immediately after the offense, she said.

Robert Roeglin demonstrated the ignition interlock device for session attendees.

The interlock program was first piloted by the Minnesota Department of Public Safety in Hennepin and Beltrami Counties with about 100 participants. Since expanding statewide in July 2009, the program has grown to more than 300 participants.

"Other states use this [ignition interlock] with promising results," Robert Roeglin said, noting that research shows use of the interlock device reduces recidivism by up to 90 percent. "The ignition interlock device improves public safety while allowing offenders a chance to pull their lives together."

The proposed revisions are aimed at changing offenders' behavior using cognitive-based education and intensive supervision programs such as DWI Court, with the hope of keeping DWI offenders from cycling through the court system again and again, Roeglin explained. "DWI courts are a more intensive way of dealing with DWI offenders as they rely on frequent court appearances and heavy judicial supervision," he added. "The nine DWI courts in Minnesota and five hybrid drug and alcohol courts have been effective in deterring recidivism and preventing DWI offenders from slipping through the cracks."

When Bruce Pagnac was arrested for his fifth DWI offense, he volunteered to participate in the DWI court program and agreed to have an ignition interlock device installed on his car. Pagnac was in attendance for this session and offered his perspective for the group. "From the time I was 16 until I was 33, I only had a [valid] driver's license for a year. I always drove without a license…if I got caught driving, the fines weren't really effective in stopping me from doing it again," Pagnac admitted. He chose DWI court and use of the interlock device, "because I didn't want to do 90 months in prison," he said. "I realized I had a problem and needed to address it."

Pagnac graduated from the Duluth DWI court in December 2009. Throughout his participation in the program, he was subject to random home visits and drug tests and had to complete alcohol treatment. "He has done a lot to change his life," said a representative from the Duluth DWI court. "He's getting his GED, getting ready to go to college…and is very active in the AA (Alcoholics Anonymous) community."

"I didn't know [the program] would take me as far as it has," Pagnac said. "Without it, I would probably be in prison, and I don't think that would have done me any good."

Forgiving Roadways

Mike Dreznes, Barrier Systems Inc.
Moderator: **Wayne Sandberg,** Washington County

Highway engineers need to understand and use products such as crash barriers to make highways in Minnesota safer, said Mike Dreznes, vice president of sales and marketing for Barrier Systems Inc. His presentation focused on methods to identify and treat dangerous roadsides and work zones. "Of the 1.2 million people who die each year due to car crashes, about one-third will be involved in a single, non-pedestrian accident," he said. "These are not just statistics—these are human beings."

Throughout his presentation, Dreznes emphasized the need for highway engineers to act responsibly and to understand today's technology in order to use products correctly to make highways safer in Minnesota. "What you do today can ensure that no one has to die a needless death," he said.

Crashes are on the increase as people are moving back into cities, Dreznes said, so roads have more sophisticated designs that include many more places where drivers have to make a decision. In addition, driver inattention is on the increase as cell phones and other in-car distractions increase. Driver fatigue and drowsiness causes 30 percent of off-road accidents. And drinking and driving continues to take a huge toll: "Fifty percent of fatal crashes involve drinking. We have to do whatever it takes to stop this," he said.

Road safety can be broken into three components: the driver, the vehicle, and the road. Driver education (along with law enforcement) and vehicle design are important, but no matter how well people drive or how safe vehicles may become, humans will make mistakes and vehicles can malfunction. "Accidents will happen, but roads can be designed with features that will minimize impact," Dreznes said.

To make roads more forgiving, road hazards should be eliminated. If that isn't possible, hazards should be moved or modified, Dreznes said. One possible modification is a breakaway device that breaks or bends upon impact. The "breakaway" category includes sign supports that separate from their base and are knocked ahead of or up and over an errant vehicle. It also includes "yielding" sign supports that bend, allowing a vehicle to run over them.

Drivers also can be shielded by on-road "crash cushions"—systems that keep cars away from rigid barriers. Crash cushions have saved more than 30,000 lives, Dreznes said. Crash cushion systems vary, but all are designed to protect vehicles from hitting the most dangerous part of barriers: the ends of the guardrail. Both the front and back ends of the barrier require transition zones to slow velocity before impact. Crash cushion systems direct the vehicle onto a safe roadside or alongside the barrier rather than propel it back into traffic or into bridge embankments or other hazards. Dreznes estimated that crash cushions have an 8 to 1 cost–benefit ratio.

Dreznes emphasized the importance of appropriate placement and ongoing maintenance of crash cushion systems, many of which are designed to be reusable. Sites can be analyzed by going into the field to see the site in person; frequently Dreznes has found that hazards and site-specific issues such as slopes, hills, or minimal shoulders can make a big difference in system selection. For example, a system that "gates" the vehicle, directing it to pass behind the hazard, is appropriate only if a clear zone exists for cars to pass into. If a clear zone doesn't exist, then a non-gating or redirecting gating system is the best choice, or the system selected can terminate the barrier into a slope. Dreznes also reminded engineers in the session that they can make a conscious departure from standards if they feel the site requires unique modification.

Dreznes encouraged participants to become familiar with two documents: the American Association of State Highway and Transportation Officials (AASHTO) *Roadside Design Guide*, and a report from the National Cooperative Highway Research Program titled *Recommended Procedures for the Safety Performance Evaluation of Highway Features* (NCHRP 350). The report contains recommended procedures for safety performance evaluation of highway features.

The bottom line, according to Dreznes, is that there are three choices: "You can do nothing; you can do something because something is better than nothing; or you can do your job and take responsibility by understanding appropriate placement and options for barrier systems, and then make wise choices."

"Accidents will happen, but roads can be designed with features that will minimize impact."

—Mike Dreznes

Level I Trauma Center Case Presentations—Regions Hospital

Dr. Michael McGonigal, Regions Hospital/HealthPartners
Liesette Rendell, New Richmond Area Ambulance and Rescue Services
Tracy Larsen, Regions Hospital
Moderator: **Tim Held**, Minnesota Department of Health

Dr. Michael McGonigal

"Unfortunately this isn't an option in much of the country, as pediatric trauma centers are scarce."

As popular as they are, TV shows like "Grey's Anatomy" and "Trauma" do not accurately portray the physical, emotional, and economic reality of actual trauma situations. In this session, real-life trauma professionals gave an insider's perspective on a series of trauma cases that resulted from a serious three-vehicle traffic crash.

Liesette Rendell, emergency medical technician (EMT) with the New Richmond Area Ambulance and Rescue Service out of New Richmond, Wisconsin, set the scene and described what she encountered as a first responder to the crash site. A Ford Explorer, probably traveling 55 to 60 miles per hour, crossed the centerline, hit a Buick LeSabre, and rolled into a ditch. An approaching tanker truck managed to swerve and hit only the back end of the LeSabre.

A semiconscious adult female and two unresponsive children were in the LeSabre. One female passenger from the Explorer had been ejected and was dead at the scene. About 45 minutes later, the male Explorer driver was found in a field a quarter mile away. He was conscious and alert, but complained of chest and abdomen pain. "It was amazing he was alive," Rendell said. The tanker driver was uninjured.

The female LeSabre driver was wearing her seat belt and had been protected somewhat by the airbag. She was transported via ground ambulance to Regions Hospital, the closest Level I trauma center. The four-year-old passenger in the backseat of the LeSabre was in a booster seat but was wearing only the lap belt. She was transported via helicopter to Regions Hospital. The three-year-old LeSabre passenger was also in a booster seat with the lap belt secure but with the shoulder belt behind him. He had a probable spinal injury and was transported by ambulance to a nearby hospital, where he was picked up by helicopter and airlifted the rest of the way to Regions. "Luckily, we could take all family members to the same hospital," Rendell explained. "That doesn't always happen."

Dr. Michael McGonigal, director of trauma services, described what happened as the three trauma patients from the LeSabre arrived at Regions Hospital. The driver—and mother of the two injured children—had hand and foot fractures and a mild brain injury that cleared quickly, McGonigal said. She was discharged after three days in the hospital and all of her injuries have since completely healed. The four-year-old had a broken leg, and after undergoing physical and occupational therapy was discharged from the hospital after seven days.

Three-year-old Noah's vital signs were not stable upon arrival at Regions, McGonigal continued, and a CT scan indicated that although his liver and spleen looked normal, bleeding further in his abdomen required immediate surgery. His vitals stabilized the following day, but he was kept sedated. An MRI scan later found a spinal fracture between his sixth and seventh cervical vertebrae. "His head had literally lifted off of his body," McGonigal said. On his fourth day in the hospital, Noah's spine was fused and he was fitted with a halo to stabilize the repair.

Noah's neck injury left him a quadriplegic. He began the slow recovery process and after 25 days in Regions was transported to Gillette Children's Hospital Center for Pediatric Rehabilitation.

Most pediatric injuries can be treated at any Level I adult trauma center, McGonigal said, but pediatric patients with major and complex injuries such as Noah's should be transported to a Level I pediatric center. "Unfortunately this isn't an option in much of the country, as pediatric trauma centers are scarce."

Regions Hospital, in partnership with Gillette Children's Hospital, is the first and only Level I Pediatric Trauma Center in Minnesota certified by the American College of Surgeons. In addition, the Gillette Center for Pediatric Rehabilitation is one of only three pediatric programs in the region to be accredited by the Commission for Accreditation of Rehabilitation Facilities (CARF).

"When Noah arrived at rehab, he could only shrug his shoulders," Tracy Larsen, a registered nurse, explained. He had to relearn how to move his arms, swallow food and liquids, and breathe on his own. "Noah's hard work and progress surprised us all," Larsen said. After three months of inpatient rehabilitation, he was off the ventilator, his feeding tube and halo were removed, and he had learned to feed himself and move himself in a wheelchair.

Noah was discharged from the rehab center about four months after the crash. Although he is doing well, he faces a lifetime of ongoing rehabilitation.

Teen Driver Panel

Teen panelists from Duluth-area high schools
Moderator: **Gordy Pehrson**, Minnesota Department of Public Safety

In 2008, teen drivers accounted for 12.4 percent of all crashes in Minnesota yet represented only 6.8 percent of the driving population. In this session, teens shared their attitudes about driving and responded candidly to questions from moderator Gordy Pehrson and the audience about issues such as seat belt use, risky driving behaviors, and licensing requirements.

Panelists Daniel, Jacob, Rachel, and Jonathan attend Duluth-area high schools and have been driving for three months to a little over a year. Pehrson began by asking them what, if any, particular driving event they've experienced so far had influenced their driving behavior. Rachel said that when she first started driving, she backed into a garbage can and dented her mother's car. Jacob said he was encouraged by a passenger to speed around a corner, and when he did he rolled his car, escaping injury but damaging the car. Daniel was riding with a friend who hit a deer, sending another, unbuckled passenger up against the windshield.

The teens expressed differing opinions about existing requirements for Minnesota's graduated driver's license. One requirement restricts driving between midnight and 5 a.m. "I think it's good; if you're a young driver, you shouldn't be out there," Rachel said. Two of the teens didn't agree, they said, because they might be at friend's house late on weekends, which is their only time to spend time with friends. The restriction on the number of passengers was viewed by at least one teen as impractical, as he lives out of town and is one of several friends who get picked up for school. Another teen said there are plenty of other distractions in a vehicle besides passengers. "I think if [the law] is for us, it should be for [adults] as well," Jonathan added.

Seat belt use overall in Minnesota is on the rise, but teens are still under-represented when it comes to buckling up, Pehrson noted. Three of the teen panelists said they wore their seat belts all the time, while one acknowledged that he buckled up only when he saw police. Jacob said he doesn't make his passengers buckle up, but Rachel and Jonathan do.

The teens had several ideas for what might motivate more teens to wear their seat belts. Perhaps the strongest motivator is the death of a loved one, but short of that, Rachel suggested somehow showing teens what it's like to be in a car crash. Daniel agreed, adding that scare tactics might work. Jacob suggested financial incentives for wearing a seat belt. Several said that seeing gruesome images would not influence them much, but knowing someone who was in a crash has affected them.

On the subject of risky driving behavior, two of the teens said they had participated in street racing. This is sometimes an alternative to fighting someone in school, Daniel said. He suggested an alternative: a controlled, closed-track racecourse for which users were required to use safety equipment and pay a fee. The two teens that engage in street racing said they were cautious in that they held races on country roads and set up cones or "road closed" signs to keep others off the road. One said racing had given him good driving experience.

There was confusion among the panelists on the difference between Minnesota's minor consumption and "Not a Drop" laws. Pehrson explained that minor consumption is underage drinking that doesn't involve a motor vehicle. The Not a Drop law involves a minor having physical control of a vehicle after having consumed any alcohol. The teens agreed that violation of the law warranted serious consequences. Rather than lose their license, however, Daniel suggested a violator's car be impounded, which might be more effective in ensuring he or she didn't continue to drive.

A safe driving program that Rachel thought was effective was a driving simulator that traveled to her high school. It was able to simulate driving impaired, and "a lot of people got in bad accidents when they were 'drunk,'" she said.

Teen panelists from Duluth-area high schools talked about their driving experiences and responded to questions from the audience.

County and District Road Safety Plans

Kaye Bieniek, Olmsted County
Thomas Dumont, Minnesota Department of Transportation
Bradley Estochen, Minnesota Department of Transportation
Moderator: **Dave Engstrom**, Minnesota Department of Transportation


Kaye Bieniek

Many crashes happen on local road systems, but unlike in metropolitan areas, few crashes happen at any particular spot, making it more difficult to determine how and where to best invest rural safety funds. In this session, Bradley Estochen discussed an initiative of Mn/DOT's State Aid for Local Transportation Division that will help counties create road safety plans. The initiative, running from October 2009 through 2012, will provide technical assistance to counties to help identify safety emphasis areas, priority safety strategies, and safety projects.

Building on the Statewide Highway Safety Plan (SHSP), the initiative will take a data-driven approach to identify at-risk roads and choose countermeasures. The analysis will look at a range of factors including road type, curves, intersections, volume, visual traps, existing signs, chevrons, or other delineations.

The purpose of the plans is to identify a specific set of low-cost systematic safety projects linked directly to the causation factors associated with the most severe crashes on a county's highway system. The plans will summarize infrastructure safety projects to be considered for Highway Safety Improvement Program (HSIP) funding.

Estochen emphasized that the process will be interactive and involve the counties. Each county will have the opportunity to customize the plan to meet its needs—"projects won't be forced on counties," Estochen said. Although this presentation focused on engineering countermeasures, the plans will have behavioral recommendations as well. Stakeholders from the four Es (education, engineering, emergency medical and trauma services, and enforcement) will be invited to safety workshops as part of the process.

The initiative will use the state's area transportation partnerships (ATPs) to group counties together in greater Minnesota. Two ATPs will be active at a time to complete plans for all counties within 36 months, Estochen said. (Metro counties will be scheduled individually.)

Design engineer Kaye Bieniek then discussed Olmsted County's pilot project in the initiative. The county's process looked at all crashes, not just fatalities, and was driven by data. The data analysis showed that 41 percent of Olmsted crashes happened in the state system and 59 percent in the local road system. Many of the local crashes were road departures.

The analysis helped determine which driver segments to target for education and identify highway intersections to focus on. After conducting two workshops, the county developed and voted on a list of strategies. The highest priorities were installation of rumble strips and stripes, an education campaign targeted at teens, and techniques to improve driver awareness at intersections.

By focusing on areas with the most road departures, staff created a list identifying 164 miles of road for edge-line rumble strips and stripes and 84 miles for 6-inch edge lines. The list also identified 23 curves and 25 stops needing attention. Three major corridors with 28 signalized lights were identified for which funds will be sought to install confirmation lights to help reduce red-light running.

The Olmsted County road safety plan was given to the county board for review, and staff will use the plan to apply for funds. [The board passed a resolution adopting the plan in November 2009.] "We have already received $370,000 for safety projects, so it was a great tool when we applied for money," Bieniek said.

Thomas Dumont described the process used to create Mn/DOT District 3's Highway Safety Plan, another pilot initiative. The process and goals were similar to those in the Olmsted County pilot, he said.

An analysis of a five-year period found 4,070 crashes per year on District 3 state highways—more than 80 percent of them in rural areas. Like Olmsted County, lane departures and intersections were the highest risk areas, Dumont said. Other findings: horizontal curves accounted for almost 10 percent of the road mileage; 44 percent of all fatal and injury crashes on two-lane roads occurred at horizontal curves; and 70 percent of intersection crashes were rural.

In response to the findings, the district identified eight types of safety projects with an implementation cost approaching $1.5 million. These projects include installing 207 miles of edge-line rumble strips and 96 miles of centerline strips and improving delineation on 64 curves. Other projects will enhance pavement markings and signing, install red-light confirmation lights, restrict access, and add intersection lighting.

"Our district has been aggressive with adding center-line rumble strips, and recent analysis showed a significant improvement," Dumont said. The plan's $1.5 million cost for the district "is basically one year's worth of projects to accomplish the low-cost safety measures."

DWI enforcement panel

Trooper Keith Benz, Minnesota State Patrol
Deputy Blaine Smith, Rice County Sheriff's Office
Officer Steve Fogarty, Minneapolis Police Department
Pete Marker, Minnesota Attorney General's Office
Moderator: **Don Marose**, Minnesota State Patrol


Keith Benz

In the last 30 years, the number of drivers with a blood alcohol concentration (BAC) of 0.08 has dropped, from 7.5 percent in 1973 to 2.2 percent in 2008. That's a testament to law enforcement's efforts to take impaired drivers off the road, began session moderator Don Marose.

"The DWI problem is solved one arrest at a time... That's how we're going to solve this huge problem of roughly 40,000 DWI arrests a year in Minnesota—to chip away at it one at a time," he said.

Trooper Keith Benz urged officers to pay attention during routine stops and document everything. "It's really important for us as cops, that when we stop a car, we're looking for impairment…for any little thing," he said. He makes a point to engage drivers in conversation, ask them where they're going, and look for clues. He doesn't assume that because it's 11 a.m. on a Saturday morning that a driver couldn't be impaired, he said. "The phrase I like to use is, 'When in doubt, pull him out.'"

Because police cannot be everywhere all the time, citizen tipsters calling 911 "are your eyes and ears" on the roads, said Officer Steve Fogarty. And the number of callers is increasing because of the prevalence of cell phones. "[Tipsters] will in many cases establish your reasonable suspicion for the stop."

Deputy Blaine Smith talked about a Rice County pilot project called "MOD Squad," which stands for MOD-ifiying Unsafe Driving Behavior. The mission of the MOD Squad program is to raise awareness and educate the public through aggressive patrolling and high-visibility traffic enforcement. (For more about MOD Squad, see coverage of the "High Visibility DWI Enforcement" session on p. 15).

Smith said that drivers in counties running the pilot program were more likely to believe they would be stopped for impaired driving. "And that is actually the purpose of the pilot program," he said.

Finally, Pete Marker discussed how previous offenses, such as criminal vehicular operation, relate to DWI, as well as legal challenges that may arise from DWI arrests.

"It's really important... that when we stop a car, we're looking for impairment."

Speed: A Panel Discussion

Keith Knapp, Center for Excellence in Rural Safety, University of Minnesota
John Adams, Department of Geography, University of Minnesota
Moderator: **Bradley Estochen**, Minnesota Department of Transportation

How are speed limits set in Minnesota? What types of speed reduction treatments are being used in rural areas? What's new with red-light running and automated enforcement of traffic laws? These were a few of the questions explored in this panel discussion.

Moderator Bradley Estochen said that Mn/DOT sets speed limits in one of two ways: limits are set for typical types of roads or, if the statute is not appropriate, a resolution is sent to Mn/DOT. A study is then conducted that incorporates an engineering and traffic investigation to examine the type of road, number of access points, length, crash history, traffic volume, sight distance, traffic control devices, and speed. If Mn/DOT concurs, a speed limit variation is authorized.

Researcher Keith Knapp with the Center for Excellence in Rural Safety discussed several rural speed-reduction treatments currently being tested or considered. The rural fatality rate is two times higher than the urban, he said. To address the problem, researchers look for patterns, and "some situations come up over and over," he said. Rural intersection crashes happen most at curves and intersections, in rural subdivisions, and on long straight tangents where speed becomes an issue.

Some effective speed-reduction techniques for rural areas include roundabouts, median islands, pavement colors and textures, lighting, and landscaping. Data are available about the impacts of some speed-reduction techniques already in use. For example, speed feedback signs seem to be effective in the short term, showing a 2.8 percent speed reduction, Knapp said.

The use of transverse markings—a series of lines that get closer together before a hazard appears—has shown a dramatic reduction of speed (10 percent). Another technique that reduces speed is color speed-limit signs (a red rim around the exterior of a sign, for example), which shows up to a 9 percent reduction in speed.

Some techniques that are very effective in preventing crashes "don't affect speed much," Knapp said. These include longitudinal rumble strips and across-lane rumble strips. Wider edge lines showed mixed results,

"We also need to use public education and other enforcement to change driver behavior. Adjusting speed limits has little effect on speed."

—John Adams

but a small speed reduction is likely. A newer technique being considered in Minnesota is roundabouts. Knapp said data indicate that roundabouts do slow speed and act as effective transitions or gateways, "but drivers tend to increase to whatever speed they were going before the roundabout," he said.

Professor Emeritus John Adams provided an overview of a recent report published by the Center for Transportation Studies at the University of Minnesota on automated enforcement and red-light running. He offered an analysis of what it will take to automate traffic enforcement statewide.

Automated speed enforcement techniques include radar guns, laser devises that can pinpoint specific cars, recorders, cameras, and aerial speed measurement. Photo radar and laser guns are effective, Adams said, while speed feedback indicators get drivers to slow down, but they often speed back up after passing the sign.

"We also need to use public education and other enforcement to change driver behavior," he said. "Adjusting speed limits has little effect on speed, which means that drivers tend to drive at a speed they're comfortable with despite posted limits."

Because traffic violations have increased more than the number of enforcement personnel, automated speed enforcement techniques can improve enforcement effectiveness, Adams said. However, a significant minority of drivers oppose automated traffic enforcement.

Adams outlined a number of issues involved in the use of automated speed enforcement techniques. One is the need for a clear definition of the relationship of speed to safety. Another is the need to set safe limits for each class of road. And educational messages aimed at high-risk drivers will be an important piece of the puzzle.

Automated enforcement has many hurdles, including a host of legal challenges. Employing these techniques will require input from both public policy and legal communities, plus a look at the wide variation in what other states allow, Adams said.

Booster Seat, Seat Belt, and Child Seat Laws for 2009

Officer Kevin O'Neill, Lakeville Police Department
Moderator: **Heather Darby**, Minnesota Department of Public Safety

In the past year, Minnesota has enacted changes to its seat belt and child restraint laws. In this session, Kevin O'Neill and Heather Darby gave an overview of these changes for law enforcement.

The primary seat belt law that went into effect on June 9, 2009, allows police to pull over and ticket motorists solely because they or their passengers aren't buckled up. Previously, law enforcement needed to spot another traffic offense to make the stop. Minnesota has had a mandatory seat belt law since 1986, but this change "gives the law some teeth," O'Neill said. "If we see you violating this law we can stop your car, just like if you're running a stop sign."

A number of factors contributed to the change, such as the federal highway funding that was riding on it, O'Neill said, but perhaps the most important factor is that seat belts are the simplest and most effective way to prevent death or injury in a crash. "Nothing you can do as a law enforcement officer has as much potential to save lives and prevent injury as enforcing occupant protection laws," he said.

New provisions in the child restraint law require passengers of all ages, in every seating position in a vehicle, to be buckled up or riding in a USDOT-approved child passenger safety restraint. Any child who is both under the age of 8 and under 57 inches tall must be secured in a child safety seat or booster seat. O'Neill noted that the law applies to all motor vehicles equipped with factory-installed seat belts (as such, the law would not apply to most buses). The fine for failing to comply is $50 plus court fees, but the fine may be reduced or waived if a violator shows proof of obtaining a safety seat within 14 days.

O'Neill explained that a booster seat lifts up a child and allows the lap and shoulder belts in a vehicle to fit properly. Children have been badly injured by seat belts that did not fit them, or by using the wrong restraint for their size, he said. In one local example he described, a three-year-old child too small for the booster seat he was using slipped out of it during a crash and was ejected from the vehicle.

Heather Darby said that when it comes to child restraint systems, the progression is from rear-facing seats to forward-facing seats, then to boosters, and finally to seat belts. She discussed the various types of child restraints for younger children—such as infant seats and convertible seats—and how they should be used. Parents especially need to be aware of when to transition from rear-facing to forward-facing seats—an issue Darby says she is asked about often. The position depends on the seat itself, as some are rear-facing up to 20 pounds, and others up to 30 pounds. "I also explain crash dynamics to [parents]," she said. Rear-facing is safest for young infants because their entire body absorbs the impact of a crash, not just their head, neck, and spine, as

it would if they were sitting facing forward, Darby explained.

O'Neill said that if he stops a driver who argues with him about seat requirements, he tells him or her to ask a family physician to make recommendations. "At the end of the day, the best you can do is refer people to resources," he said.

A critical component of this enforcement effort is education, O'Neill added, and research has shown that kids do listen to police. "Police officers carry some weight, so use that."

The law isn't about criminalizing parents, he concluded. Often parents want to do the right thing, they just don't know any better. "When you're holding their license you have their full attention," he said. "Use it to educate them."

Conference attendees viewed a display of the latest child passenger safety seats.

High Visibility DWI Enforcement

Deputy Blaine Smith, Rice County Sheriff's Office
Lieutenant Paul VanVoorhis, Minnesota State Patrol
Sergeant Bill Hammes, Lino Lakes Police Department
Moderator: **Dick Smith**, Minnesota Department of Public Safety

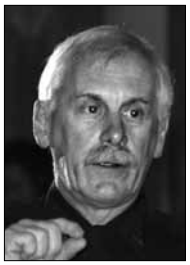
Rice County had the dubious distinction of being among the deadliest counties in Minnesota for alcohol-related deaths and serious injuries since 2005. In response, law enforcement officials in 2008 created a high-visibility saturation team called the MOD Squad, signifying the team's goal of "MOD-ifying" unsafe driving behaviors.

The MOD Squad is a combined effort of the NightCAP and Safe and Sober enforcement programs made up of law enforcement personnel from the Faribault, Northfield, Lonsdale, Dundas, and Morristown Police Departments; Rice County Sheriff's Office; and Minnesota State Patrol. The mission of this team is to increase awareness in Rice County of the risks of certain driving behaviors and to reduce the number of fatalities and serious injuries by making the roads safer for everyone. "Local officers travel outside of their communities to work toward our goal," Deputy Blaine Smith explained. "By pooling our resources, we can maximize the effect our enforcement saturations have."

During enforcement events, MOD Squad officers wear high-visibility safety vests identifying them as part of a DWI task force. The squad uses a variety of other tools to actively promote saturation events, including message boards along target corridors that read "DWI Arrest Zone" or "MOD Squad on Patrol." Throughout these events, officers aggressively patrol within and around targeted areas to intercept violators, making stops and handing out business cards explaining the squad's mission and participating agencies.

"The NightCAP program is clearly effective, but it relies on officers working a significant amount of overtime, so there's definitely a burn-out factor to contend with."

—Sgt. Bill Hammes


Bill Hammes

The success of these efforts is evident, Smith said. "We've seen increased taxi traffic and cars left in bar parking lots, as well as an increased number of designated drivers during saturations," he said. The squad also measures success by the decrease of life-changing injury and fatal crashes, particularly alcohol-related crashes, he added. "So far in 2009, we've had zero alcohol-related traffic fatalities. The good news is, the MOD Squad will be back in 2010."

As one of the 13 deadliest counties in the state for impaired driving, Anoka County also was ripe for a focused, high-visibility enforcement campaign. In May 2007, officers from the county's 12 law enforcement agencies plus the Minnesota State Patrol formed the Anoka County NightCAP DWI Task Force. Its mission is to work toward zero deaths through aggressive enforcement and by educating the public.

"We have a saturation patrol out almost every weekend," Sgt. Bill Hammes said. "The NightCAP program is clearly effective, but it relies on officers working a significant amount of overtime, so there's definitely a burn-out factor to contend with."

Hammes said it's important to recognize NightCAP officers by letting them know their hard work is valued. His department held an appreciation dinner for officers, for which a local business donated food and AAA helped with funding. "We don't often get to see our police chiefs and sheriffs in this type of environment, much less have them personally thank the officers. It was good for officers to see they are being supported by the upper echelons," he said.

Possible locations for hosting recognition events include senior centers, government buildings, and schools, Hammes said. He suggested recruiting help from friends and family, asking for food donations from local restaurants, and bringing in a guest speaker. Minnesota Public Safety Commissioner Mike Campion gave a speech at one of their events, Hammes said. "This really impressed our officers."

Another way to boost officer morale is to present officers who demonstrate a good attitude and enthusiasm with a recognition plaque at city council meetings. "We invite the press and other officers and tell the story of what the officer did to receive the award…we take photos for the city newspaper and even broadcast the event on a local TV channel," Hammes explained. "These sorts of things help keep officers motivated."

Best Practices for Low-Cost Safety Improvements

Dave Engstrom, Minnesota Department of Transportation
Wayne Fingalson, Wright County
Keith Knapp, Center for Excellence in Rural Safety, University of Minnesota
Moderator: **Cassandra Isackson**, Minnesota Department of Transportation


Wayne Fingalson

Tight budgets require finding ways to save money without sacrificing safety. Dave Engstrom opened this session with a state perspective on low-cost safety improvements that have been implemented throughout the state.

Local, proactive projects that incorporate low-cost safety improvements will continue to be priorities for funding, he said. Proven low-cost strategies to increase safety include cable median barriers, rumble strips, rumble stripes, rural intersection lighting, curve delineation, enhanced edge lines, safety edges, and confirmation lights.

National studies show more than a 90 percent decrease in severe and fatal crashes after installation of cable median barriers. The state has installed more than 130 miles of these barriers, Engstrom said, and more are planned. Mn/DOT is in the process of conducting a before-and-after study of those areas where barriers have been installed to date.

According to national data, Engstrom continued, edge-line rumble strips contribute to an 18 percent reduction in severe and fatal crashes, and centerline rumble strips result in a 15 percent reduction of all injury and fatal crashes. Intersection lighting reduces rural intersection crashes by 47 percent and reduces crashes in both daytime and nighttime.

"Curve delineation has a strong relationship with road departures; chevrons are a simple, low-cost improvement," Engstrom said. Edge lines that are enlarged to be 4 to 6 inches wide show a 3 percent reduction in injury crashes—"not a huge reduction, but it's something," he said. And finally, safety edges that mitigate edge drop-offs are an effective strategy with minimal cost impact on paving projects.

Mn/DOT has also installed a few confirmation lights—small white or blue lights directly above a traffic signal that allow law enforcement officers to observe when a traffic signal is red from any direction. Officers therefore only have to see the confirmation light to know that a vehicle ran the red signal. Use of such lights began in Florida, where an estimated 10 percent reduction in total crashes has been observed.

Wayne Fingalson offered a county perspective from his experience in Wright County. The county, which has 538 miles of highway, follows the *Traffic Safety Fundamentals Handbook* guidelines—especially the Traffic Safety Toolbox section of that handbook—as its guide for pavement markings, safety edges, lighting,

and other safety measures. (The Mn/DOT handbook, updated in 2008, is available for download at www.dot.state.mn.us/trafficeng/safety.)

Lighting is a proven strategy and a low-cost technique, Fingalson said. "We did research in 1999 on the safety impact of street lighting and found that it's low cost, very effective for mitigating nighttime vehicle crashes, and it has a benefit [to] cost ratio of 15 to 1." Lighting improves both day and night awareness of an approach to an intersection and is highly effective for older drivers who need more light to see well.

In 2002, Wright County developed its own criteria for lighting placement based on crash data, volume, ambient light, and channelization data. In 2006, the county received a safety audit as part of a regional review. From that, it established a long-term goal of lighting 25 percent of its intersections, a goal "we'll be close to when we add 25 more lights," Fingalson said. The county pays for power and lights and has been successful in getting Highway Safety Improvement Program (HSIP) funds administered by Mn/DOT, he added.

Keith Knapp of the Center for Excellence in Rural Safety reported preliminary findings from a study of centerline rumble strips. Knapp said that 20 to 25 percent of crashes are head on, with a high severity rate. Safety impact study updates show safety improvements with centerline rumble strips that are statistically significant. An implementation guide, to be published at www.ruralsafety.umn.edu, will include final statistics.

The overall conclusion of the study is that "rumble strips work," he said.

Minnesota State Trauma System—the TZD Safety Net

Tim Held, Minnesota Department of Health
Mark Kinde, Minnesota Department of Health

For a severely injured person, the chance of survival diminishes with time despite the availability of resources and modern technology. A comprehensive trauma system, however, improves the chance of survival regardless of proximity to an urban trauma center. In 2005, the Minnesota Legislature established a statewide trauma system, to be implemented by the Minnesota Department of Health, with the goal of decreasing an injured patient's time to definitive care by making sure quick, confident decisions are made that appropriately match a patient's medical needs with a hospital's resources.

Today, Minnesota's trauma system is a voluntary, inclusive network of currently trained and equipped trauma care providers throughout the state working to ensure that optimal trauma care is available and accessible everywhere. "Our emergency medical—or trauma—system is the fourth E in our efforts toward zero deaths and is the safety net for the TZD program when the other three Es fail," Tim Held explained. "Throughout the state, no matter where someone is injured, there is an access point for critical care."

Participating hospitals receive one of four levels of trauma designation from the Minnesota Department of Health corresponding to their capabilities and resources, not quality of care. As of fall 2009, Minnesota had 128 hospitals eligible for designation, with 92 of them either designated or in the process of being designated. The more hospitals that participate, the more effective the trauma system will be, Held said, adding that he hopes all Minnesota hospitals will ultimately agree to participate at some level.

Although Minnesota's trauma system is relatively new, the concept is not. According to Held, the first trauma systems were used to care for wounded soldiers in Napoleon's armies. Since then, wars have contributed greatly to trauma care in the United States. "The lessons learned in successive military conflicts have advanced our knowledge of care of the injured patient," Held said. "The Korean conflict and Vietnam War in particular established the importance of minimizing time from injury to definitive care."


Mark Kinde

In 2006, there were 25,195 injuries in Minnesota that met the trauma criteria, creating a total of $648,127,461 in associated hospital charges, Mark Kinde explained. The leading cause of trauma deaths and nonfatal major and minor injuries is falls; motor vehicle crashes are the second cause of these injuries. On average, trauma claims the lives of 2,400 Minnesotans annually, he said, adding that a vast majority of these deaths are preventable.

With a comprehensive trauma system in place, trauma deaths, length of stay in the hospital, and associated hospital costs can be reduced, as can the number of trauma-related severe disabilities. A trauma system can also decrease the impact of secondary trauma that happens to the family, friends, and community left behind. "When a teenager is killed [in a traffic crash], that has a very different impact than when a 90-year-old person succumbs to Alzheimer's disease," Held said.

Although the benefits of a statewide trauma system are evident, it takes a long time—up to 10

years—before any measurable outcomes become clear. "We know, however, that states with a mature, comprehensive statewide trauma system have realized a 9 percent decrease in motor vehicle crash deaths, a 15 to 20 percent increase in survival rates of seriously injured patients, and an increase in productive working years," Held pointed out.

"As we begin to analyze the data collected [from Minnesota's trauma system] so far, we hope to show what has happened since our statewide trauma system started," Kinde added. "We'll look for both positive outcomes as well as what obstacles we are encountering in order to learn what is and is not working and make changes accordingly."

What's New with Traffic Safety in Rural Minnesota?

Karen Sprattler, The Sprattler Group
Lee Munnich, Center for Excellence in Rural Safety, University of Minnesota
Moderator: **Jean Ryan**, Minnesota Department of Public Safety

In 2008, 67 percent of alcohol-related crashes were in rural Minnesota. This session looked at ways to improve safety in rural areas through alternative transportation programs.

Few transportation alternatives are currently available in rural Minnesota. Of those that exist, many have arisen organically within communities that recognized a need, said Karen Sprattler. To help communities create safe ride programs, Sprattler is developing *A Safer Way Home: The Minnesota SafeRide Resource Guide* with funding from the Minnesota Department of Public Safety and support from the Center for Transportation Studies. The Web-based resource will include examples, how-to information, and suggestions for establishing an alternative transportation system. [The guide will be available in spring of 2010.]

Sprattler presented several case studies she conducted on safe ride programs currently operating in Minnesota. In the resort community of Breezy Point, a shuttle service that transports people to and from area bars and restaurants was started by one man who saw a need for a safe ride program. Rides are free from 6 to 10 p.m. and $10 per rider from 10 p.m. to 2 a.m. The service now has nine cars that provide an estimated 600 rides each summer weekend.

The city of Cleveland in south central Minnesota has a population of about 800 and no public transportation. Since 2003, the police department has provided free rides to and from bars and liquor stores and private residences within a 10-mile radius of the town. The service is available seven days a week from 6 p.m. to 2 a.m. The police department provides 80 to 100 rides per year, which are funded by the police department budget and advertised through bars and on the police department Web site. Cleveland police chief Randall Tiegs, who attended the session, noted that it worked because despite a small population the area sees resort visitors. "It's very positive for us," he said.

Another example Sprattler described was Isanti County's Safe Cab program. The program uses a commercial cab company to offer rides Thursday through Saturday evenings and for special events. Rides, which are free up to $15, are supported by funds divided in equal thirds by bars, a beer distributor, and a local community coalition group. In 2008, Isanti County's program provided more than 3,200 rides. Although participation by bars is voluntary, a strong effort is made to encourage them to participate—and to acknowledge and praise those that do. The program has reduced DWIs citywide by one-third, Sprattler said.

Minnesota's "Quad Cities" (Virginia, Eveleth, Gilbert, and Mountain Iron) have the longest-running program. Since 2000, a commercial cab company has provided free rides available 24/7. Funding is shared by bars (paying 50 percent), a beer distributor (which pays 30 percent), and the cab company (which pays 20 percent). In 2008, 925 rides were provided for 1,320 passengers.

Following Sprattler, Lee Munnich gave an overview of the Center for Excellence in Rural Safety (CERS), which takes a public policy approach to addressing the problem of rural transportation safety. Munnich, who serves as the CERS director, said its accomplishments include development of a clearinghouse for rural safety information; publication of *Rural Safety News*, an electronic newsletter covering the latest research and resources about rural safety; innovative research; and SafeRoadMaps, a tool that identifies the location of crashes through an online, searchable map.

In addition, the Rural Safety Policy Improvements Index (RSPII) project is currently investigating, identifying, and quantifying the direct rural safety impacts of changes in policy-based safety improvement measures. The project will review law enforcement and proven reduction measures—such as seat belt and helmet laws, sobriety checkpoints, ignition interlocks, and automated speed enforcement—to determine what fatality reductions could be expected from which measures. Such information will be key to educating and influencing potential stakeholders concerned with Minnesota rural safety initiatives, Munnich said.

Child Passenger Safety: Overview of Sessions

The conference held seven concurrent sessions geared toward child passenger safety (CPS) advocates, including practitioners, technicians, and law enforcement personnel.

- In "CPS: Meet the Manufacturers," Sarah Tilton from Britax and Julie Robbins from Chicco talked about changes and updates of their companies' product lines. They provided information on current products as well as products coming out in the future.

- "The 411 on Staying Current and Competent in CPS" gave CPS advocates suggestions for keeping up to date on child passenger safety issues. The presenters explored a variety of venues where advocates can obtain CPS information as well as how to recertify as a technician, practitioner, and instructor.

- "CPS: New Product Update" detailed new safety seat technology and what to expect in the coming year. Updates were given by presenter Kelly VanEschen on most major brands of safety seats.

- Presenter Sarah Tilton reviewed Federal Motor Vehicle Safety Standards (FMVSS) for labeling child restraints in the session titled "Understanding FMVSS 213 Labeling Requirements." Tilton covered language and additional label content influenced by ease of use and industry best practice. Attendees also learned what the labeling means and why it must be affixed to the safety seat.

- In "Buckle-Up for Brynn: CPS Case Studies," presenter Kevin O'Neill described a Lakeville case study of a crash in which a child was ejected from a vehicle because he was in the wrong child restraint. Julie Philbrook presented a case study of Brynn Duncan, a child who sustained seat belt syndrome injuries and is now paralyzed from the waist down. Brynn and her family testified at both Minnesota Senate and House booster seat hearings and were instrumental in the state's passage of the booster seat law.

- Officer O'Neill also presented "Law Enforcement Refresher—Booster Seat, Seat Belt, and Child Seat Laws for 2009" (see page 14 for more on this session), which provided information to law enforcement personnel regarding new child passenger safety laws.

- "CPS Nuts, Bolts, and Hot Topics" covered the American Academy of Pediatrics's new recommendations for keeping children rear-facing, proposed FMVSS changes, and changes to the National Highway Traffic Safety Administration's ease-of-use rating system. Advocates also examined timely topics such as childhood obesity and higher-weighted seats.

Conference attendees were able to take a turn in the State Patrol Driving Simulator, which provides a structured, safe environment for training drivers in specific decision-making processes and vehicle control techniques unique to emergency conditions.

2009 Star Award Presentations

Presenters:
Sue Groth, Office of Traffic, Safety, and Technology, Minnesota Department of Transportation
Cheri Marti, Office of Traffic Safety, Minnesota Department of Public Safety
Gail Weinholzer, AAA Minnesota/Iowa
Lieutenant Matt Langer, Minnesota State Patrol

The Kathy Swanson Outstanding Service Award is given to recognize an individual who has shown exceptional leadership in efforts to improve traffic safety in Minnesota, build partnerships, and mentor others in the field. The annual Star Awards are given to recognize excellence in enforcement, emergency medical and trauma services, education, engineering, child passenger safety, judicial/court systems, the media, and public service.

2009 Kathy Swanson Outstanding Service Award Recipients

Colonel Anne Beers, Minnesota State Patrol (Retired)
Carol Bufton, President, Minnesota Safety Council

2009 Star Award Recipients

Enforcement
Sgt. Bruce Johnson, Dakota County Sheriff's Department (Retired)

Emergency Medical and Trauma Services
Darrell Smith, Cook County Ambulance Service

Education
Joseph A. Grafft, Metropolitan State University

Engineering
Dave Engstrom, Minnesota Department of Transportation

Child Passenger Safety
Brynn Duncan and family

Judicial/Court Systems
Judge James Dehn, Isanti County Courts

Media
Stan Turner, Minnesota News Network

Public Service
Steve Murphy, Minnesota Senate
Melissa Hortman, Minnesota House of Representatives
Kim Norton, Minnesota House of Representatives
Jim Carlson, Minnesota Senate
Cheri Marti, Minnesota Department of Public Safety

Back row: Dave Engstrom, James Dehn, Carol Bufton, Kim Norton, Steve Murphy, Anne Beers, Dixie Duncan, Morgan Duncan, Melissa Hortman; middle row: Cheri Marti, Stan Turner, Bruce Johnson, Jim Carlson, Jessica Duncan, Cody Duncan, Darrell Smith, Joseph Grafft, Sue Groth; front row: Brynn Duncan, Brooke Duncan

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