

NORTH STAR WORKSHOP SUMMARY

Connecting the Minnesota Safety Agenda:



Towards Zero Deaths

June 11–13, 2001
Earle Brown Center
St. Paul Campus, University of Minnesota

TO THE READER

This report summarizes a workshop with an ambitious agenda: to set in motion actions that will save lives in Minnesota, and in other states as well.

The sponsors of this workshop asked a diverse set of participants what it would take to achieve a vision of zero traffic-related deaths in ten years. We provided information to participants on recent research and on what other states are doing in their efforts to reduce traffic deaths.

The participants embraced this bold vision of zero deaths. They believe that each of us has a part to play in achieving this ambitious goal, and that each of us can make a difference. I call your attention to their advice on page 11.

The next steps are critical—in the coming months, new directions will be considered and decisions made. Find your place in the picture and decide what you can do to help.



Robert Johns
Director, Center for Transportation Studies

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INTRODUCTION

Every year, there are over 600 traffic-related deaths in Minnesota and over 40,000 in the United States—more than 100 people a day nationally. The number of traffic deaths seems to be accepted by the driving public, and many people simply don't believe a disabling or life-ending crash can happen to them or a loved one.

At the North Star Safety workshop, participants with a concern for public safety came together from local, state, and federal agencies, and from as far away as Sweden and Australia, to discuss ways of reducing the number of fatal and severe injury traffic crashes.

The workshop's specific objectives were to integrate and connect the agendas of transportation safety stakeholders in Minnesota by developing an action plan that focuses on the goal of "Zero Deaths," and to identify new approaches that can be implemented successfully not only in Minnesota, but as part of other states' safety initiatives.

This summary is derived from workshop discussions and contains the presenters' and participants' thoughts and ideas for moving towards a goal of zero traffic deaths in Minnesota in ten years.

THE CHALLENGE

Commissioner Elwyn Tinklenberg, Minnesota Department of Transportation (Mn/DOT)



Commissioner Elwyn Tinklenberg

The purpose of this workshop is a bold one: to chart a course to make Minnesota a traffic-death-free state in ten years. Great strides have already been made in the area of traffic safety, but there is much to be learned from the programs and experiences of other countries and other states. The fact that the number of traffic deaths has remained steady while the number of miles traveled has soared is a tribute to the work already done, and now is the time to make the next great breakthrough. To do that, I want you to think of ideas that are bold, exciting, and innovative. This workshop is a groundbreaking step forward in achieving that purpose.

Jim Nichols, National Highway Traffic Safety Administration

While many traffic safety initiatives have worked, the problem now is that traffic death rates have hit a plateau. Now is the time for innovation without throwing away successful efforts already underway. Deterrence still has a big role to play, but technology on the highways and in vehicles will begin to play more of a role. Crash avoidance systems, for example, probably have the most potential. But these systems will not solve all of the problems. In order to move forward, there is an urgent need to re-implement past efforts that have worked while continuing to hunt for innovative new ideas.



Jim Nichols

Commissioner Charlie Weaver, Minnesota Department of Safety

Last year, drunk drivers alone killed twice as many people as were killed in all of the homicides. And although traffic deaths don't get the press that crime deaths do, efforts to save lives on the roadways are enormously important.

To put the issues of traffic safety in public view we must employ creative, out-of-the-box thinking and get rid of the "Minnesota Nice" attitude when it comes to advertising and public relations efforts.

Many traffic safety-related ads from Australia have powerful messages that hit the public right between the eyes. I suggest the need in this country to move in that direction and rethink some of the current marketing strategies in order to capture the public's attention on a very real problem that is killing sons, daughters, moms, and dads.



Commissioner Charlie Weaver



George Ostensen, Federal Highway Administration

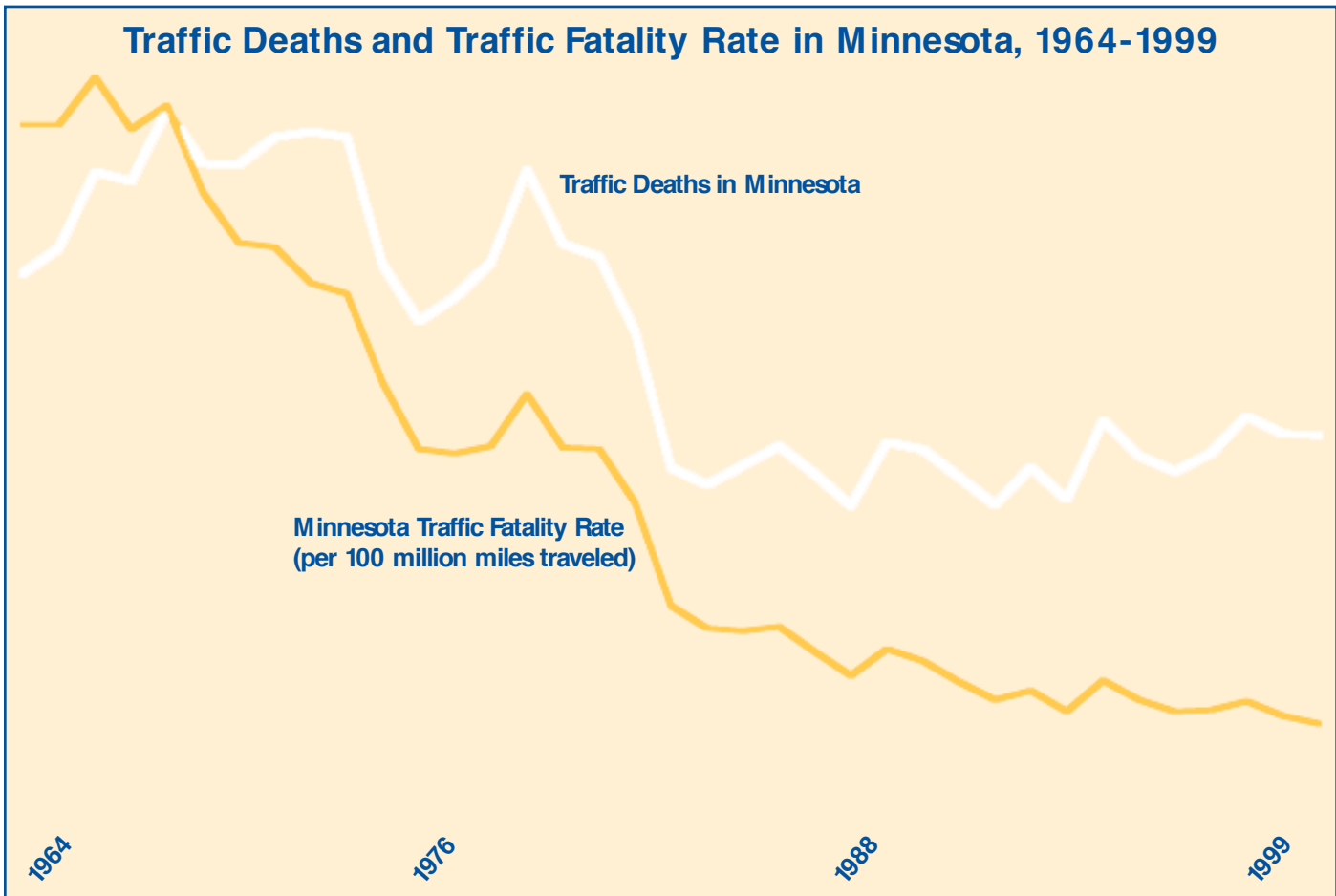
The United States is the most mobile society in the world, and Americans value their mobility. But it comes with a price. *On average, there are over 40,000 people killed by traffic accidents each year in the United States. For some reason, this number of traffic deaths seems to be acceptable to the public.* While people generally do have higher safety awareness today, the real challenge is getting drivers to change their behav-



George Ostensen

ior. And although vehicles are much safer today than they used to be, there are negative influences that come with the better technology, including more potential distractions for the driver.

The future is different, and we must embrace the differences in ways that leverage traffic safety. Someone needs to step forward to develop the long-term view that transcends the short political time frames of our leadership.



THE LEARNING

John Moffat, Washington State

In Washington State, as in many other states, traffic crashes have become so ordinary and expected they



John Moffat

don't get the media attention they should. Although Washington State is a leader in traffic safety, our fatality rates hit a plateau primarily because we had no clear path on how to continue improving traffic safety. We needed a clear traffic safety goal that would move the legislators to act. This is what started the Target Zero thinking.

In order to reduce the traffic death toll, Washington's citizens need to change. *To initiate change, people need to be dissatisfied, but currently many people are not dissatisfied enough with traffic fatalities and injuries to change.* Traffic death rates have gone down, and there have clearly been successful traffic safety efforts. But the public must understand that traffic safety is still a huge problem.

Although we cannot prevent all crashes, we can create a system in which a traffic crash doesn't become a long-term event. And, we can agree that death or severe injury is unacceptable. Washington's Target Zero program is not about preventing all crashes; it's about preventing all of the disabling and fatal crashes by the year 2030. As part of the plan, Washington State has partnered with a broad base of state government representatives as well as people from outside the state government. All of these partnering agencies will have to dedicate resources and work together to build public support.

Colin Jensen, Queensland Department of Main Roads, Queensland, Australia

On average in Australia, there is one road fatality every five hours. Australians consider this number enormous and even worse when considering that it could be a loved one or friend who is killed. *Public education, including shocking, graphic advertising, is a major part of our efforts to improve the situation. These educational efforts are backed by strong enforcement and pragmatism.*



Colin Jensen

Prior to 1970, the attitude to road safety in Australia had nothing to do with facts, figures, goals, objectives, or visions. In Australia, motoring was a gentleman's activity; to have an accident showed that you weren't a gentleman. Throughout the 1970s, the Commonwealth

Government began an era of nationally funded road construction to upgrade many main highways. In the 1980s, the Government provided additional funds to improve other roads. While there were major improvements to Australia's roads during this time, very little of this had to do with road safety. There was more of an economic force behind improving the roads: How do we get our cattle to market? How do we get our grains exported? Nonetheless, 40 to 45 percent of road trauma decreases in Australia over the last 25 years are due to improved road infrastructure.

Today, Queensland's road safety action plan focuses on the "Fatal Four." This is an easily understood message to the public stating that these four things—speeding, drunk driving, not wearing a seat belt, and driving tired—cause most fatalities, yet are totally avoidable. The goal of the action plan is improved road user behavior through education and enforcement. Setting enforcement priorities is an important

element of the plan. When a police officer's priority is to keep the freeways moving during peak periods, he won't stop a motorist unless the motorist is committing a life-endangering offense. If a police officer sees a motorist not wearing a seatbelt, for example, he has to do something about it.

Since Australia reduced its general speed limit from 60 km/h to 50 km/h, there has been a 16 percent reduction in casualty crashes on residential streets and a 27 percent reduction in pedestrian deaths. The key to getting the speed limit reduced was how the idea was sold to the community. The message to the public was that these are residential streets where your children play, and if speeds are reduced by 10 km/h, the number of pedestrian fatalities can be dramatically reduced.

In 1990, all Australian states moved from .08 and adopted .05 as the legal BAC limit. For inexperienced drivers and any driver of a public transport vehicle or heavy vehicle, the limit is .00. If drivers in this group are caught with any level of alcohol in their blood, their license will be taken away.

Although seatbelt use is mandatory in Australia, compliance is still a problem. To increase seat belt use, short, catchy, memorable messages such as "Click and clack, front and back" have been helpful in educating the public. In terms of driving fatigued, it is estimated to cause as many fatal crashes as drunk driving. "Drive and Revive" stops have been implemented along major roadways to encourage people to stop, rest, and survive the drive.

Australia has developed a set of performance-based vehicle standards, known as the Australian Design Rules (ADR), that require vehicles to meet a certain level of crash survivability. Vehicles won't meet the requirements unless they have all the latest side-intrusion bars, occupant protection, and supplementary restraints such as an airbag. The thought is that if every car is as safe as the safest

vehicle in its class, fatalities can be reduced by half.

To combat the problem of speeding commercial vehicles, Australia has implemented Safe-T-Cam, an intelligent transport system application that uses infrared photos to measure speeds between distances. If a commercial vehicle is caught speeding, a letter is sent to the vehicle owner asking for an explanation as to why the vehicle was speeding. Companies that tell their drivers to speed can now be prosecuted.

Although significant gains have been made in improving Australia's road safety, there is more to do. Unfortunately, Vision Zero is not currently on the political agenda, no major political party is showing leadership in terms of road safety, and traffic fatalities are still not recognized as a public health problem.

Anders Lie, Swedish National Road Administration

Drivers have been trained to be sober, to be educated, to learn everything needed to pass the test and get a license. All the responsibility has been put on the driver, and when there's an accident, it's because the driver did something wrong. *In Anders Lie*



Sweden, it is agreed that crashes do occur because of some driver error, but it is also agreed that road and vehicle designers have a responsibility for the crashes, as do the police and everyone else buying or selling transportation. This is an important part of Sweden's Zero Death vision.

In 1997, the Swedish Parliament decided that Sweden's traffic safety target should be zero fatalities and zero disabilities. They decided they had to make the world of road transport better and should use other sectors in society, like aviation, railroad, or

navigation as their benchmark rather than benchmark with other road transport sectors. They also shifted their interest from preventing crashes to preventing injuries.

Then, in 1999, our government created an 11-point action program to work towards the goal of zero deaths. Since about 12 percent of the roads cause about 70 percent of Sweden's traffic problems, the most dangerous roads were the first targets. They then tackled urban road safety issues, where 30 percent of Sweden's road fatalities occur.

Head-on collisions are a major problem on many Swedish roads. But rather than simply reducing speeds as a solution, engineers focused on what could be done with the roads and the vehicles, using sound and clever investments in the infrastructure, to combat the problem and at the same time keep mobility up. As a test, a few roads were selected to have a fence installed in the median, and after three years, motorists are responding very positively to this solution. On the 300 km of roadway with the experimental fence, there have been no fatalities. Another bonus is that this is an extremely low-cost solution that can be integrated into existing roads.

We also need to focus on user responsibility. We can't simply tell the population that they can behave however they want to and we'll promise them they will be safe.

We have found that our fatal crashes can be divided into three major categories. First, you have a general problem with one group of people who do all they can to obey the rules, but still make mistakes. A second group consists of people who generally obey the rules, but who don't protect themselves the way they should—either they don't wear seat belts, or they drive older cars that don't meet today's safety standards. Then there are those who choose not to obey the rules, and we consider this a big problem.

Sweden is now focused on getting everyone buying or selling something to behave in a safe way on the roads. In January 1997, Sweden began implementing in-depth studies of all fatal crashes in which people from the road administration examine every car at every crash site; they also receive the injury reports. Now the people responsible for the roads can see what is actually happening on the roads and can use this information to design a crashworthy road system capable of handling human mistakes and misjudgments.

Nic Ward, HumanFIRST Program and Department of Mechanical Engineering, University of Minnesota

From the psychologist's point of view, there are several obstacles in the way of achieving zero deaths. One barrier is the fact that humans are breakable and fallible, and at the same time, they like and



Nic Ward

accept a certain level of risk.

Generally speaking, human error is the most cited cause of a crash. Drivers don't make the right decisions, and they don't pay attention. Driving involves vigilance, and while a driver may

look for hazards, these happen too infrequently so after a while, he stops looking out for them. *While technology can help minimize human imperfections, it is not the only solution. Technology can introduce new risk and/or shift from new areas of risk.* Because drivers can adapt to their driving environment and to any safety-related technology in that environment, some crashes actually occur because the driving environment becomes too safe.

Although driving, per mile, is safer today, people are driving more; the net results are accident rates that fluctuate around a certain level. Since the population currently accepts a certain amount of traffic deaths, the culture will have to change if the number of fatalities is to decrease. We can use technology to fix some of these problems, but we must use the appropriate technology and actually fix the problem, not just use technology as a bandage.

Besides designing better technology, we must take a human-centered approach to the problem and focus on why drivers don't pay attention, why they don't perceive things appropriately, and why they don't make good decisions. There are many cognitive processes that govern driving. These processes relate to the allocation of attention, the perception of hazards, and the decision to respond. Normal human failings and normal human functioning can lead to an accident. These processes must be understood in order to identify sources of accident intervention.

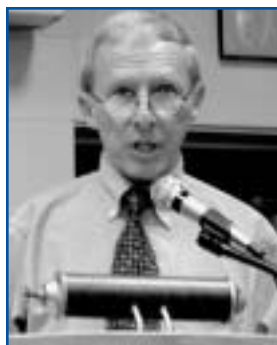
Since some drivers just don't know what driving hazards are, we need to educate them on what the risks are and measure those risks to some common baseline. For example, we tell people that cell phone use while driving is dangerous, but dangerous compared to what? People might understand if cell phone use is graphically shown to be as dangerous as driving after drinking two and a half beers.

Drivers are infrequently exposed to hazardous situations, so they really don't know how to react to real life road hazards. We could teach drivers what the risks are using simulators or telematics that show hazardous situations.

Target Zero is a good mantra, but the strategy must be realistic. Since society does not actually want a zero risk solution, ***cultural changes must take place, and tough political decisions must be made because the goal isn't attainable the way things are going now.***

Because technology has some negative implications, we should be careful about using technology as a solution. In addition to eliminating hazards as they naturally exist in the environment, including road design, for example, and making cars more survivable in crashes, we must understand the processes of attention, risk perception, and decision-making, particularly why people accept higher risk levels. With this understanding, better interventions can be designed, and those interventions will be more accepted by the driving population.

Tom Scott, Center for Urban and Regional Affairs and Department of Political Science, University of Minnesota



Tom Scott

Traffic safety has both human-factors problems and technological problems. I also think the United States' organizational system is too complex to deal with the issues. We have the federal government as well as state and local governments, counties, and municipalities, all of which have some role in design and enforcement. Then there are auto manufacturers, regulators, and insurance companies together in a complex system that, were it designed today from the ground up, would be totally different.

Despite popular culture's unwillingness to lower the blood alcohol level, wear helmets, or do other things to reduce the number of fatalities, a different system could be created if there were the political will to do so. To a very considerable extent, ***making further progress requires an understanding of both human and technological factors—but more important, the real issue is how to move forward in the United States' complex structure of organizing and managing the automobile and truck transportation system.***

Max Donath, Intelligent Transportation Systems Institute and Department of Mechanical Engineering, University of Minnesota

There are many reasons motorists continue to drive impaired: they're tired, have been drinking, or are otherwise distracted.

There are also increasing numbers of older drivers on the road who have greater difficulty judging speeds, merging correctly, and performing other driving



Max Donath

tasks. One solution to these problems may be found in driver-assistive systems on which the University and Mn/DOT have worked together for a number of

years. These systems were first used and tested on a snowplow, and soon will be further studied on a highway patrol car and an ambulance.

Although the fatality curve has been dropping, the rate hasn't changed in the last 10 to 15 years. I think that the only way to change this is to find significantly new and innovative ways to break out of the old box in which the DOTs provide roads and vehicle manufacturers provide vehicles. *The new paradigm has to be one in which the transportation infrastructure provides signals and maps, and the vehicle manufacturers provide the technology to take advantage of the signals and maps in order to provide the type of assistance drivers need.*



THE THINKING

In addition to the large group general sessions, this workshop included small group breakout sessions in which participants identified and prioritized ideas and proposals for change that will help achieve the goal of Zero Deaths.

The groups were first asked to identify some of the potential obstacles, barriers, or inhibitors—besides funding issues—that may get in the way of achieving the Zero Deaths goal. While each group developed its own list of obstacles, there were several common themes that surfaced among all groups. Most of the barriers identified fit neatly into these main categories: human behavior, technology, policy, systems, and processes.

The human behavior barriers identified include public apathy and misperception of traffic safety problems. Traffic fatalities seem to be expected and therefore accepted by the public. And because these fatalities seem so common, they are not seen as newsworthy and receive no media coverage. The groups also described a culture in this country that is resistant to change and is too focused on personal freedoms—a culture that prohibits lifesaving laws from being passed.

The groups felt that while technology offers some potential solutions, there are many issues that may get in the way of reaching zero deaths. High costs, for example, and the time needed to move drivers from old vehicles to new ones with new technology, are seen as limitations, as is driver overload caused by complex technology.

In the area of policy barriers, the groups believe there is a general lack of legislative interest and no clear high-level leader to support the efforts necessary to reach zero deaths. They also felt that the short-term political focus will impede passage of the necessary laws and prevent proper enforcement of existing laws.

The groups identified several systemic barriers, including a lenient judicial system. However, the lack of alternative modes of transportation for those who have been drinking or who have already had their licenses revoked presents other challenges in this area. In addition, the groups felt that *there is no coordinated effort by the government, private sector, health care, or other interested agencies to change public attitudes and influence better behavior.* And, they believed that the current driver education system is not adequately training drivers to deal with the current road system and the latest vehicle technology.

One of the major process barriers identified is the fact that while there is a vision, there is no coordinated plan. Additionally, some felt the ten-year timeframe of vision zero is too aggressive. In order to achieve that goal, the groups believed there must be a way to *identify and bring together the right people, then create a trusting and fully cooperative "mechanism" for multi-agency coordination and stronger partnerships.*

Next, the groups examined what we know about factors contributing to fatalities and injuries. Without question, the groups said, people are killed and injured on highways every day and seatbelts, lower BAC, and graduated licenses save lives, as do law enforcement and deterrence efforts. They agreed that the public is apathetic, complacent, and ignorant of the real problem, and that there is definite need to change the perception that fatalities and injuries are acceptable.

To do this, the groups recognized the need for a true champion at the top and for a concerted effort among all interested agencies to work together and work better with the media to get the real message out to the public.

Conversely, what stood out as the unknown entities include the questions of just how to *get the issues of traffic safety on the legislative and public agenda*, how to get on the media's radar, and how to form the necessary partnerships.

The groups also felt that, although Minnesota's crash data is among the most rigorously checked and consistent in the country, determining the factors that contribute to fatal crashes remains a major challenge. Overcoming this challenge is crucial to addressing the causes of fatal accidents.

With the increasing availability of new technology, the groups said, there is increasing uncertainty about technology's role in traffic safety. Also, the groups recognized that an overall solution to the entire problem of traffic safety is still unknown.

THE REACTION

Alan Steger, Federal Highway Administration

I now see that, in addition to breakthrough thinking and new ideas, there are all kinds of good ideas that have been around for a number of years. Now we need breakthroughs in implementing those ideas. Our discussions here point to the fact that *there is no single answer to solving the traffic safety challenges*. I agree with others who suggest it will take a multifaceted effort and that partnerships are a must. Everyone needs to come together as a new entity with a common goal to address the issue as a single entity going after a single goal.

Along with that comes a need for new tools to market and work with the media. It's really all about influence—the ability to recognize and influence the decision makers who can make zero fatalities a reality. The strategies need to be tailored to those people and the things that make them tick, make them think, and make them act.



Alan Steger, Pat Hughes, and Mancel Mitchell

Patrick Hughes, Minnesota Department of Transportation

I agree with what other workshop presenters have said regarding the need to be bold, aggressive, and innovative in dealing with the challenges of public safety. One step in the right direction might be to develop a new council that brings together advocates and experts from various disciplines, including the private sector and corporations, who all feel that the issue of public safety is urgent.

To market the issues of public safety, create awareness, and try to bring about cultural change, *I think we need an aggressive, grassroots approach.* These efforts should be backed up with enforcement and increased penalties.

Mancel Mitchell, Minnesota Department of Public Safety

I think it is okay to think outside of the box and continue to investigate new ideas. It's also good to think within the box and continue to implement the strategies we already know work. *Teamwork is everything, so multidisciplinary efforts should be used in every possible way.*

I believe in education, but I don't believe we can turn to our public schools for traffic safety education. I don't think it is possible to inject more into primary and secondary curriculums.

I know that the law enforcement agenda is enormous. Officers are asked to do more and more about child abuse, shoplifting, murder, and so on, but the resources are finite. I do think that the right laws are in place and the existing enforcement resources could be better used to deliver swift and certain sanctions, which are more of a threat than severe sanctions alone.

In the small group sessions, participants identified numerous challenges and opportunities for Minnesota to achieve the goal of Zero Deaths. This section synthesizes those ideas that were developed in the small group sessions, and presents specific suggestions for moving ahead with Minnesota's safety agenda.

Major Themes That Should Drive Minnesota's Actions

- ◆ Recognize the effort is about changing our culture, our values, and using our institutions in new and different ways. The Vision must be bold, aggressive, and innovative. And the message must be made personal.
- ◆ Recognize the effort to be long term in nature and sustainable over time.
- ◆ Define high-level leadership and emphasize the partnership nature of the solution. Define common ground for all sectors—public/private/associations/citizens—to come together.
- ◆ Focus on:
 - Technology in the vehicle and the infrastructure.
 - Changes in the human behavior of people operating vehicles.
 - Preventing and reducing injuries rather than crashes.
 - Public awareness and education.

The Strategic Direction

Workshop participants identified 39 potential strategies driven by four major themes to connect the Minnesota Safety Agenda around a singular vision of achieving Zero Deaths. When analyzed, these 39 strategies could define four major strategic initiatives for further development.

Create a high-level Governor's Council focused on the singular vision of achieving zero deaths in Minnesota.

- This council should comprise high-level recognized leaders in the private and public sectors, associations, the transportation industry, education, and politics.
- It should be charged to bring together the efforts of all to focus on the collective actions necessary to achieve the vision. It should bring together and leverage the resources of private and public sector programs.
- It should foster programs that create and sustain public awareness and education.
- It should advise, prioritize, and oversee the programs and funding of zero death efforts by DPS, Mn/DOT, and other related agencies.
- Leadership should be from other than the public sector agencies.

Create a coordinated program focused at

the public sector service providers and managed jointly by DPS and Mn/DOT.

- Establish local crash response programs to gather better data and improve response to injury-involved crashes.
- Refocus agency efforts on programs that prevent injuries rather than just preventing crashes.
- Develop appropriate public sector coalitions.
- Coordinate human and fiscal resources used in the operation of the transportation system.
- Develop an ongoing research program focused on high-payoff initiatives to prevent injuries and deaths.

Develop a long-range strategic plan that will be an ongoing effort to articulate efforts of the Council, DPS, and Mn/DOT.

A potential framework for the plan would focus on:

- Driver education
- Enforcement
- Public awareness
- A coordinated legislative agenda
- A coordinated investment program
- Ongoing research and technology deployment

Immediately pursue a short-term legislative program that will implement a:

- .08% blood alcohol limit.
- Primary seatbelt law.

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“Teamwork is everything, so multidisciplinary efforts should be used in every possible way.”

United States Department of Transportation

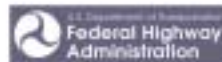
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