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AUTO SAFETY: EXISTING MANDATES AND EMERGING ISSUES

HEARING

BEFORE THE

SUBCOMMITTEE ON COMMERCE, TRADE, AND CONSUMER PROTECTION

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

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CONTENTS

AUTO SAFETY: EXISTING MANDATES AND EMERGING ISSUES

MONDAY, MAY 18, 2009

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMMERCE, TRADE,
AND CONSUMER PROTECTION,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 2:00 p.m., in Room 2322, Rayburn House Office Building, Hon. Bobby L. Rush [chairman of the subcommittee] presiding.

Present: Representatives Rush, Sarbanes, Barrow, Braley, and Radanovich.

Staff Present: Anna Laitin, Professional Staff Member; Christian Tanetsu Fjeld, Counsel; Michelle Ash, Counsel; Valerie Baron, Legislative Clerk; Brian McCullough, Minority Senior Professional Staff Member; and Chad Grant, Minority Policy Analyst.

OPENING STATEMENT OF HON. BOBBY L. RUSH

Mr. RUSH. The subcommittee will come to order. Today's hearing is on "Auto Safety: Current Mandates and Emerging Issues." And the Chair recognizes himself for 5 minutes for the purposes of opening statements.

I want to let you know that there is a hearing or openings statements on the markup of the energy bill that occurs downstairs and the majority of our subcommittee members are there waiting for the opening statements. So they will be coming in and out of this hearing in that they are preoccupied with the opening statements.

Today the subcommittee will conduct its first oversight hearing of NHTSA in the 111th Congress. The intent of today's hearing is fairly simple, and I want to know if NHTSA is taking the necessary proactive steps to ensure that American consumers are as safe as they can reasonably be in their personal, commercial, and their recreational vehicles. Whether it is a parent driving his or her child or children to school or a motor coach full of children traveling to the museum or simply driving to work, Americans every day put their faith in the safety of their cars and trucks that they drive. It is of absolute importance that manufacturers and government regulators meet this very basic expectation.

With this overarching goal in mind, there are several issues I want to explore in this hearing that specifically implicate safety.

First, is NHTSA issuing safety rules that are relevant and timely? Is the agency sufficiently heeding the recommendations of the National Transportation Safety Board and responding to findings

that point to dangerous problems? In this regard I am very interested to know how NHTSA has responded to recommendations from NHTSA on issues surrounding tire pressure monitoring, retread standards, and electronic on-board recordings for commercial vehicles, as well as the overall safety of motor coach vehicles and school buses.

Second, is NHTSA sufficiently implementing congressional intent? In 2005, Congress mandated that NHTSA establish standards for releasing rollover crashes and mitigating the resulting damages. Congress also called on NHTSA to study, "dynamic testing" that simulates the dynamic of a real rollover crash. I want to know where the agency is in meeting this congressional mandate.

Third, I would like to know what steps NHTSA is taking to meet the unique challenges of safety for hybrid and alternative fuel vehicles which are quickly becoming a segment of the cars driven by Americans. If we want to promote these new vehicles to American consumers in our efforts to further energy independence and combat global climate change, we have to also ensure Americans that they are as safe as they possibly can be and ensure their long-term commercial viability.

Fourth, I am interested in knowing what steps NHTSA is taking to ensure child safety in vehicles. The Chicago Tribune recently ran a story citing the poor performance of child car seats and the Secretary of Transportation, my friend and former colleague from Illinois, Secretary LaHood, has ordered a comprehensive review of the car safety program. Moreover, I want to know what initiatives, if any, NHTSA is taking with regard to recent reminders of safety features that notify the driver that a child is present in the back seat of a car.

Lastly, I want to know if NHTSA has the sufficient resources to meet the unique challenges of the 21st century and the challenges occurring in American transportation.

I take this subcommittee's jurisdiction over NHTSA and vehicle safety very, very seriously. I very much believe it is possible, indeed necessary to promote energy independence, despite global climate change, and ensure safety and nurture the long-term success of American made cars and trucks. This subcommittee has an important role to play in furthering these goals. They are not mutually exclusive.

I want to thank the witnesses appearing before us today. I think I speak for all the members on this subcommittee that we look forward to working with the Obama administration, Acting Deputy Administrator Medford, and the full-time future Administrator of NHTSA, whoever they may be, on matters affecting all the areas of vehicle safety.

With that, I yield back the balance of my time, and I recognize for the purposes of an opening statement for 5 minutes the ranking member, Mr. Radanovich.

OPENING STATEMENT OF HON. GEORGE RADANOVICH

Mr. RADANOVICH. Thank you, Mr. Chairman. I appreciate you calling this hearing today to discuss the important subject of National Highway Traffic Safety Administration and the mandates Congress has imposed on them. I understand the importance of

holding this hearing, but I do hope that future hearings will be automatically rescheduled when full committee business is scheduled to occur at the same time to ensure greater member participation.

Everybody wants their roads to be safer. Too many lives are lost each year due to accidents. Fortunately, the changes in driving behavior and the addition of new technologies continue to make great improvements in reducing the fatalities on our roads. Last year we saw a 9 percent increase—excuse me, a 9 percent decrease in vehicle crash fatalities and overall the fewest fatalities on our roads since 1961.

Additionally, the fatality rate has been steadily dropping each year, and was the lowest on record in 2008 at 1.28 fatalities per 100 million vehicle miles traveled.

Clearly safety continues to improve under the combined efforts of NHTSA and the auto manufacturers. Safety initiatives such as the campaign to increase seat belt usage, combined with adoption of technologies and improved crash avoidance such as electronic stability control, have kept fatalities much lower than they would be otherwise.

With the population growth and the increased miles driven each year, the number of fatalities without these advances would likely be closer to 100,000 deaths annually if the fatality rates were the same as during the 1970s. And while these improvements should be heralded, it doesn't change the fact that more lives could easily be saved.

Greater use of seat belts, which costs nothing, would save thousands more lives. Additionally, alcohol was a factor in approximately one-third of all fatalities. We have seen great improvements over the past two decades in reducing the number of impaired drivers on the road. Further improvements are needed.

These behavioral changes are the most effective changes to adopt at virtually no cost. Technological improvements, however, take time and research to develop and they cost money. As we will hear from the second panel, the auto industry spent nearly $800 billion on research and development in 2007, and those costs have to be recouped. Although that means the consumers pay more for the average car, it also means that they are usually getting a better, more reliable, and, most importantly, a safer car than they would have purchased just a decade ago.

Consumer demand plays an important part of the decision process through which technologies are adopted. If consumers won't pay extra for these advances, they may opt for a less equipped vehicle and forego a new purchase entirely. In these uncertain economic times with rising unemployment, many consumers are cutting back considerably on their discretionary purchases, and as we all know, the pullback in consumer spending has hit the auto industry very hard.

New auto sales were cut nearly in half last year from their peak and are not improving this year. Without a definitive improvement in their financial future, it is not clear how the economic downturn will affect their ability to develop further safety improvements.

Congress has mandated many things, in some instances placing strict deadlines for NHTSA to issue rulemakings for the industry

to adopt. NHTSA, who is the Federal agency with the safety expertise, has done an excellent job to improve safety. It is a mistake to supplant NHTSA's expertise and priorities with proposals that restrict or divert resources from the priorities that save the most lives.

NHTSA should continue their work and prioritize the most effective programs in rulemaking that will serve public health and safety best. If Congress disagrees with those priorities, we he have the ability to conduct appropriate oversight. What Congress and this committee should focus on is how the changes we are considering for environmental policy affect auto safety and the affordability of our cars.

We do not yet know, for example, how the new fuel economy standards will affect future affordability and safety. The Insurance Institute for Highway Safety issued a report last month that makes clear one disputable fact, that car size and weight matters when it comes to safety. Their research bears out the fact that the fatality rate is higher for small and mini size cars.

We all want safer and more fuel efficient cars. If technology can be used to improve the fuel economy without sacrificing the safety of the vehicle, that is a great outcome. The question is how much will it cost, and the answer to that question will determine many of the choices consumers and auto manufacturers make and will also affect auto safety.

I want to thank all the witnesses here today, and I look forward to discussing these important issues. Thank you, Mr. Chairman.

Mr. RUSH. The Chair thanks the ranking member, and the Chair wants the ranking member to be assured if it was possible to fight off the aggressive activities of other committees in the Congress as it relates to our jurisdiction over this matter, then the chairman certainly would have rescheduled this meeting. But in light of the fact that there are some folks who want our jurisdiction over this matter, I thought it would behoove us to have this hearing and to have it promptly, and that is the reason why we scheduled this hearing at the same time as the opening statements on the full committee.

The Chair now wants to recognize our two expert witnesses. They are a fine group of people. They come from the National Highway Traffic Safety Administration and also from the National Transportation Safety Board. Representing the National Highway Safety Administration is the Acting Deputy Administrator, Mr. Ronald L. Medford. Welcome, Mr. Medford, to this committee.

And next to Mr. Medford, representing the National Transportation Safety Board, is Ms. Kathryn O'Leary Higgins. She is a board member. Ms. Higgins, welcome to this subcommittee.

We would like you to be sworn in now. This is a new practice of the subcommittee.

[Witnesses sworn.]

Mr. RUSH. Please let the record reflect that all witnessed have answered in the affirmative.

Mr. Medford, I am going to recognize you first, and you have 5 minutes for the purpose of opening statements.

STATEMENTS OF RONALD L. MEDFORD, ACTING DEPUTY ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION; AND KATHRYN O'LEARY HIGGINS, BOARD MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD

STATEMENT OF RONALD L. MEDFORD

Mr. MEDFORD. Thank you. Good afternoon, Chairman Rush and Ranking Member Radanovich. My name is Ron Medford. I am the Acting Deputy Administrator of the National Highway Traffic Safety Administration. I appreciate the opportunity to appear before the subcommittee today to discuss the important issues——

Mr. RUSH. Can you pull your mic closer?

Mr. MEDFORD. —of improving vehicle safety—is that better?

The subject of this hearing is one of the critical missions of our agency. It is one of the most important safety issues confronting our country today. More young Americans die from motor vehicle crashes each year than die from any disease, infection, or crime.

We are encouraged by the positive strides we continue to make. Our early estimate for 2008 is that 37,313 traffic deaths occurred. If this projection is realized, it will represent a 9.1 percent decrease from 2007 and the lowest number of traffic deaths in the United States since 1961 and the lowest fatality rate ever recorded in our history.

Recent regulatory actions that take effect in the next few model years will help us continue the reduction of traffic fatalities. NHTSA estimates that the electronic stability control regulation can save nearly 10,000 lives a year and our upgraded side impact protection standard would save another 1,000 lives a year.

In addition, our 5-star government rating program, also known as the new car assessment program, allows consumers to easily compare the safety performance of different vehicles and has served as a model for similar programs around the world. We've announced major enhancement to this program beginning in model year 2011, with more stringent injury criteria and the addition of advanced technologies for crash prevention.

Like any organization, NHTSA must make difficult choices in selecting projects. We undertake those projects that deliver the greatest safety benefits for the American public. We begin by analyzing our safety data, which is recognized internationally for its depth and its quality. These analyses show us and allow us to focus on and probe deeply into areas of highest risk.

While crash worthiness continues to be an important part of the vehicle safety program, we also recognize that advancements in technologies that can prevent crashes or mitigate crash severity are becoming increasingly an important part of our program. We believe that advanced technologies can detect and compensate for drivers' errors such as inattention, drowsiness, or driver misjudgment.

To address nearly 13,000 alcohol impaired driving fatalities in 2007, we are conducting joint research with the auto industry to develop technologies that have the potential to detect and prevent an impaired driver from operating a vehicle without being intrusive to the sober driver.

While the size of potential safety benefits is our first consideration, it is not the only criterion we use when selecting vehicle safety projects. Another consideration is the introduction of technologies that are likely to appear in growing numbers, such as alternative energy vehicles, which may present safety risks that are not yet addressed by current standards.

Another criterion we consider is ensuring the protection of high occupancy vehicles. NHTSA is now focused on motor coach safety as a priority. We published a motor coach safety plan in 2007, August, that identified four priority areas: Seat belts for occupants, increased roof strength, emergency egress, and fire safety. We expect to issue a proposal to require seatbelts on motor coaches later this year.

The final criterion we used in prioritizing vehicle safety projects is the protection of children and other vulnerable populations. Under the leadership of Secretary LaHood, the agency has recently conducted a top-to-bottom review of our child restraint standard. Based on that review, we expedited a project to afford better side impact crash protection to children.

We also continue our focus on school bus safety. In 2008, we issued a new rule that will further raise the bar on protection of our children when they are traveling to and from school. We believe the agency has developed a systematic way to evaluate and compare the potential safety gains from the projects we undertake. We strive to ensure our choices are based on sound data and science.

Now I would like to turn briefly to fuel economy standards, as they are part of the Department's efforts to achieve vital national goals relating to energy and the environment.

In March of this year, in accordance with the direction of President Obama, NHTSA issued fuel economy standards for passenger cars and light trucks for model years 2011. We have now begun work, in cooperation with the Environmental Protection Agency, to develop fuel economy and greenhouse gas standards respectively that would ensure that each agency is carrying out its statutory responsibilities in a coordinated fashion. We expect to issue fuel economy standards for model years 2012 through 2016 by the end of March 2010.

Thank you for your consideration and for the subcommittee's leadership in providing vehicle and traffic safety. I would be pleased to answer any questions that you have.

[The prepared statement of Mr. Medford follows:]

Statement of Mr. Ronald Medford
Acting Deputy Administrator
National Highway Traffic Safety Administration
before the
Subcommittee on Commerce, Trade, and Consumer Protection
Committee on Energy and Commerce
United States House of Representatives
on
Auto Safety: Existing Mandates and Emerging Issues

May 18, 2009

Chairman Rush and Ranking Member Radanovich, my name is Ron Medford, and I am the Acting Deputy Administrator of the National Highway Traffic Safety Administration (NHTSA). I appreciate the opportunity to appear before this subcommittee to discuss the important issue of improving vehicle safety.

This subject is one of the critical missions of our agency, and it is one of the most important safety issues confronting the country today. According to NHTSA's analysis of the Centers for Disease Control and Prevention data, motor vehicle crashes are the leading cause of death for every age from 3 through 6 and 8 through 34. More young Americans die from motor vehicle crashes than die from any disease, infection, crime, suicide, war, drug and alcohol abuse, drowning, or fire. In 2007, 41,059 people died in the United States as a result of vehicle crashes. This is a major public health and safety challenge for the Nation.

We are encouraged by the positive strides we have made recently. For instance, the 41,059 deaths in 2007 represent a 4 percent decrease in fatalities from 2006. Moreover, our early estimate for 2008 is that 37,313 traffic deaths occurred. If this projection is realized, it will represent a 9.1 percent decrease from 2007 and the lowest number of traffic deaths in the United States since 1961. While some of this decrease is due to the recession, it also represents the lowest fatality rate ever recorded at 1.28 fatalities per 100 million vehicle miles traveled, down from 1.36 in 2007.

Recent NHTSA vehicle regulatory actions that take effect in the next few model years will help us continue the positive traffic safety trend we are now experiencing. First, Electronic Stability Control, or ESC, is a technology that uses sensors and computer control to brake individual wheels so that the vehicle will follow the path the driver is steering the car, instead of spinning out of control. NHTSA estimates this technology can save nearly 10,000 lives a year when it is on the entire light vehicle fleet, which makes it the most important safety device since the seat belt. While ESC is estimated to be currently on about 81% of the 2009 fleet, it will be required on every new 2012 model year car and light truck sold in the United States.

Second, we used our data and our experience on side crash protection to guide our work when we upgraded the standard in 2007, where the United States now requires head

protection in side crashes and is the first country in the world to assess protection using a small stature female dummy, in addition to the male crash dummy. These enhanced side crash protection measures are estimated to save about 1,000 lives a year when deployed on the entire light vehicle fleet. The upgraded side crash protection requirements will be phased in beginning in the 2011 model year and will be required on all 2015 model year cars and light trucks sold in the United States.

Third, our 5-star consumer information program called the New Car Assessment Program (NCAP) has been duplicated around the world – Europe, Japan, Australia, Korea, and China now have consumer information programs in place with which consumers can easily compare the safety performance of different vehicles they are considering purchasing. After conducting a comprehensive review of our NCAP, we have announced major changes beginning with the 2011 model year. NHTSA will assign star ratings based on more stringent criteria and additional testing, resulting in a more challenging grading curve, and an overall rating for the vehicle, based on combining the vehicle's ratings for front, side, and rollover testing. In addition to the occupant protection information, NCAP will now incorporate a consumer information program on advanced crash avoidance technologies such as Lane Departure Warning systems and Forward Collision Warning systems which can help drivers prevent crashes from occurring. Consumers will be able to more easily determine the comparative safety afforded by the different vehicles they are considering for purchase, and vehicle manufacturers will have stronger incentives to focus on safety beyond what is required by regulations when designing their new vehicle models.

Fourth, just last week we published an upgrade of our roof strength standard. This new rule more than doubles the required roof strength of those vehicles that were already subject to the standard, and for the first time extends the standard to all light duty vehicles. This will save 135 lives each year and prevent more than 1,000 injuries in rollover crashes.

It is not by luck or chance that we are making progress in the area of traffic safety. There are far more potential projects that NHTSA could undertake than we have staff and money to actually undertake. Like any organization, NHTSA must make difficult choices in allocating resources entrusted to us by Congress. NHTSA is very aware that any skewed or misplaced priorities can have immediate and significant impacts on our roadways and the Nation. Consequently, the professional staff and leadership at NHTSA work very hard, on a daily basis, to make decisions based on data and maximizing the safety benefit of our actions.

We try to undertake those research efforts that deliver the greatest safety benefits at reasonable cost for the American public. To identify those projects with the greatest benefits, NHTSA uses a systematic process. We begin by analyzing our safety data, which is recognized internationally for its depth and quality. These analyses allow us to focus on, and probe deeply into, areas of highest risk. For instance, frontal crashes continue to be the crash mode in which the greatest number of people die, in spite of the enormous number of lives already saved due to record high seat belt use, improved crash

worthiness and significant advances in frontal airbags. We have recently completed a team study of the available data to identify characteristics of frontal crashes that are not being fully addressed by our current requirements. NHTSA will use this team's work to evaluate the projects that could be undertaken to offer the biggest safest impacts, and then develop project plans that make the best use of our available resources to deliver cost-effective solutions in the identified areas.

Another effort currently underway with the potential to yield significant safety benefits is our vehicle-based alcohol impairment detection effort. In 2007, 12,998 people were killed in crashes in which a driver had a blood alcohol concentration of .08 or higher. For the past 25 years, NHTSA has concentrated substantial resources through programs aimed at modifying driver behavior. Recently the agency has sought to supplement the behavioral approach by exploring the use of technology to detect and prevent impaired driving. Today we are conducting joint research with the auto industry to develop technologies that have the potential to detect and prevent an impaired driver from operating a vehicle without being intrusive to the sober driver. This is a significant technical challenge, but we are very excited to have a chance to save a significant number of lives.

Another important effort we have underway because of the enormous safety potential is advanced safety technologies for crash avoidance. As more electronic sensors and computing capability are incorporated into modern vehicles, the vehicle manufacturers now have the technological capability to enhance safety in a way that was impossible a decade ago. We believe that many other technologies can detect and compensate for driver errors such as inattention, drowsiness, or driver misjudgment. An especially promising technology is crash-imminent braking. This new type of braking employs sensors to detect that a crash is apparently unavoidable and then automatically applies maximum braking to slow the vehicle as much as possible. We know from 40 years of crash data that reducing the velocity of a vehicle in a collision significantly reduces the risk to all vehicle occupants, including those in the vehicle that is struck. In this case, if we can reliably reduce the velocity of the striking vehicle, we can significantly decrease the safety risks on America's roads.

We have identified future technologies that will be even more effective at preventing crashes. We are currently underway with a significant research program on vehicle-to-vehicle communications, where short wave communications will enable vehicles to identify, broadcast, and actively avoid crash risks

While the size of potential safety benefits is our first consideration, it is not the only criterion we use when deciding upon vehicle safety projects. Another consideration is emerging technologies that are likely to appear in growing numbers, and which present potential new safety risks that are not addressed by current safety standards. An example of this is alternative energy sources. Our standards currently address safety-related issues arising from crashes for both hydrogen fuel cells and lithium ion batteries. However, both of those alternative energy systems can pose potential hazards outside of a crash. We are currently working to ensure that we will adequately understand these

potential risks and address them where needed. Another rapidly growing problem is motorcycle safety. The agency is promulgating several vehicle and equipment rulemakings, including a Global Technical Regulation on motorcycle braking systems and a new helmet labeling standard that will help ensure that riders wear helmets that provide adequate crash protection.

Another criterion we consider is to improve occupant protection of high-occupancy vehicles. We have already addressed 15-passenger vans, by extending our existing standards to cover these vehicles and ensuring that our new or amended safety standards apply to 15-passenger vans as well. NHTSA is now focused on motorcoach safety. We published a motorcoach safety plan in September 2007 that identified four priority areas: seat belts for occupants, increased roof strength, emergency egress, and fire safety. The 2007 plan identified the steps we would take and the timeline for us to make decisions. For seat belts, in December 2007, NHTSA conducted the first crash test of a motorcoach ever conducted by the U.S. Government. That test has given us the needed information to propose a requirement for seat belts on motorcoaches in 2009. NHTSA will also conduct a roof crush test this summer to allow us to determine whether roof strength standards for motorcoaches are necessary. In addition, our Secretary has asked all parts of the Department involved in motorcoach safety issues to develop a Departmental Motorcoach Safety Action Plan that coordinates and integrates the activities. We will deliver that Plan to him by July 15, 2009.

The final criterion we use in deciding upon vehicle safety projects is the protection of children and other vulnerable populations. Under the leadership of Secretary LaHood, the agency has recently conducted a top to bottom review of our child restraint standard. Based on that review, we have expedited a project to afford better side impact crash protection to children. The data show that more restrained children are killed in side impact crashes than in frontal crashes. We expect to make a decision on future action in 2010. In addition, this criterion explains our focus on school bus safety. School buses are the safest form of highway travel. In 2008, we issued a rule that raised the minimum seat back height, required the same lap/shoulder belts in small school buses that are required in cars and light trucks, and provided requirements for seat belts and anchorages if communities should opt to equip larger school buses with seat belts. This rule becomes effective October 21, 2009 and will further raise the bar on safety protection for our children when they are traveling to and from school.

NHTSA's risk-based vehicle safety enforcement program supports application of these criteria in our vehicle rulemaking and research programs. Compliance testing helps ensure that vehicles and equipment, including the increasing volume of products imported to this country, meet the U.S. Government standards. Our defects investigation program helps ensure that once vehicles and equipment are in use, consumers are protected from safety problems that might develop.

By applying these data-based risk reduction criteria, we believe the agency has developed a systematic way to evaluate and compare potential safety projects we could undertake. We strive to ensure our choices are based on a consistent and reasoned

evaluation. Of course these vehicle safety initiatives are complemented by NHTSA's highway safety programs that are driving progress with seat belt use, impaired driving and other priority behavioral risks. Just last week Secretary LaHood kicked-off our *Click It or Ticket* seat belt campaign with new national advertising and the participation of more than 10,000 police agencies across the Nation. The American public deserves no less when we are addressing a threat to public health that results in more than 35,000 deaths every year.

I would like to turn briefly to our fuel economy standards as they are part of the Department's efforts to achieve vital national goals relating to energy and the environment. On March 23, 2009, we issued a final rule establishing fuel economy standards for model year 2011. We are now working with the Environmental Protection Agency in developing fuel economy standards for model years 2012-2016. Pursuant to the President's January 26 memorandum, we are reviewing our approach to standard setting, including our methodologies, economic and technological inputs, and decision making criteria. We will craft our program so as create the maximum incentives for innovation, provide flexibility to the regulated parties, and meet the goal of making substantial and continuing improvements in fuel efficiency. To that end, we are committed to ensuring that the future fuel economy program is based on the best scientific, technical, and economic information available, and that such information is developed in close coordination with other federal agencies and our stakeholders.

Thank you for your consideration, and for this Subcommittee's leadership in improving traffic safety. I would be pleased to try and answer any questions.

Mr. RUSH. The chairman thanks the gentleman.

The Chair now recognizes Mrs. Higgins. Mrs. Higgins, you are recognized for 5 minutes for the purposes of opening statements.

STATEMENT OF KATHRYN O'LEARY HIGGINS

Ms. HIGGINS. Thank you, Mr. Chairman and Mr. Radanovich.

I'm Kitty Higgins, a board member with the National Transportation Safety Board, and we appreciate you asking the Board to testify today.

The Safety Board investigates accidents, all modes of transportation, to determine the probable cause and make recommendations to prevent similar accidents from happening again.

We are pleased to be able to talk today about NHTSA's reauthorization.

I've been asked to focus my comments on motor coach safety and the critical role that NHTSA must play in that arena. But I also want to point out that the Federal Motor Carrier Safety Administration has an equally important role in motor coach operations and oversight, and we have made other recommendations to improve motor coach operations. That's in my longer testimony.

While NHTSA has made progress in many of the Board's recommendations, that progress has been very slow. In 1999, 10 years ago, we issued a special report on bus crash worthiness. In 2000, we added recommendations from that report to our most wanted list. Since that report we have completed investigations of additional 33 accidents with 255 ejections, over a thousand injuries, and 123 fatalities.

We welcome and applaud Secretary LaHood's call for a full departmental review of motor coach safety. And our Acting Chairman Mark Rosenker will be meeting with the Secretary in just a few days to talk to him about our concerns just to improve safety for motor coaches.

While motor coach accidents are infrequent, when they occur there are a substantial number of people involved. They are all traveling in a single vehicle. Those travelers have often students, senior citizens, and tourists who place their safety in the hands of a professional motor coach operator. Inherent in that relationship is an expectation that our motor coaches will meet the highest level of safety.

For decades the Safety Board has been concerned with motor coach occupant protection and the fatalities and injuries caused when passengers are thrown from their seats or ejected. We note that the Federal motor vehicle safety standards contain 22 crash worthiness standards, yet motor coaches are presently exempt from most of them. For example, Federal regulations do not require that motor coaches be equipped with any occupant protection system. Only the driver has a seatbelt. The Board has frankly grown impatient as we continue to investigate accidents where these ejections occur; such as a couple of years ago the 12 ejections and 7 fatalities from the Bluffton University accident in Georgia, in Atlanta, and the 50 ejections and 9 fatalities in the 2008 accident in Mexican Hat, Utah.

We have asked and recommended to NHTSA that they develop standards for a motor coach occupants protection system that pro-

tects passengers in all crash scenarios. We have also asked them to revise window glazing requirements to prevent occupant ejections, but also allow for passengers to get out of the motor coach.

We have also asked them to make roofs on motor coaches much stronger. These improvements would go a long way in protecting passengers during a crash by keeping them in their seats and inside the motor coach and providing as well a survivable space. But 10 years after we first made these recommendations, no changes have been made in the design of motor coaches.

We are also concerned about motor coach fires. In 2005, 23 elderly passengers perished in a tragic motor coach fire near Wilmer, Texas. As a result of that accident the Board made recommendations asking NHTSA to require enhanced fire protection fuel systems and require the use of fire hardened materials in motor coaches.

We also asked that fire detection systems be included and we also asked that acceptable passenger egress times be established. We hope NHTSA will also complete actions on these recommendations.

The science of motor coach investigations could be greatly improved if buses are equipped with event data recorders which can be used to collect data from crashes, such as acceleration, impact, brake use, signal use, and others. That information can be used to help us evaluate occupant protection issues in the course of the investigation.

New technologies can also improve safety. We applaud NHTSA's progress in developing electronic stability control standards for cars and light trucks, but we also believe that NHTSA should develop and require installation of new technologies such as collision warning systems and adaptive cruise control for commercial vehicles. Each of these technologies holds great promise in reducing accidents, especially when drivers are distracted or operating in bad weather.

In summary, the Safety Board believes that there are still many changes NHTSA could make to improve safety on our highways.

Thank you, and I'd be happy to take any questions.

[The prepared statement of Ms. Higgins follows:]

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Kathryn O'Leary Higgins
Board Member

Testimony of
Kathryn O'Leary Higgins, Member
National Transportation Safety Board
Before the
Subcommittee on Commerce, Trade, and Consumer Protection
Committee on Energy and Commerce
U.S. House of Representatives

Auto Safety: Existing Mandates and Emerging Issues
May 18, 2009

Good afternoon morning Chairman Rush, Ranking Member Radanovich, and Members of the Subcommittee. My name is Kitty Higgins, and I am a Board Member for the National Transportation Safety Board. I would like to take this opportunity to thank you and the Members of the Subcommittee for inviting me to testify today on reauthorization of the National Highway Traffic Safety Administration or NHTSA and for your continued interest in furthering the safety of our Nation's highways.

As you know, the Safety Board is charged with investigating accidents in all the modes of transportation, including highways, to determine their probable cause, and with making recommendations as a result of our accident investigations, to prevent similar accidents from happening again. Over the years, the Board has done important work in virtually all aspects of highway safety including highway and vehicle design; roadway environment; occupant protection; driver performance; driver training; emergency response; roadway, bridge, and tunnel construction; and oversight by regulatory agencies at the local, state, and Federal levels.

Today, I would like to discuss motorcoach safety and some of the other Safety recommendations that the Safety Board believes will save lives on our highways such as driver education for young drivers. I have included in my written testimony some safety recommendations issued to the FMCSA because they will also be required in order to realize the reduction in crashes that we all hope to achieve.

As those who are familiar with the statistics know, intercity motorcoach travel is one of the safest modes of transportation, with approximately 17 bus occupant fatalities in an average year. It is also one of the most popular forms of travel, often transporting students or elderly persons who rely on motorcoach travel and who choose to entrust their safety to the hands of a professional motorcoach driver. As with other modes of commercial transportation, consumers of these services expect that motorcoaches meet high standards for public safety.

However, when an accident does occur, the accident invariably involves a substantial number of people traveling in a single, multi-occupant vehicle. These high-visibility accidents attract the public's attention and can undermine its confidence in motorcoach travel. When this occurs, the public often turns to the Safety Board for answers because our independent

investigations will ultimately determine the root or probable cause of the accident, and we will attempt to make well-reasoned recommendations to prevent similar occurrences in the future. This process of open, independent, transparent investigations, along with thoughtful, comprehensive recommendations to prevent future accidents, often restores the public's confidence.

My discussion today will include two areas where NHTSA could improve motorcoach safety; 1) vehicle improvements and 2) technological improvements. I would then like to spend just some time discussing another important issue where NHTSA's help is needed -- driver education for young drivers. Finally, I will highlight some of the oversight improvements where we believe that the Federal Motor Carrier Safety Administration or FMCSA could improve motorcoach safety.

Motorcoach Vehicle Improvements

For decades, the Safety Board has been concerned with the cause of injuries in motorcoach accidents. These concerns have prompted the Safety Board to focus on areas such as motorcoach passenger protection and motorcoach fire protection. More generally, we have sought to advance the science of motorcoach safety through the use of event data recorders to help Safety Board investigators better analyze accident dynamics.

Motorcoach Passenger Protection

One of the primary causes of passenger injury in motorcoach accidents is the blunt force trauma that occurs when passengers are thrown from their seats. It is well known that the overall injury risk to occupants in any vehicle can be significantly reduced during an accident by keeping occupants in the seating compartment throughout the collision sequence. Even more devastating are the impact forces that come into play should an occupant be ejected from a motorcoach during the accident sequence. The Safety Board has found that equipping motorcoach side windows with advanced glazing and enhancing the roof strength of these vehicles may decrease the number of ejections of unrestrained passengers and decrease the risk of serious injuries to restrained passengers during motorcoach accidents.

The Federal Motor Vehicle Safety Standards (FMVSS) contain 22 crashworthiness standards. However, motorcoaches are presently exempt from most of these standards, and no Federal regulations require that motorcoaches in the United States be equipped with any occupant protection system. Although motorcoaches must comply with both FMVSS 217, which establishes minimum requirements for motorcoach window retention and release, and with FMVSS 302, which establish standards for the flammability of interior materials, they do not have to comply with the substantial majority of other FMVSS occupant protection standards that apply to school buses and passenger cars.

It is a fundamental design principle of a well-designed motor vehicle that the vehicle itself should absorb much of the energy of a crash through its structure and thereby minimize the energy transferred to passengers. An effective occupant protection system functions to restrain

the passengers within the seating compartment throughout the accident sequence, limit energy transfer from structural components of the vehicle, and thereby lessen the risk of injury.

One example of a design element intended to reduce injury that has been studied, tested, and required in school buses is compartmentalization. Compartmentalization seeks to retain the occupant in a safer zone or compartment within the vehicle, not necessarily restrain the occupant to his or her seat. But the Safety Board has determined that such an occupant protection system has significant limitations during side impact and rollover accident scenarios.

The Safety Board has been making recommendations on motorcoach occupant protection since 1968. In 1999, the Safety Board published a special investigation report on Bus Crashworthiness Issues that addressed motorcoach occupant protection. The recommendations from that study included the following ones to NHTSA:

- In 2 years, develop performance standards for motorcoach occupant protection systems that account for frontal impact collisions, side impact collisions, and rollovers. (H-99-47) This recommendation was added to the Most Wanted list in 2000 and reiterated in the 2001 New Orleans, Louisiana, report and the 2008 Atlanta, Georgia, report.

- Once pertinent standards have been developed for motorcoach occupant protection systems, require newly manufactured motorcoaches to have an occupant crash protection system that meets the newly developed performance standards and restrains passengers, including those in child safety restraint systems, within the seating compartment throughout the accident sequence for all accident scenarios. (H-99-48) This recommendation was reiterated in the 2001 New Orleans report and the 2008 Atlanta report.

- Expand your research on current advanced glazing to include its applicability to motorcoach occupant ejection prevention, and revise window-glazing requirements for newly manufactured motorcoaches based on the results of this research. (H-99-49)

NHTSA's initial response to these recommendations indicated that work had begun to develop a research plan to accomplish these recommendations. Two years later, NHTSA reported forming the Bus Manufacturer's Council and in 2002, the agency held a public forum on motorcoach safety with Transport Canada. In 2004, the Safety Board was informed that NHTSA was focusing on roof crush and window retention technology to keep occupants in the vehicle and had initiated a joint study with Transport Canada.

Since 1998 the Board has investigated 33 motorcoach frontal and rollover accidents (see attached). In these accidents, there were 255 full or partial ejections and 123 fatalities. These rollover crashes clearly demonstrated that passengers who remain in their seating compartments sustain fewer injuries and that ejected passengers are the most likely to be killed.

Unfortunately today, a decade after the Safety Board concluded its Bus Crashworthiness Issues special investigation report, no Federal regulations or standards yet exist that would require motorcoaches be equipped with occupant protection systems. As a result, the Board continues to see many of the same occupant protection problems previously noted in 1999 report.

In its 2003 report on a motorcoach collision in Loraine, Texas, then again in its 2004 report on a Motorcoach rollover in Victor, New York, and then again in its motorcoach collision accident in Hewitt, Texas in 2005 we identified occupant protection deficiencies that greatly contributed to loss of life and severe injuries. In these 3 accidents alone, a total of 13 passengers were killed and 99 were injured. The Board again reiterated its motorcoach occupant protection recommendations last year in the Board's report on the Bluffton University baseball team accident in Atlanta, where a lack of adequate occupant protection system was specifically cited in the probable cause as contributing factor exacerbating the severity of the accident.

Some recent examples where passenger ejections were a substantial cause of more severe injuries and deaths include the Bluffton University baseball team's motorcoach accident in Atlanta, Georgia, where 12 occupants were ejected or partially ejected from the motorcoach — 7 people died and 35 were injured in the accident. Of the 7 deaths, x were of those who were ejected in the accident sequence. Just last month, the Board completed another investigation into a motorcoach rollover accident near Mexican Hat, Utah, where 50 of the 52 passengers were ejected, resulting in 9 fatalities and 44 injuries, many of them serious. The driver was the only occupant of the motorcoach who had a restraint system available for use.

Just last month, the Board showed its frustration with NHTSA's slow movement on these recommendations in its report on a 9-fatality motorcoach rollover accident near Mexican Hat where 50 of 52 passengers were ejected. In the probable cause determination for this accident, the Board went even further by identifying NHTSA's delay in developing and promulgating standards to enhance motorcoach passenger protection as contributing to the severity of the accident. In addition, the Board indicated its frustration with the slow progress being made by reclassifying these unresolved recommendations as not only remaining open but each having an "unacceptable response" from NHTSA.

However, NHTSA is making some deliberate progress and should be recognized accordingly. In December 2007, NHTSA performed a frontal motorcoach crash test and in February 2008, they performed two tests on motorcoach roof strength and occupant survivable space through the MGA Research Corporation, under contract to NHTSA, both of which were observed by Safety Board staff. The Board will carefully follow the analysis of those test results. In addition, a week after the Board's issuance of the Mexican Hat report, Department of Transportation Secretary Ray LaHood announced that he has ordered a full review of motorcoach safety and will create a Departmental Motorcoach Safety Action Plan which he is directing be completed in August of this year.

Passenger Egress:

Another critical aspect of surviving a motorcoach accident is the ability of all passengers to exit the vehicle in a timely manner. In the Safety Board's 1999 special investigation report on Selective (or "selected"? Same as the one cited by a different name above?) Motorcoach Issues, we found that the emergency window exits need to be easily opened and that they need to remain open during an emergency evacuation. Consequently, the Board recommended that NHTSA:

- Revise the Federal Motor Vehicle Safety Standard 217, "Bus Window Retention and Release," to require that other than floor-level emergency exits be easily opened and

remain open during an emergency evacuation when a motorcoach is upright or at unusual attitudes (H-99-9). This recommendation was added to the Most Wanted list in 2000.

- Require motorcoach operators to provide passengers with pre-trip safety information (H-99-8).

The Board's 2000 report following a motorcoach accident near Burn Cabins, Pennsylvania, where the driver and 6 passengers died asked NHTSA to:

- Revise the federal motor vehicle safety standards to require that all motorcoaches be equipped with emergency lighting fixtures that are outfitted with a self-contained independent power source. (H-00-01)

- Revise the federal motor vehicle safety standards to require the use of interior luminescent, or exterior retroreflective material, or both, to mark all emergency exits in all motorcoaches. (H-00-002)

Passenger egress is even more important during a fire as the Board found in its 2007 report on the motorcoach fire near Wilmer, Texas where 23 occupants died. These were elderly nursing home patients who were being evacuated by motorcoach from Houston in advance of Hurricane Rita. As a result of its investigation, the Safety Board made recommendations to NHTSA to:

- Evaluate current emergency evacuation designs of motorcoaches and buses by conducting simulation studies and evacuation drills that take into account, at a minimum, acceptable egress times for various post-accident environments, including fire and smoke; unavailable exit situations; and the current above-ground height and design of window exits to be used in emergencies by all potential vehicle occupants (H-07-08).

Roof Strength:

Motorcoaches must be strong enough to retain adequate survivable space for passengers during typical accident scenarios, and in the opinion of the Safety Board, this includes rollover sequences. Therefore, the Board's recommendation to NHTSA in our 1999 Bus Crashworthiness report was to:

- Develop performance standards within two years for motorcoach roof strength that provide maximum survival space for all seating positions and that take into account current typical motorcoach window dimensions (H-99-50). This recommendation was added to the Most Wanted list in 2000, reiterated in the 2001 New Orleans report and reclassified as "unacceptable response" in the 2009 Mexican Hat report.

- Once performance standards have been developed for motorcoach roof strength, require newly manufactured motorcoaches to meet those standards (H-99-51). This recommendation was, reiterated in the 2001 New Orleans, LA report and reclassified as "unacceptable response" in the 2009 Mexican Hat, UT report.

Commendably, some limited progress has been made on these recommendations. In 2002, NHTSA met separately with motorcoach manufacturers and operators to address the issue of bus window retention and release; however, no research plan was agreed upon at those meetings. In the fall of 2004, NHTSA signed a Memorandum of Understanding with Transport Canada to carry out research in the areas of roof crush and window retention technology, with a goal of keeping occupants in the vehicle, because most motorcoach fatalities occur when passengers are ejected from the vehicle. NHTSA's research also shows that in most accidents, the bus only rolls ¼ turn and comes to rest on its side; therefore, installation of roof exits to serve as an alternate to window exits as a means of rapid emergency egress for bus passengers is also being examined.

On August 6, 2007, NHTSA issued their "Approach to Motorcoach Safety," which is a comprehensive review of motorcoach safety issues and the course of action that NHTSA will pursue to address them. In the course of its research, NHTSA has indicated that it will study its own regulations (such as FMVSS 217) which establishes minimum requirements for bus window retention and release to reduce the likelihood of passenger ejection in crashes—as well as international standards to determine the best way to proceed with the establishment of new requirements to better protect motorcoach passengers.

Motorcoach Fire Protection

On September 23, 2005, a fire engulfed a motorcoach carrying elderly evacuees away from the predicted path of Hurricane Rita near Dallas, Texas—the Safety Board refers to this as the Wilmer, Texas, motorcoach accident. The 44 passengers on board were from an assisted-living facility in Bellaire, Texas, near Houston; many needed to be carried or assisted onto the motorcoach by firefighters or nursing staff, and the loading required almost 2 hours to complete. When the fire occurred, 23 elderly passengers perished because they were unable to escape the blaze, and staff and rescuers could not evacuate them in time. I would like to note that this accident involved very unusual circumstances, and many of the decisions to evacuate and the means incorporated to evacuate were made in the context of the devastation in New Orleans caused by Hurricane Katrina that occurred just one month earlier.

Fortunately, to date, injuries and fatalities related to motorcoach fires have been an extremely rare event. However, fires on motorcoaches are not unusual occurrences. In fact, some industry experts estimate that there is approximately one motorcoach fire per day. Still, this accident shows the potential for catastrophe when passengers are unable to exit a burning motorcoach quickly.

As a result of its investigation, the Board asked NHTSA to:

- Develop a Federal Motor Vehicle Safety Standard to provide enhanced fire protection of the fuel system in areas of motorcoaches and buses where the system may be exposed to the effects of a fire. (H-07-04) In the interim, while standards are being developed, we asked the motorcoach manufacturers to use currently available materials and designs for fuel system components that are known to provide fire protection for the system.

- Develop a Federal Motor Vehicle Safety Standard to provide fire-hardening of exterior fire-prone materials, such as those in areas around wheel wells, to limit the potential for flame to spread into a motorcoach or bus passenger compartment. (H-07-05)

- Since wheel well fires are so difficult to extinguish, we asked NHTSA to develop detection systems to monitor the temperature of wheel well compartments in motorcoaches and buses to provide early warning of malfunctions that could lead to fires so that passengers might have time to escape. (H-07-06)

- Evaluate the need for a Federal Motor Vehicle Safety Standard that would require installation of fire detection and suppression systems on motorcoaches. (H-07-07)

- FMCSA should establish a process to continuously gather and evaluate information on the causes, frequency, and severity of bus and motorcoach fires, and conduct ongoing analysis of the fire data to measure the effectiveness of the fire prevention and mitigation techniques identified and instituted as a result of the Volpe National Transportation Systems Center fire safety analysis study. (H-07-1)

- FMCSA should revise the Federal Motor Carrier Safety Regulations to prohibit a commercial vehicle from operating with wheel seal or other hub lubrication leaks. (H-07-02)

Event Data Recorders

Since motorcoach accidents are relatively rare events and motorcoach crash testing is prohibitively expensive, one way to efficiently collect crash data, evaluate crash pulses, and occupant protection issues is to equip motorcoaches with event data recorders (EDR). An event data recorder is a device similar to a "black box" on aircraft that records a vehicle's dynamic, time-series data just before a crash (vehicle speed versus time) or during a crash (change in velocity versus time). Intended for retrieval after the crash event, EDR data can provide critical safety system performance information. To enhance crash testing with real-world data, it is important that data from motorcoach crashes be used for post-accident analysis, forensics, and design evaluation. At an SAE International symposium on highway EDRs, industry representatives presented the status of efforts to develop EDR standards, current system operating experience, and evidence that many operators currently use vehicle data recorders to improve operational control, to support insurance rates and claims, and to respond to litigation. The Board would like to see these devices on all motorcoaches for the purposes of accident investigation.

Although crash forces can sometimes be estimated by comparing the accident vehicle's physical damage to instrumented crash test data, this method is not always reliable, particularly when crash test data are extremely limited as they are for motorcoaches, and when the accident involves a barrier collision or a collision with a hard paved surface. The ability to estimate crash pulses is also limited by the fact that some surfaces of the motorcoach may have undergone multiple collisions.

As a result of its 1996 Safety Study On Child Restraint Systems and subsequent 1997 Air Bag Forum, the Safety Board recommended that NHTSA address the on-board recording of crash data. About that time, the National Aeronautics and Space Administration and the Jet Propulsion Laboratory also recommended that NHTSA study the feasibility of obtaining crash data for safety analysis by installing crash recorders on vehicles. In response, NHTSA organized the EDR Working Group in October 1998. In 1999, the Board held a Symposium on Transportation Recorders. Later that year, as a result of its Special Investigation on Bus Crashworthiness, the Safety Board made the following two EDR-related recommendations to NHTSA:

- Require that all school buses and motorcoaches manufactured after January 1, 2003, be equipped with on-board recording systems that record vehicle parameters, including, at minimum, lateral acceleration, longitudinal acceleration, vertical acceleration, heading, vehicle speed, engine speed, driver's seat belt status, braking input, steering input, gear selection, turn signal status (left/right), brake light status (on/off), head/tail light status (on/off), passenger door status (open/closed), emergency door status (open/closed), hazard light status (on/off), brake system status (normal/warning), and flashing red light status (on/off) (school buses only). For those buses so equipped, the following should also be recorded: status of additional seat belts, airbag deployment criteria, airbag deployment time, and airbag deployment energy. The on-board recording system should record data at a sampling rate that is sufficient to define vehicle dynamics and should be capable of preserving data in the event of a vehicle crash or an electrical power loss. In addition, the on-board recording system should be mounted to the bus body, not the chassis, to ensure that the data necessary for defining bus body motion are recorded. (H-99-53) (Reiterated in the 2008 Atlanta, Georgia, report.)

- Develop and implement, in cooperation with other government agencies and industry, standards for on-board recording of bus crash data that address, at a minimum, parameters to be recorded, data sampling rates, duration of recording, interface configurations, data storage format, incorporation of fleet management tools, fluid immersion survivability, impact shock survivability, crush and penetration survivability, fire survivability, independent power supply, and ability to accommodate future requirements and technological advances. (H-99-54) (Reiterated in the 2008 Atlanta, Georgia, report.)

In October 2000, NHTSA organized the Truck and Bus Event Data Recorder Working Group to focus on data elements, survivability, and event definitions related to trucks, school buses, and motorcoaches. The group's results and findings were published in May 2002. In 2004, the NCHRP completed a project that examined current U.S. and international methods and practices for the collection, retrieval, archiving, and analysis of EDR data for roadside and vehicle safety. Both the IEEE and SAE have published voluntary industry motor vehicle EDR standards. A second SAE standards committee, J2728 -- Commercial Vehicle Event Data Recorders -- is specifically addressing data elements for medium- and heavy-duty trucks. Industry initiatives in standards development include the American Trucking Association's Technology and Maintenance Council's publication of a recommended practice to define the collection of event-related data on board commercial vehicles. The recommended practice

outlines data elements, storage methodology, and the retrieval approach for event data recording on commercial vehicles.

In the meantime, the FMCSA's "Commercial Vehicle Safety Technology Diagnostics and Performance Enhancement Program" (also known as the "CV Sensor Study") has worked to define driver and vehicle assistance products and systems and, in particular, advanced sensor and signal processors in trucks and tractor-trailers, with an emphasis on on-board diagnostic and improved safety-related products. The program involves developing EDR requirements for the analysis of accident data from the FMCSA's Large Truck Crash Causation Study, with the goal of developing EDR functional specifications for both complete accident reconstruction and crash analyses. To date, this project has developed requirements for EDR components, hardware, software, sensors, and databases and has completed a cost-effectiveness analysis.

In recent years, NHTSA has made progress in developing EDR data standards for light vehicles, which include passenger cars, multipurpose passenger vehicles, light trucks, and vans with a gross vehicle weight rating of 8,500 pounds or less. In August 2006, NHTSA published a final rule that standardizes the information EDRs collect, but it was amended in January 14, 2008, in response to numerous petitions for reconsideration. Based on this revised rule, compliance dates have been changed to September 1, 2012, for most light vehicles and to September 1, 2013, for vehicles manufactured in two or more stages. The new rule, however, does not address vehicles over 8,500 pounds and thus would not apply to buses or motorcoaches.

In its August 2007 "Approach to Motorcoach Safety," NHTSA included a discussion of EDRs, stating that the agency has recently defined mandatory data elements for the voluntary installation of EDRs in light passenger vehicles. However, crash characteristics and relevant measurements for motorcoaches are different, as supported by the 2001 NHTSA EDR Working Group final report's "Summary of Findings."

The EDR Working Group's final report also noted the following:

- EDRs can improve highway safety for all vehicle classes by providing more accurate data for accident reconstructions, and

- U.S. and European studies have shown that the number and severity of crashes is reduced when drivers know that an on-board EDR is in operation.

Unfortunately, NHTSA's "Approach to Motorcoach Safety" also makes the seemingly contradictory statement that Safety Recommendations H-99-53 and -54 concerning EDRs do not specifically relate to changes that would have a direct or quantifiable safety benefit for motorcoach occupants. The Safety Board believes the lack of useful event data associated with accident motorcoaches represents a missed opportunity to better understand crash forces, ejection dynamics, and crashworthiness. Event data recorders would provide the accurate and detailed event data necessary to better understand crash causation and to establish design requirements for motorcoach crashworthiness and occupant protection systems.

The need for such information is particularly significant as EDRs become more widely used in the truck and transit industry, as evidenced at the September 2007 EDR symposium

sponsored by SAE. During the symposium, representatives from industry noted that EDR applications are being more widely used for motor carrier analysis of accidents and to support more accurate insurance underwriting and risk analysis. A hopeful indication was also contained in NHTSA's "Approach to Motorcoach Safety," where NHTSA states "Upon completion of SAE J2728, consideration of a requirement for heavy vehicle EDR installation into motorcoaches would be appropriate."

The Safety Board applauds NHTSA's progress in developing EDR standards for light vehicles. However, establishing EDR performance standards for motorcoaches and buses is critical for the timely and efficient implementation of EDRs, which will provide the data needed to develop effective occupant protection systems. The Board urges NHTSA to actively push to complete standards work and require EDRs on all new motorcoaches.

Technology Improvements

The Safety Board believes that developing and installing new technologies can substantially reduce certain kinds of common accident scenarios. Those technologies include collision warning systems and adaptive cruise control, and electronic stability control combined with active braking.

For example, the Safety Board applauds NHTSA's action in requiring ESC on all new cars and light trucks sold in the U.S. by September 1, 2011. This issue was highlighted in the Board's investigation of a 5-fatal accident in Largo, Maryland, involving an inexperienced driver. The Board 2003 report on this accident made recommendations to NHTSA to:

- Expand its current evaluation of electronic stability control systems and determine their potential for assisting drivers in maintaining control of passenger cars, light trucks, sport utility vehicles, and vans. Included in this evaluation was an accident data analysis of electronic stability control-equipped vehicles in the U.S. fleet. (H-03-06)

Unfortunately, this rule only applies to passenger cars, multipurpose vehicles, trucks, and buses with a gross vehicle weight rating of 10,000 pounds or less. Below are some descriptions of areas where the Board hopes NHTSA will soon make similar progress for commercial vehicles.

Collision Warning Systems (CWS) and Adaptive Cruise Control (ACC)

In 1995, the Board first made recommendations concerning collision-warning systems as part of its Special Investigation of Collision Warning Technology. The following recommendation was made to both the DOT and to the Intelligent Transportation Society of America:

- in cooperation with the Intelligent Transportation Society of America, sponsor fleet testing of collision warning technology through partnership projects with the commercial

carrier industry. Incorporate testing results into demonstration and training programs to educate the potential end-users of the systems. (H-95-44)

In 1999, the Safety Board held a public hearing on Advanced Safety Technologies for Commercial Vehicle Applications to discuss and highlight new and emerging technologies such as collision warning systems among others.

In 2001 the Safety Board published its report entitled Vehicle- and Infrastructure-based Technology for the Prevention of Rear-End Collisions in which it showed that developing and installing new technologies, such as adaptive cruise control and collision warning systems in commercial trucks, buses, and passenger vehicles, would substantially reduce accidents. This assessment came from numerous Board investigations including 9 rear-end collisions investigated over a 2-year period in which 20 people died and 181 were injured. Three of the accidents involved buses and one accident involved a total of 24 vehicles. Common to all nine accidents was the rear-following vehicle driver's degraded perception of traffic conditions ahead before striking other vehicles. Our investigation of these accidents did not identify the use of drugs, alcohol, or vehicle mechanical defects. The investigations showed that sun glare, fog, smoke, fatigue, distractions, and work zones often interfered with a driver's ability to detect slow-moving or stopped traffic ahead and resulted in rear-end collisions. According to the DOT, preliminary analyses have shown that 1,836,000 police-reported crashes, or about 48 percent of accidents, could be prevented by rear-end or run-off-the-road and lane change collision warning systems (CWS). As part of this report the Board issued the following recommendation to NHTSA in 2001:

- Complete rulemaking on adaptive cruise control and collision warning system performance standards for new commercial vehicles. At a minimum, these standards should address obstacle detection distance, timing of alerts, and human factors guidelines, such as the mode and type of warning. (H-01-6)

In 2006 this recommendation was reiterated in the Board's report involving a rear end collision at a toll plaza near Hampshire, Illinois.

In 2007 this recommendation was added to the Board's Most Wanted list.

In 2008 this recommendation was again reiterated in the Board's report involving a nighttime motorcoach collision with an overturned tractor-trailer near Osseo, Wisconsin, and again in the report on a tractor-trailer that rear-ended a sedan and school bus near Lake Butler, Florida.

In 2001, as a major component of the Intelligent Transportation System (ITS) program, the DOT established an Intelligent Vehicle Initiative (IVI)—the goal of which was to improve the safety and efficiency of motor vehicle operations by reducing the probability of motor vehicle crashes. As part of the IVI, NHTSA evaluated the performance of CWS and adaptive cruise control (ACC) by participating in field operational tests of vehicles equipped with advanced safety systems. In May 2005, NHTSA released the results of its passenger vehicle testing, Automotive Collision Avoidance System Field Operational Test Final Program Report, showing potential to reduce rear-end crashes by 10 percent and reporting positive user reaction to

the systems. The final report on the commercial vehicle field-testing conducted for the DOT by Battelle and Volvo Trucks North America, Inc., was released in January 2007. The preliminary findings of the report indicate that a combined CWS and ACC bundled safety system account for a statistically significant reduction in rear-end crashes through reduced exposure to safety-critical driving scenarios.

NHTSA, along with the FHWA, the FMCSA, and RITA, appear to be working consistently on this important technological safety issue. The preliminary results of the testing on advanced safety systems are encouraging, but rulemaking is needed to ensure uniformity of system performance standards, such as obstacle detection, timing of alerts, and human factors guidelines, on new passenger and commercial vehicles.

Electronic Stability Control and Active Braking

The Safety Board has also made recommendations on electronic stability control and active braking to improve a vehicle's handling, particularly at the limits where the driver might lose control of the vehicle. In concert with ABS brakes, ESC senses when a vehicle is about to slide or yaw, and applies brakes to the proper wheels to regain control. Active braking takes CWS one step further by automatically applying the brakes when a driver does not react and a collision is imminent. These two technologies are related in that ESC can help a driver maintain control of the vehicle when active braking is used.

The Board first made recommendations on electronic stability control back when it was called "traction control" following a 1997 accident in Slinger, Wisconsin, involving commercial vehicles operating under icy conditions. Eight fatalities occurred when a truck lost control, crossed a median and struck a van. In its report, the Board made the following recommendations to NHTSA:

- Work, together with FHWA, the American Trucking Associations, the International Brotherhood of Teamsters, and the Motor Freight Carrier Association to conduct laboratory and truck fleet testing to assess the safety benefits of adding traction control devices to antilock brake systems and report your findings to the NTSB. (H-98-015)

- Work, together with the FHWA, the American Trucking Association, the International Brotherhood of Teamsters, and the Motor Freight Carrier Association to encourage the trucking industry to gain experience with traction control devices through fleet tests. (H-98-016)

In addition, as part of its 2008 report on the motorcoach accident in Osseo, Wisconsin, Lake Butler, Florida, and Turrell, Arkansas, the Board made the following recommendation to NHTSA:

- Determine whether equipping commercial vehicles with collision warning systems with active braking and electronic stability control systems will reduce commercial vehicle accidents. If these technologies are determined to be effective in reducing accidents, require their use on commercial vehicles. (H-08-15)

Driver Education

Stepping back from motorcoach issues for moment, there is another issue I would like to discuss where NHTSA could help improve highway safety, and that area is driver education for our young, developing drivers. As you know, motor vehicle crashes are the leading cause of death for 15- to 20-year-olds, accounting for two out of every five teenage deaths. Drivers between the ages of 15 and 20 represent 6.4 percent of licensed drivers in the United States but were involved in 12.5 percent of fatal crashes and 15 percent of all police-reported crashes in 2007. In that same year, 15- to 20-year-old drivers involved in fatal crashes numbered 6,982.

To understand the role of driver education in novice driver crash rates, the National Transportation Safety Board convened a 2-day public forum in October 2003 to survey the extent to which novice driver education and training is used, its effectiveness and shortcomings, and what can be done to improve it.

As a result of this forum, the Safety Board concluded that although the various approaches to driver education in the United States and Europe may have aspects that provide novice drivers with some of the training and skills needed to drive safely, no systematic evaluation has been conducted to determine which components are effective in teaching safe driving skills. Consequently, educators and commercial driving schools have little or no reliable guidance to follow in designing an appropriate curriculum or in establishing requirements for classroom or behind-the-wheel instruction.

Further, to be effective, novice driver education must take into account research results that offer an understanding of how teenagers learn and of the behavioral environment in which teenagers typically function.

Finally, the standard formula of 30 hours of classroom training followed by 6 hours of behind-the-wheel training was determined arbitrarily and is probably inadequate to teach teenagers the skills necessary to drive safely on today's roadways.

Therefore, the Safety Board recommended in August 2005 that the U.S. Department of Education and the National Highway Traffic Safety Administration:

- Review current driver education and training programs in use nationally and internationally and determine which instructional tools, training methods, and curricula have led or are likely to lead to a reduction in crashes; and, further, that the two agencies work together to incorporate these best practices into a model driver education and training curriculum. (H-05-23 and H-05-25)
- Determine the optimum sequencing of driver education (both in the classroom and behind the wheel) and graduated driver licensing qualifications for educating novice drivers on safe driving skills, and encourage the States to adopt this requirement. (H-05-24 and H-05-26)

Improvements in driver education and ultimately in our young driver habits and skills will pay multiple dividends well into the future.

FMCSA Motorcoach Oversight Improvements

For decades the Board has been concerned with the safety of motorcoach operators and the oversight provided by local, state, and Federal agencies. These areas include:

- Oversight of the Compliance Review Process (vehicle and driver),
- Oversight of Driver Medical Conditions,
- Electronic Onboard Recorders for Hours of Service (fatigue), and
- Cell Phone Use by Bus Drivers.

Oversight of the Compliance Review Process

The Safety Board has a long history of asking FMCSA to focus on vehicles and drivers when they conduct compliance reviews of motor carriers and the motorcoach fire near Wilmer, Texas is an illustration of the potential consequences of poor oversight of motorcoach operations, especially concerning the vehicle. The fire in this accident would not have occurred had the motorcoach been properly maintained.

The Safety Board determined that the cause of the fire was insufficient lubrication in the right-side tag axle wheel bearing assembly of the motorcoach, which resulted in increased temperatures and subsequent failed wheel bearings. The high temperatures resulting from the friction led to the ignition of the tire and a catastrophic fire. This occurred because the motorcoach operator failed to maintain their vehicles and FMCSA failed to provide proper oversight of the motor carrier through its compliance review process. In fact, FMCSA's ineffective compliance review system was identified as contributing to the accident.

Unfortunately, FMCSA is only able to conduct compliance reviews for a small fraction of the almost 911,000 motor carriers in this country. However, in this particular accident, numerous driver and vehicle safety violations were uncovered prior to the accident by both the Texas Department of Public Safety (DPS) in April 2002 and FMCSA in 2004. Unfortunately, at the time, the Texas DPS had no authority to force the motor carrier to cease operations. The February 2004, FMCSA compliance review found similar violations pertaining to drivers and vehicles but still gave the carrier a "satisfactory" rating. When FMCSA conducted a post-accident compliance review in September 2005 it found many of the same violations as in its previous compliance review; however, this time FMCSA rated the carrier "unsatisfactory", declared it an "imminent hazard" to public safety, and shut it down.

Concerned that motor carriers with significant regulatory violations for drivers and vehicles are still receiving satisfactory ratings, the Safety Board once more focused on Federal standards for determining the safety fitness of carriers. As we have done in several accident investigations over the past 10 years, the Board again concluded that the current FMCSA compliance review process does not effectively identify unsafe motor carriers and prevent them

from operating, especially when violations are found in the areas of driver and vehicle safety. As a result, in 2007 we reiterated our long-standing recommendation to FMCSA to:

- Change the safety fitness rating methodology so that adverse vehicle or driver performance-based data alone are sufficient to result in an overall unsatisfactory rating for a carrier. (H-99-6)

The Safety Board originally issued this recommendation in 1999 in a Special Study on Selective Motorcoach Issues. It was then added to the Board's Most Wanted list in 2000. We then reiterated the recommendation in 2002 in our Mountainburg, Arkansas, report on a truck-school bus accident, and reiterated it again in 2007 in the motorcoach fire near Wilmer, Texas.

The Board does not believe FMCSA is doing enough to prevent motor carriers from putting vehicles with mechanical problems on the road and unqualified drivers behind the wheel.

By way of background, the Motor Carrier Safety Act of 1984 directed the Department of Transportation to establish a procedure to determine how safely motor carriers operate. Currently, the DOT, through the FMCSA, uses a system for determining how safely a motor carrier operates that does not place sufficient emphasis on driver or vehicle qualifications. Motor carriers are given safety ratings based on compliance reviews conducted by the FMCSA. Carriers are rated on six safety fitness factors:

1. general -- including financial responsibility, insurance coverage, drug and alcohol programs,
2. driver -- including qualifications and training,
3. operations -- including management controls, scheduling practices, allowing violations of rules, false reports, failing to maintain records,
4. vehicle -- including maintenance,
5. hazardous materials -- including failure to follow regulations, and
6. accident rate.

A motor carrier typically receives an unsatisfactory overall rating only if two or more elements are rated unsatisfactory. An overall unsatisfactory rating can lead to a carrier being ordered to cease operations.

The Safety Board's investigations have demonstrated that the two most important factors in safe motor carrier operations are the operational condition of the vehicles and the performance of the drivers who drive them. The Board believes that if the carrier receives an adverse rating (conditional or unsatisfactory) for either the vehicle or driver factor, then the overall rating should be unsatisfactory.

In 2007, the FMCSA briefed the Safety Board on their "Comprehensive Safety Analysis (CSA) 2010 Initiative" which they indicated would include a complete evaluation of the compliance review process leading to the development of a new performance-based operational model for determining motor carrier safety, emphasizing preventative measures and early detection for unsafe driver and carrier conditions. Under CSA 2010, the FMCSA plans to decouple the safety fitness rating from the compliance review. They have started the process of

developing a new safety fitness rating methodology that would be based on an objective measure of a driver's or carrier's safety performance data. These safety ratings would be issued to all drivers and carriers. FMCSA began pilot testing the new rating system in 2008.

The Safety Board believes FMCSA's current efforts represent a comprehensive review of the process of determining the safety of commercial motor carriers. ??? Still, the Board continues to monitor FMCSA's actions and is concerned that accidents continue to occur involving motor carriers with poor oversight of their drivers and vehicles.

Oversight of Driver Medical Conditions

On May 9, 1999, on Mother's Day in New Orleans, a commercial driver lost consciousness while driving a motorcoach on an interstate highway, left the roadway, and crashed into an embankment, killing 22 passengers, and seriously injuring the driver and 15 additional passengers. The driver was found to have had multiple known serious medical conditions, including kidney failure and congestive heart failure and was receiving intravenous therapy for 3-4 hours a day, 6 days a week.

The Safety Board has investigated many other accidents involving commercial drivers with serious preexisting medical conditions that had not been adequately evaluated. These include:

- a nearly blind school bus driver in Buffalo, Montana, who apparently did not see an oncoming train that struck the bus and killed 2 students;
- a New York City transit bus driver with a seizure history who experienced a seizure while driving the bus, seriously injuring a cyclist and killing a pedestrian;
- a tractor-trailer driver with unevaluated sleep apnea and untreated thyroid disease who ran over and killed a State Trooper driving in his highway patrol vehicle with lights flashing near Jackson, Tennessee; and
- an alcohol-dependent tractor-trailer driver whose excessive speed resulted in a load breaking free and striking a school activity bus in Franklin, North Carolina, killing the school bus driver and a child.

It is unusual in our accident investigations to find a commercial driver for whom there are not at least some questions regarding medical certification. This is not to say that a driver's medical conditions are always causal to the accident, but finding these undocumented and unevaluated conditions in commercial drivers is of significant concern. In many cases, these conditions are manageable if they are appropriately evaluated, treated, and monitored. Unfortunately, for a variety of reasons, no such evaluation, treatment, or monitoring occurred in many of the cases we investigated.

As a result of observing serious deficiencies in the oversight of commercial driver medical certification in several of our investigations including the New Orleans accident, the

Safety Board issued recommendations to the FMCSA in 2001 to develop a comprehensive medical oversight program for interstate commercial drivers. The Board suggested that such a program include qualified and properly educated examiners, updated and available regulatory and non-regulatory guidance, review and tracking of medical exams, improved enforcement of certification requirements, and appropriate mechanisms for reporting unfit drivers. The Board's recommendations specify a comprehensive oversight program, because we feel that only by addressing this issue in a systematic fashion can a truly effective program of oversight be developed. A piecemeal approach to the problem may result in deficiencies that will continue to permit unqualified drivers to operate on the nation's highways. The specific recommendations are as follows:

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program elements: individuals performing medical examinations for drivers are qualified to do so and are educated about occupational issues for drivers. (H-01-17)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program elements: a tracking mechanism be established that ensures that every prior application by an individual for medical certification is recorded and reviewed. (H-01-18)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program elements: medical certification regulations are updated periodically to permit trained examiners to clearly determine whether drivers with common medical conditions should be issued a medical certificate. (H-01-19)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program elements: individuals performing examinations have specific guidance and a readily identifiable source of information for questions on such examinations. (H-01-20)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program element: the review process prevents, or identifies and corrects, the inappropriate issuance of medical certification. (H-01-21)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program element: enforcement authorities can identify invalid medical certification during safety inspections and routine stops. (H-01-22)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program element: enforcement authorities can prevent an uncertified driver from driving until an appropriate medical examination takes place. (H-01-23)

- develop a comprehensive medical oversight program for interstate commercial drivers that contains the following program elements: mechanisms for reporting medical

conditions to the medical certification and reviewing authority and for evaluating these conditions between medical certification exams; individuals, health care providers, and employers are aware of these mechanisms. (H-01-24)

In 2003, because of the critical importance of this issue and the lack of substantive progress on the recommendations, this issue was placed on the Safety Board's Most Wanted list.

On October 3, 2005, FMCSA announced the establishment of a medical review board (MRB) as required by the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The five members of the MRB held their first quarterly public meeting on August 31, 2006, to begin reviewing all current Federal Motor Carrier Safety Regulation (FMCSR) medical standards, in accordance with the Federal Advisory Committee Act. The MRB members also work with research panels to examine medical issues affecting commercial motor vehicle drivers for the development of new science-based standards and guidelines to ensure the physical qualification requirements for commercial operators. Recent and current topics under review by the MRB include vision and hearing, prescription medications, renal disease, and psychiatric disorders.

On December 1, 2008, the FMCSA published a notice of proposed rulemaking (NPRM) to develop a National Registry of Certified Medical Examiners (NRCME), an action also required by SAFETEA-LU. The Safety Board has commented on a number of deficiencies in the NPRM, including its concern with the inclusion of individuals without thorough knowledge of prescription drugs to be certified medical examiners.

The FMCSA also continues to develop an online medical examiner's handbook, the first completed sections of which are now available on the NRCME website. Approximately 6,000 medical examiners have registered to receive informational updates via e-mail. Examiners can also obtain technical assistance through telephone services provided by the FMCSA headquarters office and certain field offices.

On December 1, 2008, the FMCSA issued a final rule to merge information from the medical certificate of commercial drivers into the CDL process. Although the proposed rule will, to a certain extent, address the ability of enforcement authorities to identify invalid medical certification and to prevent uncertified drivers from driving until an appropriate medical examination takes place, the Board commented on a number of deficiencies in the NPRM that were not addressed in the final rule.

In summary, the FMCSA has made limited progress on certain Congressionally mandated issues regarding medical certification of commercial drivers; however, a number of Safety Board concerns remain completely unaddressed, including: the lack of a review system to identify inappropriately issued certificates, the lack of a system by which unfit drivers can be reported between examinations, and the continued authorization of examiners without sufficient training in medication effects.

Although the FMCSA has put in place a Medical Review Board and taken certain other preliminary actions in response to Congressional mandates, there are still areas in which no measurable progress has been made. In general, most of our safety recommendations remain in

an open – unacceptable response. The FMCSA does seem to be making limited progress toward the type of comprehensive oversight system envisioned by the Board, but it remains questionable whether such a system will in fact be completely developed.

Electronic Onboard Recorders for Hours of Service (Fatigue)

Paper logbooks offer many opportunities to manipulate hours of service accounting under the hours of service rules. In our investigations, we repeatedly find that some drivers falsify their books or keep two sets of books, and some motor carriers do not closely monitor their drivers' compliance with the rules. Recognizing this lack of accountability with paper logbooks, the Safety Board has advocated the use of on-board data recorders for hours of service for the past 30 years.

In 1977, the Safety Board issued its first recommendation on the use of on-board recording devices for hours of service compliance by asking the FHWA to explore the merits of tachographs on reducing commercial vehicle accidents. Although the FHWA studied the issue, they did not require tachographs.

During the 1980's, the technology for on-board recorders for hours of service improved dramatically and the European community began requiring tachographs and other similar devices. In 1990, as part of a study on heavy truck crashes, the Safety Board recommended that:

- FHWA and the states require the use of automated/tamper-proof on-board recording devices. (H-90-28)

This recommendation was not acted upon by the FHWA. In 1995, the Board reiterated this same recommendation to the FHWA and the states in its safety study on Factors That Affect Fatigue in Heavy Truck Accidents. They uniformly failed to act.

In 1998, following an accident in Slinger, Wisconsin, the Safety Board tried a different approach, and made recommendations directly to industry, asking them to:

- Equip their commercial vehicle fleets with automated and tamper-proof, on-board recording devices. (H-98-23/26)

This recommendation was opposed by the industry.

In 2001, when the FMCSA issued a Notice of Proposed Rulemaking on hours of service of drivers, the Safety Board reiterated its position that FMCSA strongly consider mandatory use of electronic onboard recorders by all motor carriers. FMCSA did not incorporate this suggestion into the NPRM.

In 2004, following an accident Chelsea, Michigan, the Board asked FMCSA to:

- Require all interstate commercial vehicle carriers to use electronic on-board recorders for hours of service. (H-07-41) And as an interim measure, until industry-wide use of

recorders is mandated, prevent log tampering by requiring motor carriers to create audit control systems for their paper logs. (H-07-42) These recommendations were added this issue to its Most Wanted List of Safety Improvements in 2008.

Finally, in 2007 the FMCSA issued a proposed rulemaking for on-board recorders; however, there are 2 primary reasons why the Board felt the NPRM fell short of its intended target.

First, the rule does not require EOBRs for hours of service for all commercial vehicles, but rather promotes voluntary installation and only requires installation for pattern violators. The Safety Board is concerned that pattern violators will be very difficult to identify without this technology and is convinced that the only effective way in which on-board recorders can help stem hours of service violations is to mandate their use by all operators.

Second, the Safety Board would like to see damage resistance and data survivability included in the standards for recorder hardware.

In September of 2008 the Board published a report that contained 3 fatigue-related accidents occurred in Osseo, Wisconsin, Lake Butler, Florida, and Turrell, Arkansas, and encouraged FMCSA to implement H-07-41 as soon as possible. The Board also issued new recommendations to FMCSA to develop and implement a plan to deploy technologies in commercial vehicles to reduce the occurrence of fatigue-related accidents (H-08-13), and to develop and use a methodology that will continually assess the effectiveness of the fatigue management plans implemented by motor carriers (H-08-14).

Finally, just last month, the Board reiterated recommendation H-07-41 in its report on the motorcoach accident that occurred in Mexican Hat, Utah that was caused by a fatigued driver.

In summary, fatigue-related accidents continue to plague our Nation's highways because, unlike alcohol or drugs, fatigue is extremely difficult to detect. In fact, fatigue is probably the most underreported causal factor in highway accidents. Electronic on-board recorders for hours of service hold the potential to efficiently and accurately collect and verify the hours of service for all commercial drivers. They will also establish the proper incentives and create a level playing field for compliance with hours of service rules by carriers that will ultimately make our highways safer for all drivers.

Cell Phone Use by Bus Drivers

On November 14, 2004, during daylight hours, a 44-year-old bus driver was operating a motorcoach in the southbound right lane of the George Washington Memorial Parkway in Alexandria, Virginia, taking 27 high school students and a chaperone to Mount Vernon. This vehicle was the second bus of a two-bus team. The motorcoach was traveling approximately 46 miles per hour as it approached a stone arched overpass bridge, which passes over the GW Parkway. The bus driver passed warning signs indicating that the right lane had only a 10-foot, 2-inch clearance, while the center lane had a 13-foot 4-inch clearance. The bus was 12 feet tall. The lead bus moved into the center lane, but the accident bus driver remained in the right lane and drove the bus into the underside of the bridge. Witnesses and the bus driver reported he was

talking on a hands-free cellular telephone at the time of the accident. Of the 27 student passengers, 10 received minor injuries and 1 sustained serious injuries. The bus's roof was destroyed.

The Safety Board determined that the probable cause of this accident was the bus driver's failure to notice and respond to posted low-clearance warning signs, and to the bridge itself, due to cognitive distraction resulting from conversing on a hands-free cellular telephone while driving.

As a result of this accident, the Safety Board made the following recommendations:

- To FMCSA and the 50 states: Publish regulations (or enact legislation) to prohibit cellular telephone use by commercial driver's license holders with a passenger-carrying or school bus endorsement, while driving under the authority of that endorsement, except in emergencies. (H-06-27/28)

- To the motorcoach associations, school bus organizations, and unions: Develop formal policies prohibiting cellular telephone use by commercial driver's license holders with a passenger-carrying or school bus endorsement, while driving under the authority of that endorsement, except in emergencies. (H-06-29)

- To the 20 states that do not have driver distraction codes on their traffic accident investigation forms: Add driver distraction codes, including codes for interactive wireless communication device use to your traffic accident investigation forms. (H-03-09) This recommendation was originally made in the 2003 5-fatal Largo, MD report and reiterated in the 2006 Alexandria, VA report.

In summary, the Safety Board believes that, although motorcoach travel is one of the safest modes of transportation, and some progress has been made on many of our long-standing recommendations, that there is still much to be done. The Safety Board remains cautiously hopeful that NHTSA, FMCSA, and other organizations will soon implement changes that address many of the issues discussed today so that we can make a safe mode of transportation even safer.

Mr. Chairman, this completes my statement, and I will be happy to respond to any questions you may have.

Attachments

- NTSB Motorcoach Crash Investigations Since 1998

- NTSB Most Wanted List of Transportation Safety Improvements

- NTSB Safety Recommendation to "NHTSA on the Most Wanted List

- Mexican Hat, UT Executive Summary

NTSB Motorcoach Crash Investigations Since 1998

As of May 2009

	Year	Accident	Fatalities	Injuries	Ejections	Crash type
1	1998	Burnt Cabins, PA (HWY-98-MH-033)	6	16	0	Frontal impact
2	1998	Old Bridge, NJ (HWY-99-MH-007)	8	14	7	Rollover
3	1999	Santa Fe, NM (HWY-99-FH-012)	2	35[A]	1	Rollover
4	1999	New Orleans, LA (HWY-99-MH-017)	22	21	10	Frontal impact[B]
5	1999	Braidwood, IL (HWY-99-FH-015)	1	23	2	Rollover
6	1999	Canon City, CO (HWY-00-FH-011)	2	57	53	Rollover
7	2000	Eureka, MO (HWY-00-IH-051)	0	25	0	Frontal impact
8	2001	Allamuchy, NJ (HWY-01-FH-011)	0	39	0	Rollover
9	2001	Bay St. Louis, MO (HWY-01-IH-024)	0	16	0	Frontal impact[B]
10	2001	Fairplay, CO (HWY-01-IH-028)	0	45	12	Rollover
11	2001	Pleasant View, TN (HWY-01-FH-03)	1	43	1	Rollover
12	2002	Manchester, TN (HWY-02-IH-002)	6	Unknown[C]	6	Rollover
13	2002	Loraine, TX (HWY-02-MH-021)	3	29	0	Frontal impact
14	2002	Victor, NY (HWY-02-MH-025)	5	41	6	Rollover
15	2002	Nephi, UT (HWY-03-IH-001)	6	20	13	Rollover
16	2003	Hewitt, TX (HWY-03-MH-022)	5	29	15	Rollover
17	2003	Tallulah, LA (HWY-04-MH-002)	8	6	1	Frontal impact
18	2003	Apache Co., AZ (HWY-04-IH-007)	0	44	0	Rollover
19	2004	North Hudson, NY (HWY-04-FH-015)	0	47	0	Frontal impact
20	2003	Anahuac, TX (HWY-04-FH-026)	1	35	0	Frontal impact
21	2004	Phoenix, AZ (HWY-04-IH-029)	1	38	0	Frontal impact
22	2004	Jackson, TN (HWY-04-IH-035)	2	18	0	Frontal impact
23	2004	Turrell, AR (HWY-05-MH-006)	14	15	30	Rollover
24	2005	Geneseo, NY (HWY-05-FH-017)	3	20	0	Frontal impact
25	2005	Baltimore, MD (HWY-05-FH-031)	0	33	0	Rollover
26	2005	Osseo, WI	4	35	1	Frontal impact

	Year	Accident	Fatalities	Injuries	Ejections	Crash type
		(HWY-06-MH-003)				
27	2006	Westport, NY (HWY-06-MH-026)	4	48	22	Rollover
28	2006	Auburn, MA (HWY-06-IH-028)	0	34	0	Rollover
29	2007	Atlanta, GA (HWY-07-MH-015)	6	28	12	Frontal/rollover
30	2007	Clearfield, PA (HWY-07-IH-020)	2	25	2	Rollover
31	2007	Bowling Green, KY (HWY-07-IH-022)	1	64	10	Rollover
32	2008	Victoria, TX[D] (HWY-08-MH-001)	1	46	1	Rollover
33	2008	Mexican Hat, UT (HWY-08-MH-012)	9	42	50	Rollover
34	2008	Sherman, TX (HWY-08-MH-022)	17	38	?[E]	Rollover
Total			140	1,031	1,069	

[A]Driver injuries unknown.
[B]Run-off-road, then frontal impact into terrain.
[C]Driver attacked by passenger; subsequent injuries unknown.
[D]Lap belts available; none reportedly were used.
[E]This accident is still under investigation.

ctions needed by States

HIGHWAY

Improve Child Occupant Protection

- Enact State laws requiring booster seats for young children up to age 8.

Enact Primary Seat Belt Enforcement Laws

- Increase number of people who wear seat belts through stronger enforcement laws that don't restrict officers to observing another offense first.

Reduce Distractions for Young Drivers

- Prohibit use of interactive wireless communications devices by young novice drivers.
- Restrict the number of teen passengers traveling with young novice drivers.
- Enact graduated driver licensing legislation.

Eliminate Hard Core Drinking Driving

- Enact legislation to reduce crashes involving repeat offenders who drink large amounts of alcohol, including:
  - Frequent, statewide sobriety checkpoints.
  - More effective measures (sanctions/treatment) for first time arrests with high blood alcohol concentration and repeat offenders.
  - Zero blood alcohol requirement for those already convicted of driving while intoxicated.
  - Administrative license revocation for refusing to take or failing an evidential test for alcohol.
  - Vehicle sanctions for DWI offenders to separate drinking from driving.
  - Elimination of plea-bargaining DWI offenses and programs that divert offenders and purge offense records.
  - DWI offense records retention for at least 10 years to identify repeat offenders.
  - Special sanction court-based programs such as DWI courts for hard core DWI offenders.

MARINE

Enhance Recreational Boating Safety

- Require mandatory education of boat operators.
- Require use of life jackets by children.

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November 2008

NTSB MOST WANTED LIST

Transportation Safety Improvements

2009

Critical changes needed to reduce transportation accidents and save lives.

NTSB MOST WANTED LIST

AVIATION: The Federal Aviation Administration should:

Improve Safety of Emergency Medical Services Flights

- Conduct all flights with medical personnel on board in accordance with commuter aircraft regulations.
- Develop and implement flight risk evaluation programs.
- Require formalized dispatch and flight-following procedures including up-to-date weather information.
- Install terrain awareness and warning systems on aircraft.

Improve Runway Safety

- Give immediate warnings of probable collisions/incursions directly to cockpit flight crews.
- Require specific air traffic control clearance for each runway crossing.
- Install cockpit moving map displays or automatic systems to alert pilots of attempted takeoffs from taxiways or wrong runways.
- Require landing distance assessment with an adequate safety margin.

Reduce Dangers to Aircraft Flying in Icing Conditions

- Use current research on freezing rain and large water droplets to revise the way aircraft are designed and approved for flight in icing conditions.
- Apply revised icing requirements to currently certificated aircraft.
- Require that airplanes with pneumatic deice boots activate boots as soon as the airplane enters icing conditions.

Improve Crew Resource Management

- Require commuter and on-demand air taxi flight crews to receive crew resource management training.

Require Image Recorders

- Install crash-protected image recorders in cockpits to give investigators more information to solve complex accidents.

Reduce Accidents and Incidents Caused by Human Fatigue

- Set working hour limits for flight crews, aviation mechanics and air traffic controllers based on fatigue research, circadian rhythms, and sleep and rest requirements.*
- Develop a fatigue awareness and countermeasures program for air traffic controllers.**

MARINE: The U.S. Coast Guard should:

Reduce Accidents and Incidents Caused by Human Fatigue

- Set working hour limits for mariners based on fatigue research, circadian rhythms, and sleep and rest requirements.

NTSB ACTION/TIMELINESS CLASSIFICATION

- Unacceptable response
- Acceptable response, progressing slowly
- Acceptable response, progressing in a timely manner

Actions Needed by Federal Agencies

HIGHWAY: The Federal Motor Carrier Safety Administration should:

Restrict Use of Cellular Telephones

- Prohibit cellular telephone use by commercial drivers of school buses and motorcoaches, except in emergencies.

Require On-board Electronic Recorders

- Require all interstate commercial vehicle carriers to use electronic on-board recorders to collect data on both driver hours of operation and accident conditions.

Improve Safety of Motor Carrier Operations

- Prevent motor carriers from operating if they put vehicles with mechanical problems on the road or unqualified drivers behind the wheel.

Prevent Medically Unqualified Drivers from Operating Commercial Vehicles

- Establish a comprehensive medical oversight program for interstate commercial drivers.
- Ensure that medical examiners are qualified.
- Track all medical certificate applications.
- Enhance oversight and enforcement of invalid certificates
- Provide mechanisms for reporting medical conditions.

The National Highway Traffic Safety Administration should:

Prevent Collisions by Using Enhanced Vehicle Safety Technology

- Require adaptive cruise control and collision warning system standards for all new passenger and commercial vehicles.

Enhance Protection of Motorcoach Passengers

- Redesign motorcoach window emergency exits so they can be easily opened.
- Issue standards for stronger bus roofs; require them in new motorcoaches.
- Devise new standards to protect motorcoach passengers from being thrown out of their seats or ejected when a bus sustains an impact or rolls over.

Enhance Protection of School Bus Passengers

- Devise new standards to protect school bus passengers from being thrown out of their seats or ejected when a bus sustains an impact or rolls over.

PIPELINE: The Pipeline and Hazardous Materials Safety Administration should:

Reduce Accidents and Incidents Caused by Human Fatigue

- Set working hour limits for pipeline controllers based on fatigue research, circadian rhythms, and sleep and rest requirements.

** This recommendation requires action by both the FAA and the National Air Traffic Controllers Association.*

*** This recommendation also issued to National Air Traffic Controllers Association.*

NTSB Safety Recommendations to NHTSA on the Most Wanted List of Transportation Safety Improvements

Status as of May 2009

Recommendation status	Count
Open—Acceptable Response (OAA)	5
Open—Unacceptable Response (OUA)	2
Total:	**7**

Motorcoach Safety

Special Investigation: "Selective Motorcoach Issues," issued on 2/26/1999 [NTSB/SIR-99-01]

H-99-009	OAA	THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: REVISE THE FEDERAL MOTOR VEHICLE SAFETY STANDARD 217, "BUS WINDOW RETENTION AND RELEASE," TO REQUIRE THAT OTHER THAN FLOOR-LEVEL EMERGENCY EXITS CAN BE EASILY OPENED AND REMAIN OPEN DURING AN EMERGENCY EVACUATION WHEN A MOTORCOACH IS UPRIGHT OR AT UNUSUAL ATTITUDES.

Special Investigation: "Bus Crashworthiness Issues," issued on 11/2/1999 [NTSB/SIR-99-04]

H-99-047	OUA	THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: IN 2 YEARS, DEVELOP PERFORMANCE STANDARDS FOR MOTORCOACH OCCUPANT PROTECTION SYSTEMS THAT ACCOUNT FOR FRONTAL IMPACT COLLISIONS, SIDE IMPACT COLLISIONS, REAR IMPACT COLLISIONS, AND ROLLOVERS.
H-99-050	OUA	THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: IN 2 YEARS, DEVELOP PERFORMANCE STANDARDS FOR MOTORCOACH ROOF STRENGTH THAT PROVIDE MAXIMUM SURVIVAL SPACE FOR ALL SEATING POSITIONS AND THAT TAKE INTO ACCOUNT CURRENT TYPICAL MOTORCOACH WINDOW DIMENSIONS.

School Bus Safety

Special Investigation: "Bus Crashworthiness Issues," issued on 11/2/1999 [NTSB/SIR-99-04]

H-99-045	OAA	THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: IN 2 YEARS, DEVELOP PERFORMANCE STANDARDS FOR SCHOOL BUS OCCUPANT PROTECTION SYSTEMS THAT ACCOUNT FOR FRONTAL IMPACT COLLISIONS, SIDE IMPACT COLLISIONS, REAR IMPACT COLLISIONS, AND ROLLOVERS.
H-99-046	OAA	THE NTSB RECOMMENDS THAT THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION: ONCE PERTINENT STANDARDS HAVE BEEN DEVELOPED FOR SCHOOL BUS OCCUPANT PROTECTION SYSTEMS, REQUIRE NEWLY MANUFACTURED SCHOOL BUSES TO HAVE AN OCCUPANT CRASH PROTECTION SYSTEM THAT MEETS THE NEWLY DEVELOPED PERFORMANCE STANDARDS AND RETAINS PASSENGERS, INCLUDING THOSE IN CHILD SAFETY RESTRAINT SYSTEMS, WITHIN THE SEATING COMPARTMENT THROUGHOUT THE ACCIDENT SEQUENCE FOR ALL ACCIDENT SCENARIOS.

Enhanced Vehicle Safety Technologies

Special Investigation: "Vehicle and Infrastructure-Based Technology for the Prevention of Rear-End Collisions," issued on 5/25/2001 [NTSB/SIR-01-01]

H-01-006	OAA	THE NTSB RECOMMENDS THAT THE DOT: COMPLETE RULEMAKING ON ADAPTIVE CRUISE CONTROL AND COLLISION WARNING SYSTEM PERFORMANCE STANDARDS FOR NEW COMMERCIAL VEHICLES. AT A MINIMUM, THESE STANDARDS SHOULD ADDRESS OBSTACLE DETECTION DISTANCE, TIMING OF ALERTS, AND HUMAN FACTORS GUIDELINES, SUCH AS THE MODE AND TYPE OF WARNING.
H-01-008	OAA	THE NTSB RECOMMENDS THAT THE DOT: COMPLETE RULEMAKING ON ADAPTIVE CRUISE CONTROL AND COLLISION WARNING SYSTEM PERFORMANCE STANDARDS FOR NEW PASSENGER CARS. AT A MINIMUM, THESE STANDARDS SHOULD ADDRESS OBSTACLE DETECTION DISTANCE, TIMING OF ALERTS, AND HUMAN FACTORS GUIDELINES, SUCH AS THE MODE AND TYPE OF WARNING.

Mr. RUSH. The Chair thanks Mrs. Higgins and indeed, the Chair thanks both witnesses for their opening statement. The Chair recognizes himself now for 5 minutes for the purposes of asking questions of these witnesses.

The relationship between Congress and NHTSA has evolved into a situation where Congress feels a need to set mandated timelines for NHTSA to issue safe standards that have otherwise been delayed or ignored. In that context I would like to explore motor coach safety as a possible example.

In 1999, NHTSA made recommendations for improving motor coach safety—NTSB, I'm sorry—NTSB made recommendations for improving motor coach safety and suggested that NHTSA act within 2 years, but so far little has been done.

Mr. Medford, in the 10 years since NHTSA first received these recommendations, numerous severe crashes have demonstrated the need for improved safety protection on these buses. Can you answer these questions: Why hasn't NHTSA taken action to issue rules in this area? Is it a matter of resources and priorities? Did NHTSA consider requesting additional funding to pursue motor coach safety standards?

Mr. MEDFORD. Thank you, Mr. Chairman. I think it's true that NHTSA was slow to act immediately following the 1999 recommendation of NTSB. But I would point out that when we issued the August 2007 action plan for motor coaches we have been giving it a higher priority for us. We have active research in all four areas that identify—plus electronic stability control, which I didn't mention in my opening remarks. And we are now devoting significant resources and I think you can be assured that we are on it.

I mentioned that we will be in a position later this year to initiate a proposal for seatbelts and the work that I mentioned for egress and fire protection and for roof strength will all be finished in 2010 with a decision about what regulatory steps should be taken as a result of what we learn.

So I think we're in a very different place than we were earlier. I think you have my commitment and the Secretary's commitment. Secretary LaHood is very interested in motor coach safety. They are moving quickly now to finish the research that's underway, and I think we are devoting substantial efforts.

Mr. RUSH. Do you all have adequate resources to take care of the mission?

Mr. MEDFORD. Yes, sir, we do. We think we have the resources we need to carry out the mission of the agency. And like I mentioned in my opening remarks, we have to, like any organization, make decisions on where we put our priority attention and each year, and for a number of years we do the planning for what that should be. And I think clearly now motor coach is a priority for us.

Mr. RUSH. In the past NHTSA has argued against congressional mandates. If it takes more than 10 years for you to issue standards that have been recommended by another Federal agency, perhaps mandates are the only way to go. If Congress does not pass additional mandates, what's on NHTSA's agenda? Or let me put it another way, what will you be working on if congressional mandates did not take up your time?

Mr. MEDFORD. Thank you, Chairman Rush. Many of the mandates that were passed in the last safety bill legislation were actually projects that we had identified in our priority plan; they matched up pretty well. So the sort of four-stage rulemaking process that was identified for rollover, which is a very serious problem, were really already identified by NHTSA in its priority plan. So we think those matched up well with us, with where we're going. So we didn't see those as a major impediment other than perhaps some of the timelines and problems that can occur with priorities and projects as you are doing the research. But for the most part I think many of the mandates that were part of the last highway bill matched pretty well with the priorities that we had.

Mr. RUSH. We will work with you and we are willing to be very vigilant to ensure that NHTSA is able to do what the American people expect it to do. And I certainly would like for you and your agency to make sure that you keep a vigorous relationship going with this subcommittee and with this Chair.

With that, the Chair sees his time has ended, and the Chair now recognizes the ranking member for 5 minutes for the purposes of asking questions of these witnesses.

Mr. RADANOVICH. Thank you, Mr. Chairman, and, Mr. Medford, welcome to the subcommittee.

I would like to—you went in slightly to some of the examples, if you could give me some examples of the advanced technologies that are now—that are on the horizon for car safety, and also maybe a discussion about how the current market situation for auto dealers and being able to sell these cars in the current marketplace, given the added cost for the research and the installation of the upgrades themselves, how that affects the price of cars and the burden that that might be on the manufacturers now in this current economic situation.

Mr. MEDFORD. I thank you, Congressman, for the question. Yes, of course we all recognize, I think, the difficult times that all car companies are facing today. And one of the reasons I emphasized in my remarks about you how important it is for us to choose carefully the work that we do is to ensure that the mandates that we give to the car companies or the regulations that we issue that require the installation of safety improvements. So we try very hard to get the biggest bang for the buck that we can.

And so you will see in the regulations that we issue that we have good cost-benefits, cost effectiveness for safety, and we provide manufacturers a sufficient lead time and phase-in period so that it creates the least amount of interruption to their product redesign cycle as we can.

So we are trying to be mindful of let's hurry up and protect the consumers while at the same time ensuring that we are doing this in a way that doesn't provide significant economic disruption.

Mr. RADANOVICH. Thank you. NHTSA has issued the proposed rulemaking to strengthen car and light truck roof crush standards. Is the standard relative to motor coaches and as well and what might be the differences?

Mr. MEDFORD. We actually finalized the roof crush rule just at the end of April, and thank goodness for that. There is a difference in the test method that will be used to evaluate roof crush from

motor coaches. We're currently looking at—we've looked at the school bus roof crush standard and we're now looking at the European requirements for motor coaches. We haven't made a decision, but it will be a different method of test than for light vehicles.

Mr. RADANOVICH. Why did NHTSA decide to use the sequential test on rooftops over what he is known as the dynamic test; can you explain that for me?

Mr. MEDFORD. Yes, there has been a lot of interest, which we share quite frankly, in the development of a dynamic rollover test. Such a task would allow the agency to evaluate at the same time a number of safety things in the vehicle; for example, the restraint system, the roof strength, the ejection mitigation, deterrence capabilities of a vehicle. But what we found and what we wrote in the final rule is at this point we don't have a dynamic test that's reproducible. So we use the test that is the test that's in current standards, but upgraded the requirements and for the first time required a 2-sided test.

Mr. RADANOVICH. Thank you, Mr. Medford.

Ms. Higgins, welcome to the subcommittee. I have a question regarding window retention and your advocacy of glazing as well. Are those two proposals compatible or are they in conflict?

Ms. HIGGINS. My understanding is that glazing is—prevents the shattering and also—but we've asked that they look at the issue of glazing windows, but also make sure that it was a way to keep people inside. What we're concerned about in the issue of an occupant protection system is that it really is a system. We hear a lot of discussion about seatbelts, but in your previous discussion there, it is important to look at the strength of the roof, the way the windows are designed, and we're looking at recommended glazing and a seatbelt system as part of an overall protection system because what we found is that most of the injuries and fatalities come when people are thrown out of the bus. We are a little bit concerned that if you move on one without the other that we're going to maybe address part of the problem but not really address all of the problem.

So that's why we talked about the three things together.

Mr. RADANOVICH. OK. Does NTSB use your own research on technologies that you recommend, such as advanced glazing or——

Ms. HIGGINS. We don't do our own research in that regard. We look at what is being done elsewhere.

Mr. RADANOVICH. And which one, it is either occupant ejection or roof crush deaths, which is more relevant to occupant deaths in motor coach accidents? Is it the throwing out or——

Ms. HIGGINS. I think its the throwing out. If you look at the Mexico Hat accident, which is one of the most frequent—it happened a year ago—the pictures are pretty dramatic. The roof just peels back like you're opening a tin can. With no seatbelts and no way to stay in the bus, they are literally—the bus topples over and they are just thrown out. And the injuries and fatalities are really caused by that sort of blunt force trauma.

Mr. RADANOVICH. All right. Thank you very much. I appreciate your responses.

Mr. RUSH. The gentleman yields back the time?

Mr. RADANOVICH. I do.

Mr. RUSH. The Chair now recognizes the gentleman from Iowa, Mr. Braley, for 5 minutes.

Mr. BRALEY. Thank you, Mr. Chairman, for holding this important hearing on what I believe is one of the most important issues we're going to be talking about in the surface transportation reauthorization bill.

Mr. Medford, let me start with you. I was scheduled to testify at a NHTSA hearing on side saddle fuel tank standards, and that hearing was cancelled at the last minute because of a compromise that was reached between NHTSA and the auto makers involving a change of payments for consumer safety education as a result for having that hearing taken off the calendar.

One of the concerns I have is that I'm very pleased that the agency recently retreated from its earlier position in the proposal that claimed that regulation is preempted, that preempts State tort law claims, and even though I applaud the agency for making that change, I'm a little curious as to what took the agency so long to make that change after the proposed rule was issued in 2005.

Mr. MEDFORD. The only opportunity there was for the agency to change its mind was through the final rule process, and so it was at that time that the agency changed its mind, just in this last month.

Mr. BRALEY. Can you give us a commitment here today that the agency is going to continue to review and amend the agency statements that have been issued during the last 3 years in which the agency repeatedly stepped into the shoes of Congress and claimed that its safety rules preempted State law claims?

Mr. MEDFORD. I need to—I can commit to you that I'll go back and see if there are some cases in which we exercise that judgment, whether it should be reconsidered, and let you know what those are.

Mr. BRALEY. You understand that under established Federal law only Congress has the ability to preempt State law?

Mr. MEDFORD. Yes, I do.

Mr. BRALEY. And if any attempt is made by a Federal agency to intervene and preempt State law, it has to be at the express direction of Congress?

Mr. MEDFORD. I'm not a lawyer. So I don't know that I particularly understand all of the legal aspects, but I do understand that we don't preempt State law—tort law.

Mr. BRALEY. Along the same line, in 2008 the agency issued a final rule regarding designated seating positions. Are you familiar with that final rule?

Mr. MEDFORD. I am.

Mr. BRALEY. And this is a rule that car companies used to calculate the number of minimum seatbelts that could be included in a particular automobile, is that correct?

Mr. MEDFORD. Yes.

Mr. BRALEY. Rather than simply including preamble language in that proposed rule, the agency went beyond that and included language in the text of the regulation stating that the rule preempts State tort law claims. Is the agency planning to issue a new regulation deleting that section of the regulation?

Mr. MEDFORD. We haven't discussed that. I think—I understand what you're saying and I would ask that you let us get back to you specifically on your request.

Mr. BRALEY. I will be sure to follow up with you, and we well definitely be getting back to you.

Mr. MEDFORD. Yes, sir.

Mr. BRALEY. Do you know why the agency felt it had the right to codify its feelings on preemption when Congress had already included a savings clause in NHTSA's organic statute to expressly preserve those claims?

Mr. MEDFORD. I don't know the details of those legal decisions.

Mr. BRALEY. One of the questions I have for you, Ms. Higgins, deals with the question that asked earlier about motor coaches, and you identified a very horrific crash that led to observations about the mechanics of the rollover and what most likely precautions would be necessary to protect the occupants of the vehicle compartment. Do you remember responding to that question earlier?

Ms. HIGGINS. Uh-huh. Yes.

Mr. BRALEY. One of the most recent examples here of that is the 2007 accident involving the Bluffton University college baseball team which received a lot of publicity, and one of the concerns that I have is that under current Federal regulations common carrier, like the bus that was carrying that baseball team, is only required to carry a minimum insurance policy of $5 million, which has not been changed since its adoption in 1985, and one thing we know is that if you adjust that for inflation that that value would be much greater today. And one of the things we also know is when someone who is responsible as a common carrier is not in a position to adequately pay for the costs associated with an accident like that we the taxpayers end up bearing the burden.

So are there any plans underway right now to address that potential inequity.

Ms. HIGGINS. You know, congressman, I was the board member who went to Atlanta at the time of that accident, so I'm very familiar with it. We did not—to my knowledge, we did not make recommendations in the area of insurance. I think that comes within—I guess it's within the Department of Transportation. I don't know whether that is NHTSA or——

Mr. MEDFORD. That's Motor Carriers.

Ms. HIGGINS. Federal Motor Carriers.

Mr. BRALEY. The little green book.

Ms. HIGGINS. But we don't—we look at the sort of safety implications, why did the accident happen, but we don't get into the insurance issues, unfortunately.

Mr. BRALEY. One of the things that we know is that there is often this problem of interoperatively between Federal agencies. Is this something that you're willing to raise in your conversations with peers who are involved in that aspect of protecting the public as a topic that might need revisiting?

Ms. HIGGINS. You know, I'm happy to go back and look—one of the things I made a comment before you came, that when we look at motor coach safety issues we are concerned not only with what NHTSA is responsible for, which is the vehicle itself, but also what

Federal Motor Carriers does in terms of driver training and driver performance and some of the rules and inspections and maintenance issues that come under their jurisdictions. I am not knowledgeable enough about the insurance issues, but I'm happy to go back and look to see what we meet do in that area.

Mr. BRALEY. Thank you.

Ms. HIGGINS. Sure.

Mr. BRALEY. I yield back the balance of my time, Mr. Chairman.

Mr. RUSH. The Chair thanks the gentleman. The Chair now recognizes Mr. Barrow of Georgia for 5 minutes for questioning.

Mr. BARROW. I thank the Chair. I'll waive questioning.

Mr. RUSH. The Chair will entertain—the Chair wants to engage in a second round of, say, no more than 2 minutes for additional questions.

Mrs. Higgins, can you address the level of frustration that you as a Federal agency might have with another Federal agency, in this instance the National Traffic Safety Board and NHTSA, when you make recommendations for rulemaking and it takes them 10 years or so? Are you satisfied with that pattern of performance in terms of promptness?

Ms. HIGGINS. No.

Mr. RUSH. Would you please——

Ms. HIGGINS. Well, I think, you know—I understand from my colleagues that Mr. Medford is one of the reasons that there's been a change in terms of NHTSA's attention on these issues. So I think he personally deserves some credit for what's happened since 2007. Unfortunately, we're still 10 years out from our recommendations being—that we made in 1999 and we don't have any changes that would benefit the public.

Now we may get some of those changes later this year, but I just think that's unacceptable. I mean we asked for action in 2 years. We didn't get it. Now maybe that deadline was unrealistic, but here we are 10 years later and we still don't have change. Hopefully we will get some. I think the Secretary's action is going to produce that. But I think the public expects more from all of us. I think when people buy a ticket on a motor coach, whether you are a senior citizen or a church group or a school group, you assume—and when it has a DOT number on the side of it, I think the public expects and has a right to expect they are boarding an operation that's safe. And what we have learned unfortunately through many of the accidents we've investigated is that that's not always the case, that the vehicles can be much safer than they are and the operators and drivers themselves can do things to improve the safety of the operation.

Mr. RUSH. Are there any other particular concerns that you may have regarding other issues that you'd like to——

Ms. HIGGINS. I don't think we have enough time.

Mr. RUSH. We don't have enough time, oK. All right. Well, maybe you can communicate with us so that we can also be aware of some of the issues that——

Ms. HIGGINS. I would say, Mr. Chairman, on the safety part, we publish every year our most wanted list. And we've made over—almost 13,000 recommendations for all modes of transportation. And we tried to distill down to the critical few that we think are

most important to improve public safety. In the areas of motor coaches we have talked about those today. It is the windows, it's the roof strength and the occupant protection system. We think that that will go along. We also have issues—we've talked about data recorders, because we want better information in terms of helping us understand what happened in an accident, like we have in airplanes. We don't have black boxes now on motor coaches or on other commercial vehicles, and we think that has obviously been enormously helpful in not only telling us what happened in an airplane crash but also helping to prevent accidents. Operators have used that information to study what goes wrong.

We also think there are issues related to drivers, medical issues. I realize that's not a NHTSA responsibility, but it does come under the jurisdiction of this committee. So we are happy to work with your staff and highlight this. But I would point, I guess, the committee in the direction of our most wanted list, to say these are the recommendations out of all of the issues where we think the most benefit would come to the public if those changes were adopted.

Mr. RUSH. Thank you very much. The Chair now recognizes the ranking member for 2 minutes for the purposes of questioning the witnesses.

Mr. RADANOVICH. Thank you, Mr. Chairman. Mr. Medford, can you give me an idea what safety and fuel efficiency technologies hold out the best promise to achieve safety and fuel conservation goals?

Mr. MEDFORD. There's a number of them in the area of advanced technologies where there's a lot of work going on with hybrid vehicles, electric vehicles. Those are sort of at the extreme. And I think short of that there's a lot of turbo down-charging that's going on now so that we will continue to have vehicles that have power but have reduced fuel consumption. There is just a wide array of advanced fuel economy technologies that are being deployed to data, you know, advanced transmission systems to a variety of different products, including diesel engines.

Mr. RADANOVICH. Can you tell me, I've heard of a hydrogen cell technology that couples to an engine and runs off the battery or the——

Mr. MEDFORD. For an electric vehicle, yes.

Mr. RADANOVICH. Does that have a lot of problems?

Mr. MEDFORD. We think it does, but currently the problem is generating the hydrogen, which burns hydrocarbons, which means it really doesn't address the need to address CO2 emissions. So I think people believe and I believe that hydrogen fuel cell vehicles hold great promise in terms of their carbon footprint, but the question is where will we get the hydrogen so we don't actually burn fossil fuels to generate it. So I think that's an issue, and the infrastructure issues are there. I don't see it as a very near-term solution to the——

Mr. RADANOVICH. Doesn't it dramatically reduce the amount of fossil fuel required?

Mr. MEDFORD. You mean the lifecycle cost?

Mr. RADANOVICH. Yes.

Mr. MEDFORD. Not really, because the fuel itself requires at the moment—the way that most hydrogen is generated requires the

burning of fossil fuel or the use of fossil fuel. There are activities underway to try to find alternative fuels, or renewable fuel sources for hydrogen generation. So I think people are more aligned currently with electric vehicles as a potential intermediate activity—source of renewable fuels.

Mr. RADANOVICH. Thank you very much. I yield back, Mr. Chairman.

Mr. RUSH. The Chair thanks the ranking member. This concludes this portion of the testimony of Panel No. I. I certainly want to again thank you so much and applaud you for your fine work, and thank you for taking the time out from your busy schedule to share with us your important information and insight, and I certainly just want to say that we want to continue to work very closely with both agencies as we proceed with the business of the subcommittee and the American people.

Thank you very much.

The Chair now calls to the witness table the second panel.

Good afternoon. The Chair certainly welcomes you to the hearing of this subcommittee, and the Chair wants to express to you the sentiments of the subcommittee as it relates to being grateful for you taking time out from your very busy schedule to share with us and help lead us and guide us along the way as we undertake these very important matters that confront the American people.

I want to introduce to those who are here the expert witnesses who appear before us. To my left is Mr. Robert Strassburger, who is the Vice President of the Alliance of Automobile Manufacturers.

Next to Mr. Strassburger is Mr. Steven L. Oesch, who is the Senior Vice President of the Insurance Institute for Highway Auto Safety.

Next to Mr. Oesch is Ms. Joan Claybrook, who is a board member of Advocates for Highway and Auto Safety.

And next to Ms. Claybrook is Ms. Janet, Janette rather.

Ms. FENNELL. Janette.

Mr. RUSH. Janette Fennell. She is the President of Kids and Cars.

And lastly we have with us Dr. Jeffrey W. Runge.

Dr. RUNGE. It is Runge, but that's close enough.

Mr. RUSH. Dr. Runge is President of Biologue, Incorporated.

Welcome to this subcommittee. It is a new practice of the subcommittee to swear in witnesses. I ask that you stand and raise your right hand.

[Witnesses sworn.]

Please let the record reflect all the witnesses have answered in the affirmative, and now we want to recognize the witnesses for 5 minutes or thereabouts for the purposes of providing opening comments to the subcommittee, beginning with Dr. Strassburger.

STATEMENTS OF ROBERT STRASSBURGER, VICE PRESIDENT, VEHICLE SAFETY & HARMONIZATION, THE ALLIANCE OF AUTOMOBILE MANUFACTURERS; STEPHEN L. OESCH, SENIOR VICE PRESIDENT, INSURANCE INSTITUTE FOR HIGHWAY AND AUTO SAFETY; JOAN CLAYBROOK, BOARD MEMBER, ADVOCATES FOR HIGHWAY AND AUTO SAFETY; JANETTE FENNELL, PRESIDENT, KIDS AND CARS; AND JEFFREY W. RUNGE, M.D., PRESIDENT, BIOLOGUE, INC.

STATEMENT OF ROBERT STRASSBURGER

Mr. STRASSBURGER. Certainly, Mr. Chairman. And actually it is only "Mr." I would like to take the title "Dr.", but that's not the case.

Mr. RUSH. Well, that's all right.

Mr. STRASSBURGER. Thank you for inviting me here. As we have heard already this afternoon, the Nation recorded its lowest traffic fatality rate last year. Some of its decline is the result of the reduction in vehicle miles traveled, or VMT, but not all of it.

The reasons are simple. More people are using safety belts and that saves lives. But equally important are the safety technologies that auto makers have developed and designed and made available to consumers.

Mr. Chairman, Alliance members are continuously reinvesting the automobile. We are working to make it safer, cleaner, and more efficient. Every day auto makers engage in high tech research and work to implement new technologies that provide significant safety benefits. We can achieve more, faster, if government and industry work together.

One example, head protecting side curtain airbags. Seventy-six percent of new vehicles have these available today. This is well in advance of any when such systems might be required. Yet no matter how many changes we make in research that we do, some will always continue to claim that vehicle safety will only be advanced if we regulate.

As you work to reauthorize NHTSA, we urge you to resist calls to include mandating rulemakings and deadlines. Such mandates risk stifling innovation and may delay safety enhancements by forcing NHTSA and automakers to forego rulemaking and product decisions on higher priority items. There is a better way.

The Alliance recommends that Congress require that NHTSA set the safety agenda by periodically issuing a motor vehicle safety improvement priority plan. Creating such a plan would ensure that critical safety problems are being addressed on a priority basis and in an effective way. A well-crafted plan would also ensure that we are all working in tandem to obtain our national goals.

To establish a priority plan, NHTSA and safety researchers need robust data systems to assess current and future safety needs of adults and children. NASS therefore should be funded at a level sufficient to obtain its intended design size. NASS is the only reliable means of identifying traffic safety issues, establishing priorities, assisting in the design of future safety systems, and for evaluating the performance of existing systems.

The Alliance believes that $40 million annually is needed.

Finally, as a Nation, we will never fully realize the full benefits of vehicle safety technologies until we get people properly restrained and drunk drivers off the road.

The single most effective way to reduce traffic fatalities and injuries immediately is to increase the use of safety belts and child safety seats. Primary enforcement of safety belt use laws results in higher usage rates. The time has come to treat safety belt use with the same seriousness as impaired driving in sanctioned States that have failed to adopt a primary law in the same way Congress required States to adopt .08 laws.

Impaired driving remains our second most pervasive traffic safety problem. We have made progress over the last two decades. However, that progress has stalled. That is why the Alliance is working with MADD to eliminate drunk driving permanently.

We support MADD's campaign to eliminate drunk driving and its request for $30 million per year to develop advanced in-vehicle technologies that can unobtrusively detect a driver's blood alcohol concentration. Such technologies hold promise for keeping alcohol-impaired drivers off the road by preventing those drivers from operating a vehicle.

In conclusion, reducing injuries and fatalities from auto crashes is a significant public health challenge. We appreciate the leadership shown by the members of this subcommittee to address these issues, and we share your goals. And we look forward continuing to work with you to make our roads the safest in the world.

Mr. Chairman, members of the subcommittee, I would be happy to answer your questions.

[The prepared statement of Mr. Strassburger follows:]

AUTO ALLIANCE

DRIVING INNOVATION®

STATEMENT
OF THE

ALLIANCE OF AUTOMOBILE MANUFACTURERS

BEFORE THE

SUBCOMMITTEE ON
COMMERCE, TRADE, AND CONSUMER PROTECTION

OF THE

COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES

MAY 18, 2009

Thank you, Mr. Chairman and members of the Subcommittee. My name is Robert Strassburger and I am Vice President of Vehicle Safety and Harmonization at the Alliance of Automobile Manufacturers (Alliance). The Alliance is a trade association of eleven car and light truck manufacturers including BMW Group, Chrysler LLC, Ford Motor Company, General Motors, JaguarLandRover, Mazda, Mercedes-Benz, Mitsubishi Motors, Porsche, Toyota and Volkswagen. Within Alliance membership, safety is a top priority. Ours is a high-tech industry that uses cutting-edge safety technology to put people first. In fact, automakers invest more in research and development than any other industry, including pharmaceuticals and computers, according to the National Science Foundation. The global auto industry devoted $79 billion in 2007 to R & D.

Mr. Chairman, we build and sell cars every day, cars today that are safer than they have ever been. We take that information learned through research and drive new and ever safer products to the market. Let's look at the statistics, and I realize that they do not tell the whole story, but they are important to review. Motorists in the United States have never been safer. In April of this year, the National Highway Traffic Safety Administration (NHTSA) announced that the number of traffic fatalities on U.S. roads last year reached a record low. NHTSA estimates that 37,313 people were killed in motor vehicle traffic crashes in 2008 – a 9.1 percent decline from the 41,059 fatalities reported in 2007 and the lowest number of deaths on U.S. roads since 1961. In 2008, the nation also recorded its lowest ever fatality rate: 1.28 fatalities per 100 million vehicles miles traveled, down from 1.36 in 2007.

Safety belt use continued to climb in 2008. Nationwide, safety belt use was 83 percent in 2008 – a major shift in behavior from the mid-1980s when belt use was less than 15 percent. New research released by NHTSA just last week estimates that safety belts saved 15,147 lives in 2007. The NHTSA study also estimates that 1,652 additional lives could be saved and 22,372 serious injuries avoided each year if safety belt use rates rose to 90 percent in every state.

There are many reasons for this historic decline, increased safety belt usage, the reduction in vehicle miles travelled (VMT) and, equally important, advancements in motor vehicle safety developed, designed and deployed in today's cars and trucks by our industry.

Even with this good news, advancing motor vehicle safety remains a public health challenge – one that automakers are addressing daily. Motor vehicle crashes result in a human toll – 37,000 lives and nearly 3 million injuries last year – and account for an estimated $230 billion in direct economic loss. While safety belt usage is increasing, tragically, 55 percent of vehicle occupants killed in crashes were still not restrained by safety belts or child safety seats. Alcohol impairment was a factor in 32 percent of all fatalities. This is unacceptable. As a nation, we simply must do better. Further reducing traffic fatalities will require a cooperative

effort of vehicle manufacturers, government and non-government stakeholders to address each element of vehicle safety including roadway, driver behavior and vehicle design.

Automakers lead regulation with innovation. Most of the new, significant safety features currently available on motor vehicles in the U.S. – antilock brakes, safety belt reminder systems, electronic stability control, side airbags for head and chest protection, side curtains, pre-crash occupant positioning, lane departure warnings, radar use for collision avoidance were implemented voluntarily by manufacturers, not as a result of any regulatory mandate. Every day the industry is engaged in high-tech research and implementation of new safety technologies with real-world safety benefit, such as autonomous braking systems and vehicle safety communications systems for crash avoidance.

Claims that vehicle safety will not be advanced in the absence of regulatory requirements simply do not reflect the reality of today's automakers. Consider the industry's successes in innovations now considered to be the most significant since the safety belt: Electronic Stability Control (ESC) and head-protecting side curtain airbags. As of Model Year 2008, 81 percent of the new light vehicle models on sale are available with ESC (61% standard; 20% optional). The percentage of MY 2008 SUVs with ESC available is even higher. Ninety-five percent of MY 2008 SUVs are available with ESC (93% standard; 2% optional). This is well in advance of MY 2012 when such systems will be required. Similarly, as of Model Year 2008, 76 percent of the new light vehicle models on sale are available with side curtain air bags (63% standard; 13% optional). The percentage of MY 2008 SUVs with side curtain air bags available is even higher. Ninety-seven percent of MY 2008 SUVs are available with side curtain air bags (91% standard; 6% optional). This is well in advance of when such technology might be required in order to comply with any likely requirements of the occupant ejection prevention rulemaking required under SAFETEA-LU.

Both ESC and side curtain airbags were developed and installed on cars and lights trucks by automakers voluntarily and not in response to any legislative or regulatory mandate. The SAFETEA-LU occupant ejection prevention mandate illustrates the challenge that Congress faces when reauthorizing surface transportation programs, that is, Congress risks stifling safety innovations with prescriptive mandates for advanced safety technologies. Therefore, the Alliance believes that mandated rulemakings that dictate motor vehicle regulations and timing is not the best way to ensure that resources are being directed to achieve optimal real-world benefits. The Alliance supports and actively participates in NHTSA's rulemaking process. We firmly believe that any rule issued should be based on real-world benefit, sound data, a shared understanding of challenges and solutions, public comment, a consideration of any economic consequences and adequate lead time. Mandates requiring rules that must be issued on

specific subjects with specific timing, regardless of the public rulemaking record on that subject, could actually result in compromised safety by forcing NHTSA and automakers to forego rulemaking and production decisions on higher priority items. We believe there is a better way.

Automakers have collectively pursued several voluntary initiatives to enhance motor vehicle safety. Beginning in 2003, the Alliance has worked with the Insurance Institute for Highway Safety (IIHS) on the development and implementation of test procedures and performance criteria to enhance occupant crash protection in crashes between cars and light trucks. To meet the performance criteria, automakers are designing the primary energy-absorbing structures of new SUVs and pickup trucks to overlap at least 50 percent of the federally mandated bumper height zone for cars. Alternatively, automakers may elect to connect a second energy-absorbing structure to the primary one. Then the lower edge of the secondary structure cannot be any higher than the bottom of the car bumper zone. For the 2007 production period ending August 31, 2007, 81 percent of participating manufacturers' applicable vehicles were designed to the front-to-front compatibility criteria and 71 percent were designed to the front-to-side criteria. IIHS' field studies support the expectation of substantial real-world benefits of designing vehicles to this agreement. IIHS reports an overall 19 percent reduction in passenger car driver deaths in both front-to-front and front-to-side crashes involving both SUVs and pickup trucks already designed to the agreement's front-to-front compatibility requirements.

In 2002, the Alliance established voluntary safety guidelines to enhance driver focus when using in-vehicle telematics systems. The Alliance's Driver Focus – Telematics Guidelines relate to the design, use, and installation of in-vehicle information and communications systems. The Guidelines provide criteria and evaluation procedures for use by automotive manufacturers and telematic device manufacturers during product development. Each individual Guideline has associated with it:

- A rationale
- Specific criterion/criteria
- Verification procedure
- Cites to supporting peer-reviewed research

The 24 guidelines are divided into five groups:

- Installation Principles (5)
- Information Presentation Principles (4)
- Interaction with Displays and Controls (6)
- System Behavior Principles (3)

- System User Information (6)

The Guidelines along with a commitment to design and test telematic devices in accordance with these Guidelines were first issued in 2002 and were last updated in 2006.

In 2000, the Alliance – again with IIHS' help – issued test procedures and performance criteria for side airbags to ensure that the risk of injury to out-of-position occupants from deploying side airbags would be very limited. Today, 90 percent of side airbags have been designed in accordance with the Alliance guidelines. More importantly, the field performance of side airbags remains positive.

Automakers' most recent voluntary initiative was codified as part of the Cameron Gulbransen Kids Transportation Safety Act of 2007, which the Alliance supported. Automakers' voluntary agreement on Brake Transmission Shift Interlocks was adopted as part of this Act and now includes compliance enforcement and recall oversight by NHTSA. This agreement further reduces the risk of inadvertent shift selector movement in automatic transmission equipped vehicles in circumstances where an unsupervised child has access to both a vehicle and its ignition keys.

Currently, automakers are working with NHTSA and organizations of the blind to help the blind maintain their mobility and independence by addressing concerns that some advanced technology vehicles, such as hybrid electric vehicles, may not be audibly detectable by the blind when the vehicle's internal combustion engine is not operating.

Automakers are also working to enhance motor vehicle safety in other ways in addition to vehicle-related enhancements. Just this year, Arkansas and Florida became the nation's 29th and 30th jurisdictions, respectively, to adopt a primary enforcement (PE) safety belt law – a quarter century after the first such law was adopted by New York State. These latest state decisions mean that, soon, PE safety belt laws will protect 72 percent of the U.S. population. Jurisdictions with stronger belt enforcement laws continue to exhibit higher use rates than those with weaker laws. Safety belt use nationwide was 83 percent in 2008. Sixteen states and territories achieved use rates of 90 percent or higher. In Michigan, the belt use rate was 97.2 percent – the nation's highest. By contract, Massachusetts was 66.8 percent.

Today – May 18th – kicks off another "Click It or Ticket" nationwide enforcement mobilization which is set to run to May 31. The mobilization is expected to involve more than 10,000 police agencies and is supported by $8 million in national advertising funding wisely provided by Congress under SAFETEA-LU.

Over the past 25 years, no other industry sector in the country has expended more resources to increase safety belt use than the automobile industry – $33 million during the period 1996 through 2007 alone. Why is this important to automakers? Because safety belt use is the most effective means immediately available to passenger vehicle occupants to prevent fatalities and serious injuries in motor vehicle traffic crashes. According to NHTSA, the total passenger vehicle occupant fatality rate per 100 million VMT for non-PE states is 9 percent higher than that for the PE states. The agency estimates that 5,024 additional lives would have been saved in 2007 (most recent data available) if all unrestrained motor vehicle occupants involved in fatal crashes had worn their safety belts. Michigan's usage rate demonstrates that belt use approaching 100 percent is possible.

Impaired driving also remains a significant traffic safety problem. While substantial progress in reducing impaired driving was made in the last two decades, that progress has stalled. In November 2006, the Alliance joined, among others, with the U.S. Department of Transportation, the Insurance Institute for Highway Safety (IIHS), the Governors Highway Safety Association, and the International Association of Chiefs of Police, to support MADD's *Campaign to Eliminate Drunk Driving*. The *Campaign* is pursuing the adoption of state laws mandating the installation of alcohol ignition interlocks (breathalyzers) on vehicles driven by convicted drunk drivers. In New Mexico – the first state to adopt such a mandate – alcohol-involved crashes are down 30 percent, injuries are down 32 percent, and fatalities are down 22 percent.

In addition, in 2008 the Alliance, working through the Automotive Coalition for Traffic Safety (ACTS), joined NHTSA in a five-year, $10 million cooperative agreement to research in-vehicle alcohol detection technologies aimed at reducing drunk driving-related fatalities and injuries. Such technologies hold promise for keeping alcohol-impaired drivers off the road by preventing drivers with a blood alcohol concentration at or above the legal limit of 0.08 from operating a vehicle. An IIHS analysis reveals that if driver blood alcohol concentrations can be limited to less than 0.08, approximately 9,000 lives might be saved annually.

RECOMMENDATIONS

The Alliance offers the following recommendations for consideration by Congress as it pursues legislation to reauthorize surface transportation programs.

First, Congress should ensure that NHTSA has the resources to do its job. NHTSA plays a key role in auto safety and we work with them and other stakeholders on a daily basis to drive improvements in motor vehicle safety.

Second, we urge you to resist calls to include mandated rulemakings and deadlines that affect motor vehicle design. Instead, the Alliance recommends that Congress require that

NHTSA, after appropriate notice and comment, periodically issue a motor vehicle safety improvement priority plan. The creation of such a plan would ensure that critical safety problems are being addressed on a priority basis in an effective manner and that progress is being made towards national goals. This plan would also allow Congress to exercise more effective oversight of the "expert" agency it established expressly to improve motor vehicle safety.

Second, to ensure that NHTSA and safety researchers have robust databases upon which to assess current and future safety needs of adults and children, the Alliance makes the following recommendations regarding the funding authorization for the National Automobile Sampling System (NASS):

- NASS should be funded at a level sufficient to attain its intended design size to ensure critical "real-world" data is collected at a sufficient number of sites nationwide to provide the statistically valid, nationally representative sample originally intended (estimated to be $37 million annually), and

- NASS should be funded at a level to enhance its capacity to collect sufficient data concerning our most precious cargo – our children (estimated to be $3 million annually). A child occupant protection component to NASS is currently in pilot development at NHTSA through industry grants to The Children's Hospital of Philadelphia.

A $40 million dollar annual investment in NASS equates to 1.73 cents for every $100 of economic loss.

NASS is an essential nationwide data collection resource that provides the Department and safety researchers with detailed motor vehicle crash and injury causation data. It is operated by the National Center for Statistics and Analysis of NHTSA. NASS – which began in 1979 – is the only reliable means for identifying traffic safety issues, establishing priorities, assisting in the design of future safety countermeasures and for evaluating existing countermeasures.

The budget for NASS has not kept pace with either the Department's informational needs or inflation. Moreover, these needs are growing as Alliance members reinvent the automobile in response to societal demands for ever safer and cleaner vehicles. Starved for funds, the capability of NASS has been dramatically reduced. Currently, NASS collects in-depth data on approximately 4,500 crashes – less than a third of the intended design size of 15,000 to 20,000 crash cases annually. Further, NASS lacks adequate data on children involved in motor vehicle crashes.

Finally, as a nation, we will never fully realize the potential benefits of vehicle safety technologies until we get vehicle occupants properly restrained and drunk drivers off the road. In this regard, Congress has a unique role to play.

The Alliance urges that the Subcommittee adopt MADD's request that $30 million per year be included in the Surface Transportation Reauthorization bill to support the advanced technology research that has been initiated by NHTSA and the Alliance.

While beyond the Subcommittee's jurisdiction, the Alliance urges that Congress include in the anticipated Surface Transportation Reauthorization bill, provisions for withholding a percentage of Highway Trust Fund monies from states – known as "sanctions" – that have failed to adopt a primary enforcement safety belt law and, the intention to do so be announced as soon as possible. SAFETEA-LU included the largest incentive grant program in history designed to encourage states to pass these proven and effective belt laws. States have until June 30, 2009, to enact and begin enforcing a primary safety belt law and take advantage of SAFETEA-LU's incentive grants. Often, adoption of these laws has failed by narrow margins. Since SAFETEA-LU was adopted in 2005, seven states have enacted primary enforcement laws meeting the requirements of the Act. Four other states were encouraged to adopt a primary enforcement law in anticipation of incentive grants being available. Twenty-eight states, the District of Columbia, and Puerto Rico currently have the law, leaving 22 with weaker secondary enforcement laws and one state with no adult safety belt law, resulting in substantially lower safety belt use rates. Sanctions have worked effectively to accelerate the process of passing laws and create uniform safety policy across all 50 states and in the District of Columbia. Congress has turned to the use of sanctions previously to encourage states to adopt a minimum legal drinking age of 21 (1984), zero alcohol tolerance laws for youth under 21 (1995), and 0.08 percent *per se* blood alcohol content laws (2000).

We also urge Congress to enact the Safe Teen and Novice Driver Uniform Protection (STAND-UP) Act (H.R. 1895) that was introduced earlier this year by Rep. Bishop. This Act would set minimum standards for state graduated driver licensing (GDL) laws, proven to reduce deaths and injuries among young beginning drivers and those who share the road with them.

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Mr. RUSH. The Chair thanks the witness.

The Chair now recognizes Mr. Oesch for 5 minutes for the purposes of commentary and opening statements.

STATEMENT OF STEPHEN L. OESCH

Mr. OESCH. Thank you very much, Mr. Chairman.

The Insurance Institute for Highway Safety is a nonprofit research and communications organization that works to identify ways to reduce deaths and injuries on our Nation's highways. We are sponsored by automobile insurers here in the United States. We thank you for the opportunity to speak with you today about the emerging safety issues and what the National Highway Traffic Safety Administration can do to address those issues.

Research is the key to determining sound and effective motor vehicle safety programs. With this in mind, NHTSA needs to expand its research on improving vehicle crashworthiness, evaluating the new crash avoidance features that are being introduced in cars, and developing technologies that Mr. Strassburger just referred to to reduce alcohol-impaired driving. The agency also should increase the scope of its detailed database on crashes.

Finding ways to reduce crash deaths and injuries begins with collecting comprehensive data of good quality that identifies the driver, the vehicle, and environmental factors contributing to crashes and injuries.

In 1979, NHTSA set up the National Accident Sampling System, NASS, to collect information on in-depth crash investigations. When that system was first set up, it was envisioned that there would be 75 locations throughout the United States where there would be in-depth crash investigations. Unfortunately, we currently only have 24 of those locations nationwide.

The teams investigate about 5,000 crashes annually, but, unfortunately, this produces an inadequate sample. So, clearly, this is one—because the NASS data are so critical to our understanding of crash problems, NHTSA needs to increase the number of crashes being investigated.

Particular attention should be placed on crashes involving injuries to children so we have a better idea of what is causing those injuries. NASS should also be expanded to include information on any crash-avoidance features in the vehicle so we will get a better idea of how well these technologies are working to prevent crashes. More work is needed to identify the types of crashes in which people are dying and to develop new test procedures to address injuries in those crashes.

Even though motor vehicle designs have improved because of both Institute and NHTSA tests, these improvements have been offset because of increases in travel speeds, cell phone usage, and, until recently, increases in vehicle miles traveled. So, regretfully, about 29,000 people still die in passenger vehicle crashes each year.

IHS research shows that serious injuries and death are still occurring in frontal cashes of vehicles that are good performers in our frontal offset crash test. People continue to also die in crashes involving center lane impacts, such as with a pole or with a tree, or

in the so-called "small offsetters," slight minor offset, where vehicles are striking and the structure is not lining up.

We are currently conducting tests—or doing research to develop tests to address those problems, and we encourage NHTSA to look at other crash modes in which people are continuing to die and to develop tests to address each of those situations.

In addition, we believe improvements of the existing Federal standard on rear underride guards for large trucks and trailers can reduce deaths and injuries in the passenger vehicles that strike the trucks and the trailers.

Finally, IHS has been long involved in discussions about how to improve fuel economy while preserving occupant safety. The conflict is that small vehicles use less fuel but do a relatively poor job of protecting their occupants in crashes. Thus, fuel conservation policies that encourage vehicle downsizing have tended to conflict with motor vehicle safety policies, but they don't have to.

Congress and the Energy Independence and Security Act required stricter fuel economy standards for 2011 through 2020 model vehicles. The law authorizes NHTSA to use a size-based system for both cars and trucks, and the agency's new standard for 2011 models uses such a system. That approach reduces the incentives for automakers to downsize their lightest vehicles. The new system also forces manufacturers to use vehicle and engine technologies to improve fuel economy. The result will be to promote fuel economy without compromising safety.

One consequence of recent Federal efforts to reduce carbon emissions may be to require vehicles to meet even more stringent fuel economy requirements. While reducing carbon emissions is an important societal goal, it needs to be accomplished so as to avoid any conflict with the size-indexed fuel economy approach NHTSA has adopted. This can be done if automakers change or are required to change how they use engine technology, which they have been using to increase horsepower.

The performance capability of new cars has been increasing for 30 years. Between 1985 and 2005, average horsepower climbed 64 percent. Research has shown that increases in vehicle horsepower are associated with a higher frequency of crashes. By using engine technology to increase fuel economy rather than to increase horsepower, manufacturers can offer mid-size and larger vehicles that achieve higher fuel economy and also potentially reduce the frequency of crashes and injuries.

I want to thank the committee very much for its attention. I would be very pleased to answer any questions that you have.

[The prepared statement of Mr. Oesch follows:]

Statement before the US House Committee on Energy and Commerce, Subcommittee on Commerce, Trade, and Consumer Protection

Emerging vehicle safety issues

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May 18, 2009

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The Insurance Institute for Highway Safety (IIHS) is a nonprofit research and communications organization that identifies ways to reduce deaths, injuries, and property damage on our nation's highways. We are sponsored by US automobile insurers. Thank you for inviting IIHS to testify on the research and rulemaking priorities of the National Highway Traffic Safety Administration (NHTSA).

More research is needed

Research is key to developing sound federal motor vehicle safety standards and highway safety programs. With this in mind, NHTSA needs to expand its research toward improving vehicle crashworthiness, evaluating emerging crash avoidance features, and developing technology to reduce alcohol-impaired driving. The agency also should increase the scope of its detailed database on crashes.

Vehicle crashworthiness

More work is needed to identify the types of crashes in which people are dying and to develop new tests to reduce injuries in such crashes. Since 1995 IIHS has been evaluating vehicles in 40 mph frontal crash tests, which have led to vehicle design improvements.[1] We have compared the real-world experience of vehicles with good versus poor performance in our frontal tests, finding that good performers had lower fatality rates.[2] Offsetting these improvements, however, are increases in travel speeds, cellphone use, and (until recently) miles traveled, so about 29,000 people still died in passenger vehicle crashes in 2007.

IIHS research shows that serious injuries and deaths still are occurring in frontal crashes of vehicles that are good performers in our frontal offset tests. We have identified 5 types of frontal crashes in which people continue to be injured or killed. These include full-width crashes similar to NHTSA's 35 mph consumer test, moderate overlap offset crashes like IIHS's, offsets with smaller overlap than the IIHS test, centerline impacts with narrow objects like poles, and truck underride crashes. We are developing objective, repeatable tests that will duplicate the types of damage that occur in pole and other small overlap impacts,[3] and NHTSA needs to conduct research on other crash modes. We also believe improvements to the existing federal standard on rear underride guards for large trucks and trailers can reduce injuries in passenger vehicles that strike trucks (see page 3).

Crash avoidance technology

Manufacturers are equipping passenger vehicles with an array of crash avoidance features including the 5 described below. Using 2002-06 crash data, IIHS has estimated the maximum number of crashes that potentially can be prevented by each feature.[4] We also are looking at real-world crash and insurance data and surveying the public about acceptance of the features. NHTSA is doing similar work, which should be expanded as new features are introduced in both passenger vehicles and large trucks. This will enable the public and vehicle manufacturers to learn quickly which systems are effective and which are not.

Technology	Description	All relevant crashes	Fatal crashes
Forward collision warning with automatic braking	Prevents or mitigates frontal crashes by alerting drivers of emergencies and, in some cases, automatically applying brakes	2,268,000	7,166
Emergency brake assistance	Prevents or mitigates frontal crashes by detecting panic braking, readying brakes, and/or boosting brake pressure	417,000	3,079
Lane departure warning	Alerts drivers who begin to stray from lane	483,000	10,345
Blind zone detection	Warns drivers of vehicles in adjacent lanes	457,000	428
Adaptive headlights	Improves night vision around corners/curves	143,000	2,553
Total unique crashes		**3,435,000**	**20,777**

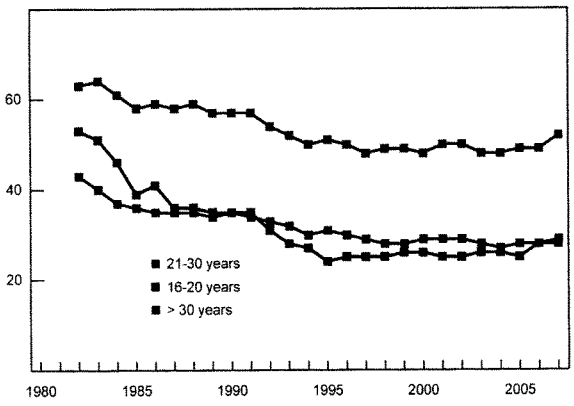
Note: Totals are not the sums of counts in each column because some crashes are relevant to more than 1 of the 5 technologies.

Note: Estimates are based on ideal versions of the crash avoidance features and thus may overstate the real-world benefits. As we gather more information on the actual field performance of the crash avoidance systems that manufacturers are installing in their vehicles, IIHS will be able to refine these estimates.

Alcohol ignition interlock

Important progress in the 1980s toward reducing deaths related to alcohol-impaired driving began to level off in the 1990s. Proven techniques such as the use of sobriety checkpoints could lead to further reductions in this problem, but we also need to find new ways to address it. NHTSA and the Alliance of Automobile Manufacturers have embarked on a joint program to evaluate the possibility of creating alcohol ignition interlocks that can be built into vehicles so motorists can be screened each time they get ready to drive. This technology is promising, and the agency should continue its feasibility research. IIHS estimates that nearly 9,000 deaths in crashes could have been prevented in 2007 alone if drivers with blood alcohol concentrations of 0.08 g/dl or higher had been prevented from starting their vehicles.

Percent of fatally injured passenger vehicle drivers with BACs ≥0.08 g/dl, by driver age, 1982-2007



National Automotive Sampling System/Crashworthiness Data System

Finding ways to reduce crash deaths and injuries begins with collecting comprehensive data of good quality that identify the drivers, vehicles, and environmental factors contributing to crashes and injuries. In 1979 NHTSA set up the National Accident Sampling System, now called the National Automotive Sampling System/Crashworthiness Data System (NASS/CDS), to collect information based on in-depth crash investigations. Originally scheduled to involve teams investigating crashes at 75 locations nationwide, NASS/CDS includes only 24 locations. Teams investigate about 5,000 crashes annually, and this number produces an inadequate sample for many applications. For example, it takes too many years for key questions about the effectiveness of various safety features to be addressed.

Because NASS/CDS data are critical to our understanding of crash problems, NHTSA should increase the number of crashes being investigated. Particular attention should be paid to crashes involving child injuries so we can figure out what is causing them. NASS/CDS also should be expanded to include information on any crash avoidance features in the vehicles being investigated. This would assist in evaluating such features.

Injury biomechanics

Researchers use NASS/CDS data for a variety of purposes, including to gather information on the injury tolerances of occupants who differ in age and size. For example, many existing injury criteria set for children are based on scaled-down versions of adult criteria because information is lacking about injury tolerances for children's heads, necks, and abdomens. NHTSA is funding some research on child injuries and holding meetings to share information and coordinate research with others including the Children's Hospital of Philadelphia, University of Michigan Transportation Research Institute, and vehicle and restraint manufacturers. This work should be expanded and accelerated.

Chest injuries often are serious and even fatal. The current NHTSA standard for frontal crash protection sets limits on the acceleration of the chest and on the amount of chest deflection. The state of knowledge of chest injury risk has advanced considerably beyond what is reflected in current injury limits. Plus the Hybrid III crash test dummy long has been criticized for not representing human chest injury particularly well. Advances in knowledge should be reflected in the injury criteria and test dummies NHTSA uses.

NHTSA Rulemaking

Truck underride: Crashes involving large trucks resulted in 4,602 deaths in 2007. Twenty-three percent of all passenger vehicle occupant deaths in multiple-vehicle crashes during 2007 occurred in collisions with large trucks.[5] We have known for years that many of these deaths occur when passenger vehicles underride the fronts, backs, or sides of trucks or trailers. For example, a 1997 IIHS study estimated that underride occurred in half of all fatal crashes between large trucks and passenger vehicles.[6]

It took NHTSA nearly 40 years to upgrade the standard covering truck underride guards (see attachment), and the 1996 standard still falls far short of ideal. It allows rear impact guards on new trucks and trailers to be too high off the ground to fully engage the front ends of passenger cars,[7] and it does nothing to prevent underride in front or side crashes. The Canadian standard requires stronger underride guards than in the United States.[8] Research in Europe[9-10] has investigated front underride guards, and the United Nations Economic Commission for Europe Regulation 93 requires such guards.[11] NHTSA also should require adequate front, side, and rear underride guards on new tractors and trailers.

Fuel economy and vehicle safety: IIHS has long been involved in discussions about how to improve fuel economy while preserving occupant safety. The conflict is that small vehicles use less fuel but do a relatively poor job of protecting their occupants in crashes. Thus, fuel conservation policies that encourage vehicle downsizing have tended to conflict with motor vehicle safety policies. But they do not have to.

More than 30 years have elapsed since Congress enacted the Energy Policy and Conservation Act of 1975, which required manufacturers to build cars that use less fuel. The result during the first 15 or so years of this law was to improve the overall fuel economy of the US car fleet by about 75 percent. The main way automakers achieved this was by reducing car weight. For example, Chrysler stopped making big cars altogether. By 1985 cars were an average of 500 pounds lighter than they would have been without the federal requirements. The downside was to increase fatality risk in crashes. Multiple studies document this, including IIHS research comparing deaths in Ford and General Motors cars before and after they were downsized during 1977-86. The finding was a 23 percent increase in deaths per 10,000 registered cars.[12]

Subsequent research documents the continuing loss of life. For example, the National Research Council concluded in 2002 that 1,300 to 2,600 additional crash deaths occurred in 1993 because of vehicle weight reductions to comply with federal standards.[13] A problem with the structure of the original fuel economy standards for cars was that the target of 27.5 miles per gallon was applied to an automaker's whole fleet, no matter the mix of cars an individual automakers sells. This has encouraged manufacturers to sell more smaller, lighter cars to offset the fuel consumed by their bigger, heavier models. Sometimes automakers even sell smaller, and less safe, cars at a loss to ensure compliance with fleetwide requirements.

In 2006 NHTSA adopted a fuel economy system for SUVs, pickup trucks, and vans that mandates lower fuel consumption as vehicles get smaller and lighter. The result is to remove the incentive for automakers to downsize their lightest vehicles. The new system also forces manufacturers to use vehicle and engine technology to improve fuel economy.

The Energy Independence and Security Act amends the 1975 law by requiring fuel economy standards for 2011-20 models to be set to ensure an industry-wide average of 35 miles per gallon by 2020 for all new passenger vehicles combined (that is, different standards no longer will apply to cars and light trucks). This law authorizes NHTSA to use a size-based system for both cars and light trucks, and the agency's new (March 2009) standard for 2011 models uses such a system. The result will be to promote fuel economy without compromising safety.

One consequence of recent federal and state efforts to reduce carbon dioxide may be to require vehicles to meet even more stringent fuel economy requirements. While reducing carbon emissions is an important societal goal, it needs to be accomplished so as to avoid any conflict with the size-indexed fuel economy approach NHTSA has adopted. This can be done if auto manufacturers change, or are required to change, how they use engine technology, which they have been using to increase horsepower. The performance capabilities of new cars have been increasing for 30 years. Between 1985 and 2005, average horsepower climbed 64 percent, from 111 to 183. Research by the Highway Loss Data Institute, an affiliate of IIHS, has shown that increases in vehicle horsepower are associated with higher insurance losses. For example, an addition of just 1 horsepower per 100 pounds of vehicle weight results in losses that are an estimated 5 percent higher under collision coverage per insured vehicle year (a vehicle year is 1 vehicle insured for 1 year, 2 vehicles insured for 6 months each, etc.) By using engine technology to increase fuel economy, rather than to increase horsepower, automakers can offer midsize and larger vehicles that achieve higher fuel economy and also potentially reduce the frequency of crashes.[14]

Bumpers

While NHTSA's primary mission involves public health, the agency has long ignored its mission to reduce the expensive property damage that occurs in low-speed crashes. The agency should require adequate bumpers on all vehicles to reduce such damage, which imposes significant economic costs on consumers. However, the federal bumper requirements that apply to cars do not cover light trucks, vans, and SUVs, which NHTSA collectively refers to as light trucks and vans.

It is legal to sell new light trucks and vans in the US market without any bumpers at all or with ones that are about style instead of damage resistance. This produces several undesirable consequences. In many cases there is virtually no protection of safety-related parts such as headlights and taillights, which often are damaged in low-speed collisions. Owners of light trucks and vans have to pay for expensive repairs to fenders, grilles, and other parts that sustain unnecessary damage in low-speed collisions. And because light truck bumpers are not required to line up with those on cars, they inflict excessive damage to the cars with which they collide at low speeds as well as allow unnecessary damage to the light trucks and vans themselves. NHTSA could, and should, reduce these costs by requiring light trucks and vans to meet the same standards as cars. This would not only reduce costly property damage in low-speed crashes but also enhance occupant safety in more serious crashes by improving vehicle compatibility. NHTSA should grant IIHS's petition, filed in July 2008, to amend the bumper standard to require compliance by light trucks and vans.

A bonus of this policy would be to reduce traffic congestion and fuel costs. The Federal Highway Administration reports that congestion on urban roads is of 2 types, recurring congestion during commuting hours and periodic congestion associated with 1-time events. An estimated 25 percent of nonrecurring congestion results from crashes and other vehicle-related events.[15] Such congestion increases travel time for commuters, shippers, and others on the road. It also wastes fuel as vehicles sit idling or moving at low speeds because of crashes. Requiring better bumpers could prevent or reduce such costs and keep traffic moving.

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Attachment: Federal rulemaking on truck underride guards

1953 Interstate Commerce Commission adopts rule requiring rear underride guards on trucks and trailers but sets no strength requirements.

1967 National Highway Safety Bureau (NHSB), predecessor to the National Highway Traffic Safety Administration (NHTSA), indicates it will develop a standard for truck underride guards.

1969 NHSB indicates it will conduct research on heavy vehicle underride guard configurations to provide data for the preparation of a standard. In the same year the Federal Highway Administration publishes a proposal to require trailers and trucks to have strong rear-end structures extending to within 18 inches of the road surface.

1970 NHSB says it would be "impracticable" for manufacturers to engineer improved underride protectors into new vehicles before 1972. The agency considers an effective date of January 1, 1974 for requiring underride guards with energy-absorbing features as opposed to rigid barriers.

1971 National Transportation Safety Board (NTSB) recommends that NHTSA require energy-absorbing underride and override barriers on trucks, buses, and trailers. Later in the same year NHTSA abandons its underride rulemaking, saying it has "no control over the vehicles after they are sold" and "it can only be assumed that certain operators will remove the underride guard." The Bureau of Motor Carrier Safety (BMCS), predecessor to the Federal Motor Carrier Safety Administration, considers a regulatory change that would prohibit alteration of manufacturer-installed equipment. This would nullify the major reason NHTSA cited for abandoning the proposed underride standard.

1972 NTSB urges NHTSA to renew the abandoned underride proposal.

1974 US Secretary of Transportation says deaths in cars that underride trucks would have to quadruple before underride protection would be considered cost beneficial.

1977 IIHS testifies before the Consumer Subcommittee of the US Senate Commerce Committee, noting that devices to stop underride have been technologically available for years. IIHS tests demonstrate that a crash at less than 30 mph of a subcompact car into a guard meeting current requirements results in severe underride. IIHS also demonstrates the feasibility of effective underride guards that do not add significant weight to trucks. IIHS petitions NHTSA to initiate rulemaking to establish a rear underride standard. The agency agrees to reassess the need for such a standard and later in the year announces plans to require more effective rear underride protection. BMCS publishes a new but weak proposal regarding underride protection.

1981 NHTSA issues a proposal to require upgraded underride protection.

1986 IIHS study reveals that rear guards designed to prevent cars from underriding trucks appear to be working well on British rigs.

1987 European underride standard is shown to reduce deaths caused by underride crashes.

1996 NHTSA finally issues a new standard, effective 1998.

Mr. RUSH. The chairman thanks the gentleman.
Ms. Claybrook, you are recognized for 5 minutes.

STATEMENT OF JOAN CLAYBROOK

Ms. CLAYBROOK. Thank you so much, Mr. Chairman.

I would like to mention I am also a former administrator of NHTSA under the Carter administration. I am still around, actually. I just wanted to mention that.

Prevention is the word that has been used by the President in his efforts to help cut the cost of health care; and, among other things, improvements in safety on the highways can make a great contribution to that.

In 2005, Congress, under the leadership of Senator Trent Lott and this committee, secured enactment of SAFETEA–LU , which was a law that instructed NHTSA to address the 10,500 annual deaths from rollover. And this is very important, as the NHTSA acting administrator has testified. This was a priority of the agency, but not much had been finished or accomplished, and this law set deadlines for action by the agency.

It included reducing rollover crashes and their severity, reducing full or partial ejection from these crashes, improving the roof crush to prevent lethal injuries to the head, and completion of rulemaking that was initiated by Dr. Runge when he was NHTSA administrator in the 2000 period on enhancing occupant protection in side-impact crashes.

The side-impact standards we're quite pleased with; the others we're not. Because we believe that NHTSA, instead of issuing one rollover crash protection standard, has divided it up into roof crush and ejection, and we think it should have been one dynamic test for both. Plus it would have also, at the same time, tested safety belts. There is no existing motor vehicle safety standard for the performance of safety belts in rollover crashes; and, as a result, belts often reel out, and they do not protect you, and that leads to ejection and partial ejection.

So this is a huge area of loss that we experience every year; and there are some 17,000 serious and disabling injuries—paraplegic, quadriplegic, brain damage, and so on—as well as the 10,500 deaths. And it's an area where we could really make huge improvements because rollover crashes take much longer to occur, which means that the forces of the crash are not as harmful, but when the vehicle containment is intruded—that is, by roof crush, or you're allowed to escape from it by ejection through window breakage and so on—that's when the injury occurs. So there's an opportunity here for dramatic savings in improved rollover protection.

So, at this moment, the agency has issued the roof crush standard, which we are very upset about because it's a static test. It just pushes the top of the vehicle. And it also does not measure the structure of the vehicle, the dynamics of the roll of the vehicle. If the vehicle is square, it's going to roll in a much different way than if it's a rounded top and has much more impact on the occupants inside. And it also doesn't include a dynamic test for ejection with it. And so we're hoping that the committee will consider this and that the agency, when they issue the ejection rule, will also reconsider how they're testing these vehicles.

The test for the roof really measures the B pillar, which is over your shoulders. And where you're really injured is at the A pillar, because what happens is you go forward in the crash. And the A pillar is not really tested in the static test very well. So we hope that that will be certainly reconsidered as we move forward.

The agency's own rule made it clear that only 135 deaths would be prevented in the roof car standard. That's out of 10,500. So they themselves have identified the inadequacy of this rule.

There has a lot of development and ingenuity that's gone on in the private sector on testing for roof crush, and we hope that that will be added to it. Consumer groups, with a foundation grant, actually tested dynamically 10 of the same vehicles that the agency testified statically, with just a pushing on the roof, and we found dramatic differences. And we've submitted that to the agency.

In ejection, there are 54,000 people ejected every year in passenger vehicle crashes.That's just horrific. And it's a terrible experience to be ejected from a vehicle in the course of a roll. And there are 7,300 deaths annually from this and, as I said, horrible injuries.

I would like to turn to the unfinished agenda. And I would like to say to my friend from the Alliance of Motor Vehicle Manufacturers that the issues that we have raised before Congress and asked you to issue mandates for are the agency's priorities. It's just that they haven't happened, and so that's the reason that we have pushed to get some deadlines for their activity.

Pedestrians and bicyclists are the forgotten victims of motor vehicle crashes. There are more than 5,300 deaths each year in this regard. And we want to encourage adults to leave their cars at home, we want to encourage kids to walk and ride on their bikes, but we don't want them to be dead as a result of doing that.

So in recent years NHTSA has considered this. It issued a global technical regulation that addresses pedestrian safety impact, but it is an exceptionally weak regulation. And, unfortunately, the work that has been done abroad in Europe—and particularly in Japan, and by Honda, particularly, is one of the companies that's concerned about this—have really done a lot to improve the exterior protection of the vehicle. And believe it or not, there are lots of things you can do. You may not think so, but when a pedestrian is hit, there are lots of things you can do to mitigate the likelihood of death and injury.

I was really interested to read, actually, that there is a company that has invented an exterior airbag that goes around the windshield area. So if you hit a pedestrian, they land on the airbag rather than landing on the harsh windshield and metal parts of the car.

And also the Japanese and their new car assessment program, which is the program which tests vehicles and evaluates them, have introduced some pedestrian head injury requirements and tests for that as well. So it is clear that we are lagging behind, and it is something that we need to come to grips with.

Also, there is another issue, which is compatibility of vehicles, the small vehicles and large vehicles and ones of very different weight. The agency has been working on this for some time but has not done very much, and it is a clear issue where you could reduce

deaths and injuries. So we are hoping that the committee will certainly consider that issue.

And then there is the issue of motor——

Mr. RUSH. Ms. Claybrook.

Ms. CLAYBROOK. Am I running out of time?

Mr. RUSH. Yes. You ran out of time a few minutes ago. I am just enthralled by your testimony, but I have to be fair to the other witnesses, so would you please summarize?

Ms. CLAYBROOK. Well, motor coach safety, which you've heard from the National Transportation and Safety Board is a crucial issue, and there have been terrible crashes, lots of recommendations to the agency. And we hope that because there are a lot of safety standards that apply to vehicles but not to motor coaches that the committee will talk a look at that and enhance that. And there is legislation pending that we hope you might incorporate into your report.

I would just say the last thing is that EOBR is the electronic onboard recorders, and the EDRs, which are like the black boxes, the event data recorders, are very important on these vehicles as well as large trucks; and they also could address an issue that was raised by other witnesses here, which is data. They would give us great data that is very hard to collect and very expensive to collect, and this would make it much cheaper and much easier to do.

So thank you so much. I hope that the budget of the agency will also be increased as you do this. We endorse the $40 million even more for increasing the data——

[The prepared statement of Ms. Claybrook follows:]

TESTIMONY OF JOAN CLAYBROOK

BOARD MEMBER & PROGRAM COMMITTEE CO-CHAIR
ADVOCATES FOR HIGHWAY AND AUTO SAFETY

BEFORE THE

SUBCOMMITTEE ON COMMERCE, TRADE, AND CONSUMER PROTECTION

HOUSE COMMITTEE ON ENERGY AND COMMERCE

U.S. HOUSE OF REPRESENTATIVES

"Auto Safety: Existing Mandates and Emerging Issues"

MAY 18, 2009

750 First Street, NE, Suite 901, Washington, DC 20002 ~ 202-408-1711

Mr. Chairman and members of the Subcommittee, I am Joan Claybrook. During the Carter Administration I served as the Administrator of the National Highway Traffic Safety Administration. I recently stepped down as President of Public Citizen after more than 27 years of serving in that capacity. Currently, I am a board member and the Program Co-Chair for Advocates for Highway and Auto Safety (Advocates). Advocates is a coalition of consumer, health, safety, and medical organizations and insurers and agents working together to advance federal and state programs and policies that prevent deaths and injuries on our neighborhood streets and highways. I commend the Subcommittee on Commerce, Trade, and Consumer Protection for holding this hearing, "Auto Safety: Existing Mandates and Emerging Issues".

Introduction

I am very pleased to be here today to assist the subcommittee in its oversight and deliberations on safety provisions that need to be addressed in the reauthorization of the National Highway Traffic Safety Administration (NHTSA). The NHTSA has jurisdiction for the safety of new motor vehicles and equipment. The agency is responsible for ensuring that the tens of millions of Americans traveling each day operate vehicles that are safe and equipped with the necessary technology needed to prevent a crash from occurring and ensure that the risk of death or serious injury is substantially reduced when a crash does occur.

Motor vehicle crashes kill over 40,000 Americans every year on our nation's highways, injure more than 2.5 million more, and are the leading cause of fatalities for all persons in the United States, ages four to 34. Motor vehicle crashes exact a huge personal toll in terms of deaths, injuries and disruption to family life, as well as imposing a heavy financial burden on society, estimated at $230.6 billion (in 2000 dollars) annually, or a "crash tax" of about $800 for every man, woman and child.[1]

Motor vehicle crashes are the leading cause of occupational fatalities in the U.S. The most dangerous part of the work day for any employee is the time they spend in their vehicle, with a crash occurring every 5 seconds, property damage occurring every 7 seconds, an injury occurring every 10 seconds and a motor vehicle fatality occurring every 12 minutes. In 2000, the economic cost of crashes to employers was $60 billion resulting in 3 million lost workdays. Although the federal motor vehicle safety standards issued by the NHTSA have historically been responsible for saving hundreds of thousands of lives,[2] there has been little progress in recent years in reducing the annual number of highway traffic fatalities.[3]

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[1] *The Economic Impact of Motor Vehicle Crashes 2000*, NHTSA Technical Report, DOT HS 809 446, NHTSA (May 2002).

[2] NHTSA study estimated cumulative number of lives saved from 1960 through 2002 at 328,551, *Lives Saved by the Federal Motor Vehicle Safety Standards and other Vehicle Safety technologies, 1960-2002*, NHTSA Technical Report, DOT HS 809 833, NHTSA (Oct. 2004).

[3] Decline in motor vehicle traffic fatalities to an estimated 37,313, reported for 2008, *Early Estimate of Motor Vehicle Traffic Fatalities in 2008*, Traffic Safety Facts Research Note, DOT HS 811 124 , NHTSA (Mar. 2009), reflects not only efforts to improve safety but also the effects of an estimated decline in vehicle miles of

Advancing a strong national highway traffic safety agenda is critical for many reasons. First, prevention is the key to saving lives and reducing injuries. General, fleet-wide improvements in vehicle safety through design, technology and behavioral responses reap benefits in reducing fatalities and serious, traumatic physical injuries. Second, progress toward crash prevention and vehicle crashworthiness provides economic benefits by reducing public health care costs for medical response to crash scenes, emergency room visits, hospital and rehabilitation stays, long-term care, physical and occupational therapy, reduced time away from work, and other medical treatments. Since motor vehicle crash injuries and costs are a major contributing factor to health care and employment costs, crash avoidance and injury prevention should be part of any well-developed policy initiative to bring national health care costs under control.

In fact, just this week, President Obama met at the White House with corporate executives, labor leaders and government officials to discuss innovative and effective strategies that employers are using to hold down the cost of health care for workers and their families. The foundation of all of the successful strategies, programs and cost-saving measures was repeatedly framed as "prevention". The highway and auto safety programs of the U.S. Department of Transportation (DOT) will be an essential element of the Obama Administration's health care and economic stimulus proposals to assist families and employers. Preventing motor vehicle crashes, deaths and injuries is a cost-effective, prudent, and successful investment of government resources.

This year, Congress will draft a new surface transportation reauthorization bill that will, in all likelihood, advance a balanced transportation system and expand consumer choices for transportation alternatives. This is a positive approach that will result not just in expanded public transportation options, but will encourage more pedestrian and bicycle traffic as well as a greater variety of different types of fuel efficient vehicles. While these changes provide opportunities to alter energy-use patterns, they also could lead to more interactions and safety conflicts between vehicles and non-occupants and between large and small vehicles. In drafting the reauthorization bill, we urge the subcommittee to consider the safety needs that all of these future transportation choices will require in order to improve the level of safety provided to the public in a highly mobile society.

Improving Occupant Protection

SAFETEA-LU Rules

There are many areas of safety that need to be addressed in the reauthorization of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59 (2005). SAFETEA-LU included a number of major safety initiatives that were passed with bipartisan support in Congress. Legislative action was needed because many important vehicle safety standards had languished for decades

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travel (VMT) and likely changes in discretionary driving patterns resulting from the steep increase in oil and gasoline prices during much of the year, as well as the precipitous economic decline in the last third of the year.

without aggressive agency action to improve safety. The law directed NHTSA to upgrade regulations to save more lives then ever before while also reducing both the number and the severity of injuries to occupants in motor vehicle crashes. These included standards for reducing rollover crashes and their severity, reducing full and partial occupant ejection in crashes, improving passenger vehicle roof crush resistance to prevent lethal injuries to occupants in rollover crashes, and to complete rulemaking on enhancing occupant protection in side impact crashes. Congress intended and the public expected these rules to make significant contributions to vehicle and occupant safety.

Unfortunately, the agency rules fall short of what was expected, and what could have been accomplished by the agency. The safety community believes that these rules do not fulfill Congressional expectations and are unnecessarily weak in ways that will save fewer lives and avert fewer serious injuries than would be the case had the agency adopted stronger standards. In looking at some of the flaws in the rules issued in response to SAFETEA-LU, the Committee can evaluate how to better direct agency activities in the next reauthorization bill in order to ensure that Congress and the American people are well served by the agency in carrying out its legislative mandate.

Comprehensive Rollover Crash Testing

More than 10,000 people a year die in rollover crashes according to the earliest information from the Fatality Analysis Reporting System (FARS) for 2007, and many times that number are severely injured. A large percentage of those deaths and injuries are due to partial and complete ejection because NHTSA has not addressed rollover and roof crush occupant protection in a comprehensive manner, despite the fact that SAFETEA-LU addresses rollover protection and crash mitigation by linking the reduction of rollover crashes with occupant ejection prevention and improved passenger vehicle roof crush resistance in a single provision. The National Transportation Safety Board (NTSB) has emphasized that, "[r]esearch into rollover crashes shows that a systems approach to occupant protection, involving seat belts, seats, the roof, and interior structures, is necessary to minimize occupant exposure to injury-causing mechanisms."[4] NHTSA was clearly directed by Congress to conduct several rulemaking actions to comprehensively address the particularly devastating, chronic problem of thousands of annual rollover deaths and tens of thousands of injuries. Congress placed these rulemaking mandates in a single provision because it understood that the solution to the festering issue of rollovers required a systems-engineering approach and regulations that are complementary and interactive.

Yet, NHTSA opted for a piecemeal approach that artificially isolates aspects of rollover, ejection, roof crush, and restraint performance safety into separate, unrelated regulations. For example, on April 30, 2009, NHTSA issued the final rule to amend the roof crush resistance standard (Federal Motor Vehicle Safety Standard (FMVSS) No. 216), 74 FR 22348 (May 12, 2009), a crucially important safety standard that targets the reduction of deaths and severe injuries when passenger vehicle roofs collapse and crush into the occupants. In determining the safety benefits of the rule, the number of lives saved and injuries prevented, however, the agency makes no claims of ejection prevention as a key

[4] *Fifteen Passenger Van Single-Vehicle Rollover, Henrietta, Texas, May 8, 2001 and Randleman, North Carolina, July 1, 2001*, HAR-03-03, July 15, 2003, at 52.

benefit of the rule. This allows the agency to limit potential safety benefits by explicitly excluding the 6,496 people who died from complete ejection in rollover crashes in 2007 as irrelevant. *Id.* at 22351. Rather than treating the rollover problem holistically, the agency has artificially compartmentalized rollover crashes into a series of separate, disparate occupant responses.

Dynamic Rollover Testing

Addressing rollover protection in a comprehensive way requires the agency to use a dynamic test that can simultaneously demonstrate rollover roof crush resistance and ejection prevention using multiple countermeasures for keeping occupants inside the passenger compartment and protected in their seats. A realistic dynamic test would simultaneously evaluate the interactive effects of active restraints with pre-tensioners and load limiters; passive protection such as air bags, door latch and retention component integrity; and the benefits of advanced glazing to reduce occupant excursion inside the passenger compartment and prevent ejection outside the compartment. In SAFETEA-LU Congress instructed the Secretary to consider dynamic tests because they more realistically duplicate the actual forces transmitted during a rollover crash, but NHTSA has not actually conducted any recent dynamic tests that would show how the roofs of passenger vehicles actually deform and fail in full rollovers.

This is startling in light of the agency's admission in the final rule that it regards a dynamic rollover test as crucially important. NHTSA decided years ago that major safety regulations such as side and front impact occupant protection must be based on a dynamic vehicle test. *Id.* at 22355. Eighteen years ago, Section 210 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) directed the Secretary to complete rulemaking consideration of a standard to protect against unreasonable risk of rollover. NHTSA's rulemaking ultimately rejected establishing a stability standard based on a dynamic rollover test. Eighteen years later, there are still passenger vehicles on the road that have a high risk of rollover crashes. Yet, the agency refrains from testing available dynamic test devices and refuses to set a timetable to produce a realistic dynamic vehicle test of rollover and roof crush.

Roof Crush Resistance Rule

The recent final rule on roof crush sets a standard of three times strength-to-weight ratio (3.0 SWR) for vehicles less than 6,000 pounds gross vehicle weight rating (GVWR), and, most outrageously, only 1.5 SWR for vehicles between 6,001 and 10,000 pounds GVWR. The new regulation tests no injury responses from occupants in rollover crashes with roof crush – in fact, it does not even use a crash dummy – and it continues to allow manufacturers to game the compliance test using a platen or plate on the roof to exert pressure that transfers much of the test load to the vehicle's B-pillars. Yet in real-world rollovers much of the force is exerted on the A pillar. NHTSA's argument that large, heavy passenger vehicles do not have many rollover crashes with roof crush, and that higher static strength requirements, such as 3.5 or 4.0 SWR that safety organizations supported as an alternative to a dynamic test, would cost too much and add weight up high in certain vehicles, simply do not withstand close examination.

NTSB has emphasized that heavier vehicles such as 12- and 15-passenger vans, not previously subject to the standard, experience serious patterns of roof intrusion. NTSB cited two investigations it conducted concerning the safety need for vehicles between 6,000 and 10,000 pounds gross vehicle weight rating (GVWR) to meet stronger roof crush resistance requirements. The NTSB report stated that, "[e]ven though these vans are used in a manner similar to passenger cars, the occupants are not afforded the same level of safety as those occupants riding in passenger cars." NTSB's Recommendations H-03-12 through H-03-17, issued in 2003, included findings stating that NHTSA's own research report showed that no passenger vehicles on the road today have a higher rollover propensity, especially when fully laden, than 12- and 15-passenger vans. The NHTSA roof crush final rule relegates the passengers of these vehicles to second-class safety protection and simply discards NTSB's findings and recommendations.

The roof crush final rule by the NHTSA's own admission is projected to save only about 130 lives a year, with only a handful of fatalities prevented for occupants of large SUVs, vans, and pickup trucks. A comprehensive approach to rollover protection that includes dynamic testing for roof crush resistance would save many more lives. The agency should develop a more comprehensive approach to rollover that, in addition to strong roof crush resistance, simultaneously produces requirements for air bags that stay inflated throughout the length of a rollover crash with many rollover turns, belt pretensioners that stay engaged throughout the length of a long rollover crash, belt load limiters that function repeatedly to mitigate excessive loads on an occupant's torso, seat systems that improve occupant retention in their seats, and advanced glazing to ensure that there is no partial or complete ejection from a vehicle in a rollover crash. The agency's rule on roof crush resistance graphically demonstrates its reluctance to use a systems-engineering approach to testing that would permit setting a comprehensive standard for rollover occupant safety as it has for frontal and side impact protection.

Electronic Stability Control (ESC)

SAFETEA-LU also directed the issuance of a rule to require electronic stability control (ESC) systems be installed on all passenger vehicles to reduce the occurrence of rollover crashes. ESC is a technology grafted onto basic anti-lock braking systems (ABS) that reduces loss-of-control incidents leading to vehicle instability. By automatically modulating the braking on each wheel independently, ESC helps the driver maintain steering control and, in turn, the stability of the vehicle and thereby helps to prevent rollover crashes.

The safety community regards ESC as an important safety advance and fully supported requiring ESC systems on all new passenger vehicles. However, even NHTSA admitted that despite the great potential for ESC to prevent a large portion of rollover crashes, ESC will not prevent all rollover crashes. The agency expects about a 30 percent reduction of passenger car fatal single-vehicle crashes and a 63 percent reduction of SUV fatal single-vehicle crashes with ESC onboard. Thus, a majority of fatal car rollover crashes will not be prevented and, at the very least, a large percentage of fatal SUV rollovers will not be avoided. Nevertheless, no action to prevent rollover is required aside from the installation of ESC systems.

NHTSA's final rule on ESC, issued in 2007, was flawed in several respects. 72 FR 17236 (Apr. 6, 2007). First, as mentioned, the final rule relied entirely on ESC as the only countermeasure to prevent rollover crashes, even for vehicles with high rollover rates. Second, the final rule basically accommodated every type of ESC system that was already in production, regardless of whether one system was more effective or less effective than another in assisting the driver in maintaining steering control to ensure vehicle stability. Not all ESC systems perform equally; but instead of setting rigorous performance requirements to ensure that the state-of-the-art technology is required going forward, the rule essentially "grandfathered" the available but less capable ESC systems. Third, the final rule failed to set a performance requirement for understeer, a crucial feature of ESC systems. In order to maintain control of a vehicle trying to follow a tightly curved road or negotiating a turn at an intersection, it is essential that the ESC system provide proper understeer control. Yet, the agency rule included no minimum requirement for ESC understeer control. Finally, the NHTSA rule permits the driver to simply turn off the ESC system by pushing a button. In many circumstances drivers who turn off the ESC system in their vehicle thinking they won't need it will not have the safety protection afforded by ESC to help prevent loss of tire traction and vehicle stability when the need arises.

The only way to further reduce rollover crashes is a strategy with multiple, interactive goals. First, require passenger vehicles, especially those that have higher rollover tendencies, to be designed with a lower center of gravity and other systems to make them more stable. Second, adopt a comprehensive regulatory response to occupant protection when rollovers nevertheless occur even with ESC. Third, amend the ESC standard to strengthen it by increasing the stringency of its requirements to eliminate less effective ESC systems, add a provision controlling understeer, and require that the ESC systems are automatically re-enabled a short time after they have been manually turned off.

Side Impact Protection

SAFETEA-LU also required an upgrade of the side impact standard (FMVSS No. 214). NHTSA issued the final rule in 2007. 72 FR 50900 (Sept. 5, 2007). Although the separate side impact standard for head protection, upper interior side impact (FMVSS No. 201) was subsequently modified to promote the use of upper interior air bags and curtains, neither standard prior to the 2007 final rule required passive protection to mitigate the severity of head impacts, and neither standard addressed the serious problem of occupant partial and complete ejection through side windows. Both standards could both be met simply through the use of such static materials as non-reboundable foam placed inside the roof perimeter and other static methods of reducing the severity of head impacts on vehicle support pillars.

In the final rule, NHTSA did effectively require side impact air bags for front seat occupants, but the rule is not demanding enough since, as the agency has admitted, small children and very short statured adults could still miss the inflated air bags and suffer partial or complete ejection. In addition, the final rule retained a less safe alternative test procedure for rear seat occupant safety. By using a low moveable deformable barrier, or MDB, test for rear seated occupants, the agency is permitting the continuation of less

effective static protection for rear seat passengers who are frequently children. This decision also effectively undercut the required use of upper interior side impact air bags in rear seating areas that could have helped to reduce occupant head injuries and ejections. Since NHTSA has not required advanced glazing in passenger motor vehicle side windows, this decision means that rear seat occupants have no real protection against being ejected through side windows or out of rear side doors.

The NHTSA rule also did not set lower head injury test scores for lateral impacts than for front impacts. Advocates recommended a lower head injury criterion (HIC) score for measuring lateral head trauma in its comments to the rulemaking docket. Since human heads suffer more severe trauma when the side of the head is struck, the side impact rule should have taken this fact into account. In addition, the final rule does not require that doors remain closed when they are struck in the pole test, a serious setback for increasing occupant ejection protection in side impacts. NHTSA has recognized this drawback in several public documents.

Ejection Prevention

Turning now to the remaining SAFETEA-LU rule that has not yet been issued, Congress directed NHTSA to reduce both complete and partial ejections of vehicle occupants in outboard seating positions. The agency has yet to issue a proposed rule even though the statutory date for issuing a final rule, October 1, 2009, is less than six months from now.

Although what specific actions NHTSA is contemplating in establishing an ejection prevention standard are not known as yet, SAFETEA-LU links the issuance of an ejection standard to the concurrent need for door lock and retention component rulemaking. NHTSA estimates that about 54,000 people are ejected from passenger motor vehicles each year, with about 15 percent of the ejections occurring through open doors, resulting in more than 2,500 fatalities each year.[5] NHTSA has expressed concern about door latch integrity, proposed upgrading the requirements in the past, and has even admitted that its major standards using dynamic compliance tests paradoxically allow doors to open so that occupant ejection is permitted.[6] Yet, NHTSA has done nothing to address the thousands upon thousands of deaths that have occurred over the years because the agency has delayed in addressing the crucial issue of failed door latches and hinges.

Similarly, NHTSA has done nothing as yet to propose other, interacting countermeasures to prevent ejection, especially the use of advanced glazing. Many people are not aware that occupant retention glazing was actually used on a regular basis in passenger motor vehicle side windows from the late 1930s until the early 1960s. Then, as an apparent cost saving measure, vehicle manufacturers phased out laminated side window glass in favor of using cheaper tempered glass. Advanced glazing was shown to prevent occupant ejection as long ago as tests conducted by Ford in 1960.[7] Moreover,

[5] file:///G:/DOCS/Door%20Latch%20Integrity_2,513EjectionDeathsEachYear1988-1996.htm.

[6] *Evaluation Program Plan*, DOT HS 810 903, NHTSA, Aug. 2008, at 26.

[7] *See*, comments of Syson-Hille and Associates, Nov. 7, 2000, to Docket No. NHTSA-2000-7066.

NHTSA's Experimental Safety Vehicle (ESV) program had an occupant retention requirement for rollovers. The ESVs had fixed laminated side glass to prevent ejections.

In the past, NHTSA has been very positive regarding the use of advanced glazing as an anti-ejection safety countermeasure. In 2000, the agency emphasized that tens of thousands of passenger vehicle occupants were ejected through glazed portals each year resulting in an average of 7,300 deaths annually. 65 FR 44710-11 (July 19, 2000). About 60 percent of rollover crash deaths each year occur in just 10 percent of rollover fatal crashes that result in partial or complete occupant ejection. NHTSA estimated that anti-penetration glazing could save between 500 and 1,300 lives a year in both rollovers and other types of crashes. *Id.* at 44711.

Advocates filed comments with the agency and stressed that advanced glazing should be integrated with a comprehensive, systems engineering approach to occupant ejection prevention:

> NHTSA needs to coordinate the development of advanced glazing with the contribution of seat belt use rates, the advantages of various types of advanced glazing, and the deployment of inflatable upper interior side-impact safety devices in both side-impact and rollover crashes. In addition, as the agency indicates earlier in this notice, it needs simultaneously to integrate the lifesaving benefits of these anti-ejection strategies with the safety performance of improved door latches.[8]

Congress directed the agency to complete its investigations and issue a final report on the advantages of advanced glazing.[9] *See*, 67 FR 41365, 41369 (June 18, 2002). NHTSA subsequently filed a report with Congress in November 2001 touting the benefits of advanced glazing that were enhanced by mating anti-ejection glazing with side impact air bags.

But not only has NHTSA still not embraced a systems approach to preventing ejection that would apply multiple countermeasures to ensure a fail-safe anti-ejection regulation, the agency did a complete turnabout in its support for the widespread use of advanced glazing to prevent ejections. NHTSA withdrew its advance notice of proposed rulemaking (ANPRM) in June 2002 that would have set advanced glazing regulatory requirements (67 FR 41365, June 18, 2002). The reasons given by the agency were conclusory and vague, with references to "the advent of other ejection mitigation systems, such as side air curtains" – which the agency already had investigated earlier in their performance relationship to advanced glazing for occupant ejection prevention. The agency also asserted that window frames on vehicles would have to be made smaller and result in smaller side windows. *Id.* at 41367. This does not appear to be a problem for Volvo, Mercedes Benz, Peugeot, Audi, Chrysler, and BMW, which are phasing in laminated side glass in side and rear windows for multiple reasons, including occupant ejection prevention.

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[8] Comments of Advocates for Highway and Auto Safety, Docket No. NHTSA-2000-7066, at 4 (footnote omitted).

[9] House of Representatives Conference Report on H.R. 4475, Department of Transportation and Related Agencies Appropriations Act of 2001.

None of NHTSA's claims rejecting advanced glazing bear close examination, and there is really no support for these generalizations.[10] In addition, as discussed below in our testimony, NHTSA's interest in advanced glazing has again done a turnaround, with renewed enthusiasm for the use of advanced glazing in motorcoach side windows to prevent passenger ejections in rollover, a leading reason for the annual toll of motorcoach occupant deaths and serious injuries.

It must be stressed that roof strength and the resistance of window portals to deformation is affected by how well side window and windshield glazing helps prevent roof distortion, collapse, and intrusion so that survival space is increased for occupants in rollover crashes while, simultaneously, the use of advanced glazing can prevent a shattered side window that leads to occupant ejection from the vehicle. Strangely enough, NHTSA recognizes this because in the final rule on roof crush resistance, the agency specifies that side windows are to be rolled up, an action that, even with tempered glass, provides some measure of additional resistance to roof crush and intrusion. The only problem, of course, is that people often have windows rolled down so that roofs in full rollovers with lowered side window glazing may have poorer resistance to roof failures leading to massive head trauma for occupants.

We hope that the upcoming rule on ejection prevention and mitigation will include a performance requirement that will encourage a combination of airbag and advanced glazing technologies that will afford maximum safety benefits to occupants.

Needed Safety Initiatives for Reauthorization

Walking and Bicycling Safety

Pedestrians and bicyclists are the forgotten victims of motor vehicle crashes, with more than 5,300 deaths each year and many thousands of injuries that are often permanently debilitating.[11] Pedestrians struck by motor vehicles is a rapidly growing safety and health problem that is outstripping population growth because, with each succeeding year, a greater proportion and number of U.S. pedestrians are older citizens whose vulnerability to lethal and crippling injuries is much higher than that of younger people.[12] Seniors on foot are more at risk than ever before when attempting to cross a street.[13] As age increases above approximately 65 years, pedestrians struck by motor vehicles often suffer lethal or severe and disabling injuries in collisions that result in only moderate and recoverable

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[10] *See, e.g.*, S. Batzer, *Automotive Side Glazing for Occupant Containment in Rollovers*, The Engineering Institute, Washington, DC, July 20, 2007.

[11] *Traffic Safety Facts 2007, Early Edition*, DOT HS 811 002, NHTSA (2008); *Motor Vehicle Traffic Crash Fatality Counts And Estimates of People Injured for 2007*, NHTSA (Aug. 2007); *Pedestrian Roadway Fatalities*, DOT HS 809 456, NHTSA (April 2003).

[12] *See, e.g.*, M. Bradley *et al.*, "Injury Profiles in Pedestrian Motor Vehicle Trauma," *Annals of Emergency Medicine* 18:8 (1989, rev. 2005).

[13] In 2000 there were more than 35 million people in the U.S. age 65 or more, but this number is projected to rise to more than 71 million by 2030. U.S. Census Comparison Projected Growth Older Population 1970/2030.

trauma for younger people. Encouraging adults to leave their cars at home and children to walk more should not increase their risk of death and injury from being struck by a vehicle. NHTSA needs to take actions that improve the chances of survival when pedestrians and bicyclists are struck by motor vehicles.

NHTSA conducted research on pedestrian protection as part of the Research Safety Vehicle program in the 1970s, and persuaded vehicle manufacturers to install flexible hood ornaments if they insisted on using them. Today few use them.

The agency began formal consideration of modifying the front ends of passenger motor vehicles to accommodate pedestrian safety in 1991. The agency considered adopting countermeasures to reduce the severity of injuries when pedestrians are struck in the lower extremities and suffer head trauma when impacting rigid areas of vehicle. This effort was dropped a few years later. As a consequence, there is currently no specific pedestrian safety standard that addresses reduction of trauma severity for passenger motor vehicle frontal impacts with pedestrians. In addition, there is no anthropomorphic test device, or crash test dummy, in NHTSA's safety regulations or in the agency's New Car Assessment Program (NCAP) that is used to accurately model and measure the injury response to blunt trauma inflicted by motor vehicles when impacting pedestrians.

In recent years, NHTSA has participated in the development of a Global Technical Regulation (GTR) addressing pedestrian impact safety. In November, 2008, NHTSA supported the adoption of a exceptionally weak regulation that uses an abbreviated approach to testing pedestrian injury responses, does not use a full anthropomorphic test device developed for pedestrian impact testing, and does not protect pedestrians from injuries inflicted by the upper portion of passenger vehicle front ends, particularly the part of fenders near the windshield, the cowl, A-pillars, and windshield framing.[14] Although there was some earlier consideration of the need to ensure that pedestrian impact safety countermeasures also provide protection to cyclists when struck by passenger vehicles, this important safety action was discarded and was not part of the final GTR. This Economic Commission for Europe (ECE) approach has been heavily criticized as an incomplete safety initiative that falls short of what is needed, including adverse critiques in peer review journals authored by members of the GTR Working Group.[15]

In contrast, Japanese carmakers have advanced the state of the art in pedestrian safety for the past several years, especially Honda, which has several models with sophisticated pedestrian front-end safety features. Honda has also produced several iterations of pedestrian full crash dummies to reproduce actual injury responses of people struck by light vehicles. Also, the Japan New Car Assessment Program (JNCAP) has

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[14] ECE/TRANS/WP.29/107018, December 2008.

[15] *See, e.g.*, J. Crandall, K. Bhalla, M. Madeley, "Designing Road Vehicles for Pedestrian Protection," British Medical Journal 324:1145-1148 (May 11, 2002); J. Breen, "Protecting Pedestrians," British Medical Journal 324;1109-1110 (March 30, 2005). Also, *see*, Comments of Advocates for Highway and Auto Safety, October 22, 2008, Docket No. NHTSA-2008-0145, N01, 73 FR 55201 (Sept. 24, 2008).

already introduced pedestrian head injury measures as part of its test regime to show how well Japanese cars protect pedestrians from serious injury and death.[16]

It is clear that the U.S. is lagging far behind in enhancing pedestrian protection in motor vehicle collisions. In light of future trends toward more pedestrian traffic and bicycle use, the U.S. can no longer await action on pedestrian safety from NHTSA. Congress should instruct the agency in no uncertain terms that pedestrian impact safety improvements are necessary and that the agency must act decisively to issue pedestrian safety regulations that will create more "forgiving" light vehicle front ends. Regulations that foster gentler impacts with passenger motor vehicle front ends will substantially reduce pedestrian – and cyclist – deaths while also lowering the severity of injuries, especially for our rapidly growing older population.

Vehicle Crash Compatibility

As our nation comes to grips with environmental concerns, energy costs and fuel conservation, there will be an inevitable impact on how and what we drive. Fuel efficiency and the need to reduce emissions of greenhouse gases by motor vehicles will reshape the vehicle fleet as lighter, alternatively-fueled vehicles are produced to meet these challenges and consumer demand. The economic viability of our own domestic auto industry may well depend on producing fuel efficient vehicles that are lighter than most makes and models in the current vehicle fleet. This trend will underscore an already troubling safety problem – the lack of crash compatibility between larger and lighter motor vehicles. As consumers choose more fuel efficient vehicles, we need to ensure that safety measures are in place to protect occupants of every vehicle size and that the choice of a more environmentally friendly passenger vehicle is not accompanied by a major safety penalty for the buyers.

It is inevitable that if we are to seriously address global warming and fuel economy concerns, newer fuel efficient vehicles will be produced. Even if U.S. manufacturers maintain old production patterns of larger vehicles for the near future, European, Japanese and other imports will most likely include smaller, fuel efficient models. Consumers want to purchase more fuel efficient cars and requiring safety standards that address crash compatibility will level the playing field for domestic and foreign manufacturers.

The fact is that occupants in some lighter vehicles are generally at a safety disadvantage when struck by a larger vehicle. This mismatch has everything to do with the design of vehicles, because the problem results from differences in design between different size passenger vehicles, including vehicle geometry, height (clearance above the roadway), front-end design features, energy absorption features, and gross vehicle weight. We experienced an explosion of this safety problem as the population of light trucks (sport utility vehicles or SUVs and pickup trucks) increased as a percentage of the vehicle fleet in the late 1980s and 1990s. As more, larger and lighter vehicles were produced the mismatch became pronounced and took its toll on occupants in lighter vehicles. By 1993 the number

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[16] *See, e.g.*, K. Takeucki, T. Ikari, "The Correlation Between JNCAP Pedestrian Head Protection Performance Test and Real-World Accidents," Paper No. 07-0203-O, 20th International Technical Conference on Enhance Safety of Vehicles, Lyon, France, June 2007.

of fatalities in crashes between light trucks and cars (5,751) exceeded the total of fatalities in car-to-car collisions, with the occupants of the cars suffering 4 out of 5 – 80 percent – of those fatalities.[17]

To date, NHTSA has not conducted rulemaking to propose effective countermeasures that can substantially reduce the lethal force imparted by larger vehicles when they impact lower and lighter vehicles. Unless the NHTSA takes measures to address the crash compatibility safety problem, we will suffer the same problem of unnecessary deaths and injuries again, as more fuel efficient vehicles become popular. It is indefensible that consumers who want to do the right thing – reduce their carbon footprint and travel in fuel efficient vehicles – should have to place their lives and the lives of their families at increased risk because there is no federal crash compatibility safety standard.

Motorcoach Safety

Motorcoaches are the over-the-road regional passenger airliners of America's highways, carrying up to 59 occupants on board for a given trip. In 2006, there were more than 630 million passengers taking trips in motorcoaches, according to the American Bus Association, almost as many passenger trips as U.S. commercial airlines carried that year. FMCSA reports that 3,700 interstate motorcoach companies are registered with the agency and are operating more than 34,000 motorcoaches.[18] Many thousands of other motorcoaches operate wholly in intrastate commerce. Passenger ridership is projected to substantially expand in the near future given expected increases in the cost of commercial airline travel and increasing flight delays. In fact, each year the number of new interstate-registered motorcoach companies increases by about 900.

Motorcoach crashes can easily result in many deaths and severe injuries, such as the Bluffton University crash in Atlanta, Georgia, on March 2, 2007, where a motorcoach plunged over a bridge deck to the road below, ejecting many of the university baseball team players and coaching staff on board and resulting in the deaths of the driver, his wife, and five students. Twenty-one other occupants were injured.[19]

Despite these harrowing losses, the U.S. Department of Transportation (DOT) does not require that motorcoaches have the same basic occupant protection safety features that are routinely designed into passenger motor vehicles. There are fewer NHTSA safety standards for motorcoaches than for any other motor vehicles regulated by the agency.[20] Motorcoaches lack critical safety features such as; seat belts; passenger seat strength standards; occupant interior impact protection; anti-ejection measures such as advanced glazing; adequate roof strength standard; rollover prevention requirements; automatic fire suppression systems; adequate on-board firefighting equipment; and interior emergency

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[17] *Relationship of Vehicle Weight to Fatality and Injury Risk in Model Year 1985-93 Passenger Cars and Light Trucks, NHTSA Summary Report*, DOT HS 808 569, NHTSA (April 1997).

[18] http://www.fmcsa.dot.gov/facts-research.

[19] *Motorcoach Override of Elevated Exit Ramp Interstate 75 Atlanta, Georgia, March 2, 2007*, HAR-08/01, July 8, 2008.

[20] George Mouchahoir, *Review of Motorcoach Regulations*, NHTSA, April 2002.

illumination of safe evacuation paths. Yet, seat belts are now required on European, Japanese, and Australian motorcoaches.[21] Australia responded to the need to restrain motorcoach occupants and keep them in their seats and prevent their ejection by mandating seat belts 15 years ago. Since that mandate was issued, not a single death or disabling injury has occurred in an Australian motorcoach crash for any belted occupant.[22] Australia also produced a much safer and less expensive motorcoach seat design despite the protests of the industry that it was impossible to improve the safety of motorcoach seats without adding lots of extra weight that would cost the industry fuel and payload penalties.[23]

Rollovers are the most common type of severe motorcoach crash and produce the most severe occupant trauma. These crashes are often catastrophic, with roof failures that can even involve complete roof separation, as occurred in a crash and rollover in which nine passengers were killed near Mexican Hat, Utah, on January 7, 2008, and 51 of the 53 passengers ejected. According to a recent research report from NHTSA, more than half the deaths in motorcoach crashes are the result of occupant ejection from the vehicle, and ejection is the reason for 70 percent of occupant deaths in motorcoach rollovers.[24]

Motorcoach fires have grown both in numbers and severity in recent years. There are daily media reports of motorcoach fires occurring somewhere in the U.S. Fires on motorcoaches, especially in wheelwells, engine compartments, and heating/cooling systems are an especially severe and prevalent safety problem whose proportions just became known as the result of a Volpe Transportation Center study[25] whose findings were presented at the Commercial Vehicle Safety Alliance (CVSA) Safety Summit, in March 2009. CVSA convened the safety summit because of the rapidly growing concern over the ongoing deterioration of motorcoach safety in the U.S. The Volpe study found that there was an average of more than one fire every day on a motorcoach in the U.S. On September 23, 2005, near Wilmer, Texas, a fire on board a motorcoach transporting retirement home residents evacuated due to Hurricane Rita, resulted in 23 fatalities.[26]
Current standards for combating the ignition and spread of fires on motorcoaches are wholly inadequate.

The deplorable state of motorcoach safety standards has been documented by the National Transportation Safety Board (NTSB) in nearly 70 motorcoach investigations over a span of 40 years that resulted in hundreds of deaths and thousands of injuries and numerous recommendations to U.S. DOT that have been ignored. In some of these incidents more than 20 people on board

[21] European Union (EU) Directive 2003/20/EU, May 2006; Japanese seat belt policy implemented June 2008; Australian Design Rule 68, July 1994.

[22] M. Griffiths, M. Paine, R. Moore, "Three-Point Seat Belts on Coaches – The First Decade in Australia," Abstract ID 05-0017, n.d.

[23] *Id.*

[24] *NHTSA's Approach to Motorcoach Safety*, Docket No. 2007-28793, Aug. 6, 2007.

[25] *Bus Fire Causation Study*, Volpe National Transportation Systems Center, 2009.

[26] *Motorcoach Fire on Interstate 45 During Hurricane Rita Evacuation Near Wilmer, Texas, September 23, 2005*, NTSB HAR-01-01, Feb. 21, 2007.

were killed in a single crash or fire. NTSB has issued dozens of recommendations over the years addressing all aspects of motorcoach safety, including crash protection of occupants, crash avoidance capability especially regarding catastrophic single-vehicle events involving rollovers, resistance to fire propagation and spread, and many other issues touching on motorcoach safety design, performance, and operation. NTSB's recommendations have either been closed out because of unsatisfactory responses, incomplete responses, or no responses from U.S. DOT agencies.

In recent years, Congress has held a series of hearings on motorcoach safety issues and the lack of action by DOT to improve motorcoach safety because of its rapidly growing concern that motorcoach safety in the U.S. was adrift and that the agencies of jurisdiction were not doing their job to dramatically improve occupant safety. In the House, the Transportation and Infrastructure Committee hearings were held on *Curbside Operator's Bus Safety*, by the Subcommittee on Highways, Transit and Pipelines on March 2, 2006, and on *Motorcoach Safety*, by the Subcommittee on Highways and Transit on March 20, 2007. In the Senate, the Commerce, Science and Transportation Committee, Subcommittee on Surface Transportation and Merchant Marine Infrastructure, Safety, and Security held an *Oversight Hearing on Bus Safety*, on September 18, 2008. Testimony at those hearings presented many of the safety issues already cited by NTSB, safety groups and crash survivors.

Recently, on April 21, 2009, NTSB took action in response to the catastrophic rollover crash in Mexican Hat, Utah, which resulted in nine deaths, and 51 of 53 occupants ejected from the coach. NTSB took the unprecedented action of revising its Most Wanted list of safety improvements before the traditional annual revision date in October. Moreover, the NTSB unanimously found that NHTSA's inaction on improving motorcoach safety contributed to the deaths and injuries suffered by the occupants of the Mexican Hat rollover crash. The Board stated at the public hearing that NHTSA had failed to provide adequate occupant protection systems for passenger in motorcoach crashes, especially rollover crashes.[27] In addition, NTSB reclassified NHTSA's action on four previous recommendations, H-99-47 through H-99-51, as unacceptable and revised its recommendations on its Most Wanted list from yellow, meaning slow but acceptable progress, to red, indicating that the agency's responses and actions are unacceptable.

NHTSA has embarked on a program of research and testing to respond to the sense of urgency about dramatically improving motorcoach safety that NTSB has emphasized in its recommendations to the agency.[28] To date, the agency has filed in its motorcoach safety research docket several reports on how well motorcoaches respond to a rollover test, a roof crush test, and a frontal barrier test.

Advocates strongly supports the test and findings of NHTSA's frontal crash test, which is quite stringent, because it definitively shows that traditional motorcoach industry claims that passengers are safe because they are "compartmentalized" and protected like eggs in an egg crate, are just not true. Unbelted test dummies were thrown from their seats in the frontal crash test and ended up either in a jumbled pile in the central motorcoach aisle, or were propelled into or over the seatbacks in front of them. Dummies with two-point seat belts suffered what were recorded as severe injuries. But dummies with three-

[27] HAR 09/01 Synopsis, NTSB, April 2009.

[28] "NHTSA's Approach to Motorcoach Safety," *op cit.*

point belts (including shoulder straps) were properly restrained in their seats and suffered low injury forces.

The other two tests conducted by NHTSA, however, are weak and not acceptable. One of the tests is how a motorcoach suffers structural damage in a rollover. The test is an adaptation of the current EU test that simply topples a motorcoach from a one-meter high platform onto the ground. The test results show levels of damage that are far milder than those often suffered by motorcoaches in real-world catastrophic rollover crashes. As indicated above, the Mexican Hat motorcoach crash resulted in the entire coach roof ripped from the chassis. In addition, none of the windows broke in NHTSA's rollover test, in contrast to most actual motorcoach rollover crashes in which some or all of the windows shatter and unbelted passengers are then ejected through large side window openings. NHTSA says that it will separately test how glazing performs with a component test using a lateral impactor, but this is not a real-world demonstration of how a motorcoach roof and sides distort to facilitate glazing failure that results in large, open portals allowing passengers to be ejected. Once again, as with passenger vehicle rollover, NHTSA chooses to artificially separate the tests of crucially important safety features that in the real world perform in a complex, interactive manner in actual rollover crashes. This rollover test approach, and the agency's use of a component test for motorcoach side window glazing, can lead to weak safety standards that will not adequately protect motorcoach occupants in rollover crashes.

Since the rollover test used so far by NHTSA does not really demonstrate roof crush resistance, the agency has adapted a decades-old school bus roof crush test (FMVSS No. 220) that is too outdated and much too weak for use in testing motorcoach roof strength. Standard No. 220 only requires a 1.5 SWR for compliance, the same inadequate strength level of the standard that NHTSA has just changed for passenger motor vehicles less than 6,000 pounds GVWR, but will now be required for heavier passenger vehicles above 6,000 pounds GVWR. The school bus roof strength test is just as weak as the agency's chosen rollover test – it again does not show how motorcoach roofs resist crush and intrusion in real-world, on-roof rollover crashes.[29]

Congress needs to direct NHTSA to address real-world motorcoach safety needs across the board – both crashworthiness and crash avoidance – and respond vigorously to outstanding NTSB safety recommendations on motorcoach safety. A legislative vehicle already exists that, if enacted, will accomplish these goals. Motorcoach safety bills containing detailed, comprehensive occupant protection and motorcoach crash avoidance reforms have been introduced in both houses of Congress. H.R. 1396 and S. 554, the Motorcoach Enhanced Safety Act of 2009, sponsored by Rep. John Lewis (D-GA) and Sen. Sherrod Brown (D-OH) and Sen. Kay Bailey Hutchison (R-TX), direct NHTSA and the Federal Motor Carrier Safety Administration (FMCSA) to adopt several regulations addressing major safety improvements for occupant and operating safety that are long overdue and critically important. These two bills reflect a growing consensus among the NTSB, safety advocates, families that have suffered terrible losses of loved ones in

[29] In fact, NHTSA did not complete the weak roof crush test that it used on motorcoaches even to the 1.5 SWR level because the test device the agency used was inadequate.

disastrous motorcoach crashes and members of Congress that U.S. DOT has failed to advance motorcoach safety in a timely fashion. Enactment of this legislation is crucial to ensure that DOT does not delay any longer. The lives of our children and other family members are at stake.

Electronic On-Board Recorders (EOBRs)

The recent Mexican Hat, Utah motorcoach crash represented another, catastrophic example of commercial driver hours of service violations that occur every day in the U.S. because motorcoach and truck drivers are pushed to fulfill unrealistic schedules that result in chronic fatigue and sleep deprivation. Motorcoach and truck drivers are a danger to themselves and everyone sharing the road with them when they push themselves beyond acceptable limits to keep driving hour after hour. Their records of duty status are allowed by the U.S. DOT to be compiled in handwritten logbooks, usually referred to by drivers themselves as "comic books" because they are so regularly falsified to conceal violations of maximum on-duty driving and working hours, and of minimum off-duty rest time.

Without EOBRs, drivers can continue to manipulate their logbooks to conceal excessive driving time and inadequate off-duty rest time. It is often difficult for law enforcement officers and truck inspectors to determine hours of service violations using only driver logbooks and receipts.

NTSB has called for EOBRs to be placed on-board commercial motor vehicles for many years. In fact, NTSB has the need for EOBRs on its Most Wanted list of necessary safety improvements for commercial motor vehicles, and it has listed the federal response to this recommendation as Code Red – Unacceptable.[30]

EOBRs are crucially needed to monitor and record how many hours commercial drivers, including motorcoach drivers, are operating their vehicles. This is especially important for truck drivers whose hours of service have been dramatically increased by final rules issued by FMCSA since 2003 that the agency has refused to modify despite being overruled and remanded twice in unanimous decisions by the U.S. Court of Appeals. To date, DOT has taken no action to require EOBRs on board commercial motor vehicles. NHTSA is the agency with jurisdiction to issue equipment standards for all new motor vehicles including motorcoaches and trucks. In addition, for nearly a decade, NHTSA has also had jurisdiction to issue a retrofit requirement for safety equipment when it issues a similar standard for new vehicles.[31]

Event Data Recorders (EDRs)

Event Data Recorders (EDRs) are another safety technology, distinct from but complementary with EOBRs that capture and store critical data about pre-crash vehicle

[30] http://www.ntsb.gov/Recs/mostwanted/highwayissues.htm.

[31] 65 FR 41014 (July 3, 2000) ("This rule . . . reflect[] the Secretary's decision to now delegate to the National Highway Traffic Safety Administrator the authority to promulgate safety standards for commercial motor vehicles and equipment already in use when the standards are based upon and similar to an FMVSS [federal motor vehicle safety standard] promulgated under chapter 301 of title 49, U.S.C.").

maneuvers and other engine and vehicle dynamics in the event of a crash. Like the "black boxes" on airliners, EDRs store information vital to investigators who want to identify the causes of crashes and to researchers attempting to determine how to improve motor vehicle crash avoidance and crashworthiness.

NTSB has repeatedly voiced its support for EDRs in motor vehicles and held a symposium a decade ago devoted entirely to EDRs and their benefits.[32] NTSB crash investigations conducted in subsequent years also contained findings that confirmed the need for EDRs to capture crucially important pre-crash data to aid crash investigation and reconstruction. NTSB has been especially interested in EDR data on seat belt use.

NHTSA has already issued a rule for passenger vehicles and light trucks that specifies a uniform minimum data set, at least 5 seconds of pre-crash recordation of the required data set and data survivability requirements. However, the agency did not mandate installation of EDRs in all light vehicles, but merely required that the rule apply to all EDRs voluntarily installed by manufacturers. 71 FR 50998 (Aug. 28, 2009).

In the rule, NHTSA rejected many ideas that would have improved the safety value of EDRs. The agency pared down to the bare minimum the categories of data that must be captured rejecting the recommendations of safety organizations for a much more comprehensive, richer data set that would feed back into agency research and rulemaking to improve both the crash performance and the crash avoidance of motor vehicles. Some of the data parameters recommended by Advocates addressed major vehicle safety performance areas, such as information on the prospective use of side impact air bags, for example.

The agency further reduced the benefits of EDRs in the regulation by limiting the required data categories for EDRs only in motor vehicles less than 8,500 pounds GVWR, essentially exempting 15-passenger vans, one of the most rollover-prone vehicles on the road today, from being subject to the voluntary EDR rule. Finally, NHTSA did not even contemplate extending requirements for EDR data categories to commercial motor vehicles. If EDRs were required on all motor vehicles, NHTSA would have far more relevant and objective vehicle crash data available, at a far lower cost, on which to base decisions about rulemaking and distribution of agency resources.

Both EOBRs and EDRs are crucially important safety technologies that Congress should require NHTSA to specify, EOBRs for commercial motor vehicles and EDRs for all motor vehicles. NHTSA should be directed to require EOBRs not only in newly manufactured commercial motor vehicles, but also to require their installation in existing commercial motor vehicles already in operation.

Inadequate Resources for NHTSA's Vehicle Safety Program

Safety program activities at NHTSA have been chronically under funded for many years. Although motor vehicle crashes account for 95 percent of all surface transportation

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[32] *International Symposium on Transportation Data Recorders*, NTSB, May 3-5, 1999.

fatalities, and 99 percent of all surface transportation injuries, the agency receives just over one percent of the overall DOT budget. However, the lion's share of NHTSA's budget, nearly 75 percent, is directed for State Highway Safety Grants and cannot be used by the agency to fund its operations and research and motor vehicle standards-setting. Key agency activities that are essential to develop the basis for future policies and rules, such as data collection for FARS and the National Automobile Sampling System/Crashworthiness Data System (NASS/CDS) – the preeminent U.S. databases for fatalities and crash and injury information, crash investigations and biomechanics research – survive on a shoestring budget and have been starved of adequate funds for the past two decades. Areas of increasing concern, such as the oversight of importation of equipment built overseas, requires expanded resources to ensure that safe practices are followed and unsafe products are weeded out. The safety performance or rulemaking office gets by with a minimal budget, below $20 million, even though it is responsible for all major safety rulemakings and the corporate average fuel economy (CAFÉ) rules, as well. Last year, $3.3 million in agency funds had to be reprogrammed, with the permission of Congress, to meet realistic safety performance program needs.

As a result, NHTSA is unable to be proactive and solve safety problems before a crisis develops. Lack of personnel and resources all too often leaves NHTSA in the position of being caught off guard by a crisis and being relegated to playing catch-up. This occurred when the failure of Firestone tires on Ford Explorer SUVs resulted in severe rollovers, events that resulted in the enactment of the Tire Recall, Enhancement, Accountability and Documentation (TREAD) Act, Pub. L. 106-414 (Nov. 1, 2000). Just as the nation expects the Consumer Product Safety Commission (CPSC) to be well funded in order to look after and protect consumers, and that the Food and Drug Administration (FDA) has the resources it needs to protect the nation's food supply from contamination, a well-funded federal vehicle safety administration is essential to ensure that we can bring the annual highway traffic death toll below the 40,000 fatality mark on a permanent basis. Even small investments in NHTSA's operations and research budget, especially the vehicle safety activities, will reap gigantic rewards in saving lives and health care dollars.

Conclusion

For over 20 years the surface transportation authorization bills have advanced and accelerated adoption of important safety programs, policies and standards that have prevented thousands of highway deaths and injuries. This bill is no exception. There is still an unfinished highway and auto safety agenda that needs to move forward to complement and complete our other important national goals on health care, the environment, a sound economy, and mobility. The House Energy and Commerce Committee, with jurisdiction in all of these areas, has a unique opportunity in this authorization bill to significantly advance essential safety protections for the public whether the travel mode is a car, a motorcoach, a truck, a bike or on foot. We look forward to working with you and your staff in developing that safety roadmap and providing adequate resources to NHTSA so that we can achieve significant reductions in deaths and injuries and health care costs. Thank you for the opportunity to testify today.

Motorcoach Enhanced Safety Act

S. 554 and H.R. 1396

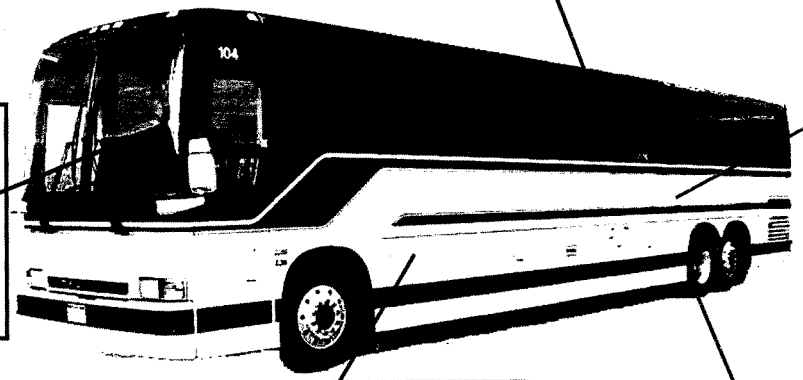
Requires DOT Action to Implement NTSB Safety Recommendations-
Recommendations That Have Languished for Decades

Occupant Protection:

- Advanced window glazing to prevent passenger ejection
- Lap/shoulder seat belts at all seating positions to keep passengers in their seats and in the motorcoach
- Better passenger compartmentalization to protect in a crash
- Improved occupant protection to reduce injuries from impacts with surfaces inside the motorcoach
- Stronger roof standard to prevent crush and intrusion in a crash

Motor Carrier Oversight:

- Systematic safety reviews, ratings, and audits of motorcoach companies



Safe Drivers :

- Physical fitness oversight and medical certification of motorcoach drivers
- Stricter CDL testing requirement
- Driver training standard

Fire Safety :

- Built-in automatic fire suppression systems to limit spread of fires
- Improvements to suppress fuel-system fires
- Better equipment to fight fires effectively
- Updated emergency exit designs and interior lighting to expedite passenger evacuation

Safety Technology:

- Added stability technology to prevent motorcoach rollover
- Enhanced conspicuity to make motorcoaches more visible to other highway users
- On-board recorders to enforce federal driving limits and reduce driver fatigue
- Event data recorders to monitor and record vehicle operations, events and incidents
- Adaptive cruise control to provide collision warning and braking

Tire Safety:

- Tire pressure monitoring that performs at all speeds, on all surfaces, and during all weather conditions
- Performance standards for retreaded tires

MOTORCOACH CRASHES & FIRES May 2009

DATE	LOCATION	DESCRIPTION
5-03-09	**Winona County, MN**	2 motorcoaches carrying Winona County DARE students from a Minnesota Twins game collide – 2 hospitalized and dozens injured.
5-03-09	**Montgomery, AL**	Motorcoach carrying 29 passengers, mostly children, catches fire after brake defect.
5-02-09	**Perris, CA**	Motorcoach carrying 28 people aboard crashes returning from Cinco de Mayo activity sponsored by city of Colton- all 28 injured.
4-27-09	**Lincoln, AL**	Motorcoach crashes after tire blows out – 21 injured.
4-07-09	**Near Franksville, WI**	Motorcoach catches fire and causes major back-up along I-94.
4-03-09	**Round Rock, TX**	Motorcoach carrying 42 high school band students crashes - 2 injured.
3-30-09	**Millard County, UT**	Motorcoach carrying 52 high school choir students crashes - 4 injured.
3-27-09	**Franklin County, GA**	Motorcoach carrying 40 University of New Hampshire college students catches fire after tire blows out.
3-05-09	**Maysville, NC**	3 Motorcoaches carrying 59 U.S. Marines in chain-reaction crash - 14 injured.
2-19-09	**Beckett, MA**	Motorcoach carrying minor league hockey team crashes - 5 injured.
2-15-09	**West Haven, CT**	Motorcoach rear-ends another motorcoach - 128 minor injuries.
2-07-09	**Honolulu, HI**	Motorcoach strikes and kills pedestrian standing at a marked crosswalk.
2-04-09	**Belleplain, NJ**	Motorcoach rear-ends box truck.
1-30-09	**Dolan Spring, AZ**	Motorcoach carrying Chinese tourists crashes near Hoover Dam - 7 killed/10 injured.
1-23-09	**Near Donegal, PA**	Motorcoach carrying tourists catches fire after tire blows out along PA turnpike.
12-26-08	**Corona, NM**	Motorcoach crashes in inclement weather - 2 killed/others injured.
12-19-08	**Seattle, WA**	Motorcoach carrying 80 young adults crashes through guardrail - minor injuries.
10-05-08	**Williams, CA**	Motorcoach traveling to casino resort crashes - 9 killed/35 injured.
8-10-08	**Primm, NV**	Motorcoach crashes after tire failure - 29 injured.
8-10-08	**Tunica, MS**	Motorcoach crashes and roof collapses during rollover - 3 killed.
8-08-08	**Sherman, TX**	Motorcoach carrying 55 Vietnamese-American pilgrims crashes after blowing a tire, skidding off of highway, and hitting guardrail - 17 killed/40 injured.
5-11-08	**Mount Vernon, MO**	Motorcoach tour bus carrying gospel singer crashes – gospel singer killed/7 injured.
1-17-08	**Primm, NV**	Motorcoach crashes and catches fire - 25 injured.
1-07-08	**Mexican Hat, UT**	Motorcoach carrying 51 passengers ran off curvy road, rolled several times, and the roof was split open. The tires were stripped off. Passengers were thrown from the bus. The contributing factor was the driver's negotiation of the turn - 9 killed.
1-02-08	**Victoria, TX**	Motorcoach crashes probably due to driver fatigue - 1 killed.
1-02-08	**Henderson, NC**	Motorcoach crashes into tractor-trailer - 50 injured.
11-25-07	**Forrest City, AR**	Motorcoach crashes – 3 killed/15 injured.
6-25-07	**Bowling Green, KY**	Motorcoach crashes probably do to driver fatigue - 2 killed/66 injured.
3-02-07	**Atlanta, GA**	Motorcoach carrying Bluffton University baseball team crashes through an overpass bridge wall and fell onto Interstate 75 landing on its side – 7 killed/21 injured.
5-20-07	**Clearfield, PA**	Motorcoach crashes - 2 killed/25 injured.
9-06-06	**Auburn, MA**	Rollover crashes - 34 injured.
8-28-06	**Westport, NY**	Rollover crashes - 4 killed/48 injured.
3-30-06	**Houston, TX**	Motorcoach carrying girls' soccer team crashes and overturns - 2 killed/more injured.
10-25-05	**San Antonio, TX**	Motorcoach crashes into two 18-wheelers after tire failure - 1 killed/3 injured.
10-16-05	**Osseo, WI**	Motorcoach crashes - 4 killed/35 injured.
9-23-05	**Wilmer, TX**	Motorcoach carrying 44 assisted living facility residents and nursing staff as part of the evacuation in anticipation of Hurricane Rita caught fire. 23 killed/of 21 injured
7-25-05	**Baltimore, MD**	Motorcoach crashes - 33 killed.

MOTORCOACH CRASHES & FIRES May 2009

DATE	LOCATION	DESCRIPTION
1-29-05	Geneseo, NY	Motorcoach crashes - 3 killed/20 injured.
11-14-04	Alexandria, VA	Motorcoach carrying 27 high school students crashes - 11 injured
10-09-04	Turrell, AR	Motorcoach crashes - 14 killed/15 injured.
8-06-04	Jackson, TN	Motorcoach crashes - 2 killed/18 injured.
6-24-04	Phoenix, AZ	Motorcoach crashes - 1 killed/38 injured.
5-24-04	Anahuac, TX	Motorcoach crashes - 1 killed.
2-22-04	North Hudson, NY	Motorcoach crashes - 47 injured.
11-12-03	Apache Co., AZ	Motorcoach crashes - 44 injured.
10-13-03	Tallulah, LA	Motorcoach crashes into tractor-trailer - 8 killed/7 injured.
2-14-03	Hewitt, TX	Motorcoach crashes - 5 killed/others injured.
10-01-02	Nephi, UT	Motorcoach crashes - 6 killed/20 injured.
6-23-02	Victor, NY	Motorcoach crashes - 5 killed/41 injured.
6-09-02	Loraine, TX	Motorcoach crashes into tractor-trailer - 3 killed/29 injured.
4-24-02	Kinder, LA	Motorcoach crashes - 4 killed and driver medically incapacitated.
10-03-01	Manchester, TN	Motorcoach crashes - 6 passengers killed/unknown injuries.
8-19-01	Pleasant View, TN	Motorcoach crashes - 1 killed/38 injured.
5-28-01	Bay St. Louis, MS	Motorcoach crashes - 16 injured.
1-20-01	Allamuchy, NJ	Motorcoach crashes - 39 injured.
1-02-01	San Miguel, CA	Motorcoach crashes - 2 killed/3 injured
6-30-01	Fairplay, CO	Motorcoach crashes - 45 injured.
8-27-00	Eureka, MO	Motorcoach crashes - 25 injured.
12-21-99	Canon City, CO	Motorcoach crashes - 3 killed/57 injured.
5-09-99	New Orleans, LA	Motorcoach crashes - 22 killed/21 injured.
4-30-99	Braidwood, IL	Motorcoach crashes - 1 killed/23 injured.
3-02-99	Santa Fe, NM	Motorcoach carrying 34 middle school children crashes - 2 killed/35 injured.
12-24-98	Old Bridge, NJ	Motorcoach crashes - 8 killed/14 injured.
6-20-98	Burnt Cabins, PA	Motorcoach crashes - 7 killed/16 injured.
9-12-97	Jonesboro, AR	Motorcoach crashes - 1 killed/6 injured.
7-29-97	Stony Creek, VA	Motorcoach crashes - 1 killed/32 injured.
6-11-97	Normandy, MO	Motorcoach crashes into pedestrians - 4 killed/3 injured.
6-06-97	Albuquerque, NM	Motorcoach crashes - 1 killed/35 injured.
8-02-96	Roanoke Rapids, NC	Motorcoach crashes, driver was fatigued - 19 injured.
10-14-95	Indianapolis, IN	Motorcoach crashes - 2 killed/38 injured.
7-23-95	Bolton Landing, NY	Motorcoach crashes - 1 killed/30 injured.
4-24-94	Chestertown, NY	Motorcoach crashes and rolls over - 1 killed/20 injured.
1-29-94	Pueblo, CO	Motorcoach crashes and rolls over - 1 killed/8 injured.
9-17-93	WinslowTownship,NJ	Motorcoach crashes because truck drifted into lane - 6 killed/8 injured.
9-10-93	Phoenix, AZ	Motorcoach crashes and rolls over because of driver fatigue - 33 injured.
6-26-93	Springfield, MO	Motorcoach crashes - 1 killed/46 injured.
7-26-92	Vernon, NJ	Motorcoach crashes - 12 passengers ejected/ 6 killed.
1-24-92	South Bend, IN	Motorcoach crashes - 2 killed/34 injured.
6-26-91	Donegal, PA	Motorcoach crashes - 1 killed/14 injured.
8-03-91	Caroline, NY	Motorcoach crashes - 33 injured
2-02-91	Joliett, PA	Motorcoach crashes - 2 killed/44 injured.
5-18-90	Big Pine, CA	Motorcoach crashes - 2 killed/43 injured.

Mr. RUSH. Thank you very much.

Ms. Fennell, you are recognized for 5 minutes, thereabouts.

STATEMENT OF JANETTE FENNELL

Ms. FENNELL. Mr. Chairman, members of the subcommittee, good afternoon. My name is Janette Fennell, and I am the Founder and President of the national nonprofit organization KidsAndCars.org. We are an agency dedicated to improving the safety of children in and around motor vehicles.

I wish to thank you and the members of the subcommittee for inviting me to appear before you today to testify on the important issue of child safety.

I come here today because enacting sound policy will save the lives of thousands of people each year but in particular to express our views on the issue of transportation as it relates to children.

I would like to share a bit of my background with you so you can better understand why I personally have dedicated my life to the issue of vehicle safety.

My family and I were victims of a trunk entrapment incident in 1995. My husband and I were ordered at gunpoint to get into the trunk of our car while our 9-month-old son was asleep in his car seat. We were taken in the trunk of our car to a remote area where we were abducted, where we were robbed, assaulted, and left to die. Miraculously, we were able to escape the confines of the trunk only to find our son was no longer in the back seat of our car. Fortunately, our son was found outside of our home in his car seat unharmed. We worked extremely hard to ensure car trunks were escapable from that moment forward.

A Federal regulation was written that requires all motor vehicles beginning with model year 2002 to have a phosphorescent truck release handle inside the trunk of a vehicle. Since the implementation of this regulation, there has not been one, not one fatal trunk entrapment incident in a vehicle that has this escape mechanism. So please never doubt the importance of the significance of the interventions implemented by this committee. I can tell you this small change has saved countless lives.

The fundamental idea I would like to communicate today is that children, mechanically, psychologically and socially, are not small adults. Therefore, their special, unique, and specific needs deserve to be examined and dealt with in a manner different than that from the adult population.

Vehicles are designed for the average-size adult male. Children's size and relative proportions vary greatly throughout the pediatric age range and are very different from the average size of an adult man.

Unfortunately, children are an afterthought during the vehicle design process. Children are an afterthought when we figure out how to safely transport them in vehicles. Children are an afterthought, and that is why we have so many troubles securing them safely. Don't get me wrong. We have made tremendous progress. But a piecemeal approach means that things have to be done and redone constantly. It's almost impossible to keep up with. But, yet, motor vehicle injuries are still the leading cause of deaths and ac-

quired disability for children after the age of one in the United States. Many of these deaths can be prevented.

I have provided a summary of statistics in my written testimony, so I won't use this precious time to go over them again. But, needless to say, any way you look at these numbers, children are being injured and killed at unacceptably high rates.

There are many transportation issues related to children. I will only highlight a few.

The first one is the progress of the Cameron Gulbransen Kids Transportation Safety Act. NHTSA has done an excellent job meeting the deadlines prescribed in the Act and published its first report utilizing the virtual system about incidents that take place off our public roads or highways. The Not-in-Traffic Surveillance system reported in January an overall annual estimate of over 1,700 fatalities and 841,000 injuries. As evidenced by these significant numbers, these issues just added to the overall toll of deaths and injury dealing with motor vehicles in this country. These numbers are all in addition to any statistics quoted today by any panel member.

Power windows, how are we doing there? It's a decades-old convenience feature that most drivers take for granted. Millions of parents use them every day but few know the dangers these devices can have to children when they're not equipped with the proper safeguards.

Power windows have repeatedly been the instruments of death and/or serious physical injury to children and others. How much pressure can a power window exert? These excessively overpowered windows exert 50 to 80 pounds of pressure and have enough power to lift and strangle a child between the glass and upper window frame.

Ninety percent of vehicles on the road in Europe are equipped with the power window auto-reverse feature, and many times these are the same vehicles that are sold in America without that feature. Are European children more precious than American children? I think not. If you purchase a Ford Focus in Europe, auto-reverse power windows are a standard feature. If you purchase a Ford Focus here, not only does it not have an auto-reversing feature, you can't even get that as an option.

These deaths are 100 percent preventable. After four decades of deaths and dismemberment, we need a final rule. Just like trunk entrapment, let's eliminate this as a cause of death in our country.

Rear visibility. In March, NHTSA published an Advanced Notice of Proposed Rule Making regarding rear visibility, and excellent comments have been submitted to the docket. It's imperative for NHTSA to keep focused on reducing the blind zone behind our vehicles, because at least 50 children are backed over in this country every week. Forty-eight of those children end up in hospital emergency rooms, but at least two children die. I cannot emphasize enough that in over 70 percent of these incidents it is a direct family member who is responsible for the death of that child. Said a different way, the people who love them the most are suddenly responsible for their death, and that's a burden no one should have to carry for the rest of their lives.

We would like to see rear seatbelt reminder systems. The importance of seatbelts in saving lives is indisputable. We should do everything possible to get people to buckle up. Seatbelt reminder systems should be available for all designating seating positions to remind the driver and each passenger to buckle up their seatbelt.

On August 28, 2007, safety groups filed a petition with NHTSA requiring that seatbelt reminder systems be required in the rear seats and in the second and third row of seats in multipurpose passenger vehicles, including minivans and sport utility vehicles. Though NHTSA is required to respond to petitions within 120 days, the agency has not yet responded to this petition. I submit the 2007 petition to my testimony, as it cites multiple studies and provides every justification needed to move quickly on this proposal.

The top reasons we need rear seatbelt reminders are: requiring seatbelt reminders would save hundreds of lives each year, a large percentage of which would be children. Multiple studies have proven that rear seatbelt use would increase significantly if rear seatbelt reminders were required. Government, industry, and safety groups all agree seatbelts save lives.

The reminder systems, once they're in place, to put your seatbelt on could very easily help people to be reminded if a child is left alone in a vehicle. There was a riveting article called "Fatal Distraction" that was published in the Washington Post Magazine in March of this year. The author, Gene Weingarten, did a phenomenal job bringing together the many complicated and misunderstood reasons how children can be inadvertently left alone in a hot car and why these unthinkable deaths continue to happen. He explains how our brain and memory function and how lack of sleep and stress can change in the routine and have devastating consequences. And it conveys a powerful message and tells a heartbreaking story of how parents have lost young children so tragically. I submit this article to the record.

[The information follows the prepared statement of Ms. Fennell.]

Ms. FENNELL. As we all remember, during the 1980s there were many reports caused by airbags to children. The airbag campaign changed forever how Americans transport their children in motor vehicles, and we know that a child is safer in the back seat. But today we are suffering an unintended consequence of moving children to the back seat.

Is that the 5 minutes?

Mr. RUSH. Ms. Fennell, your remarks have been quite interesting.

Ms. FENNELL. Please refer to my written testimony for other important announcements.

[The prepared statement of Ms. Fennell follows:]

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Testimony of

Janette E. Fennell
Founder and President
KidsAndCars.org

on

the "Auto Safety: Existing Mandates and Emerging Issues" hearing

before the

Subcommittee on Commerce, Trade and Consumer Protection
of the
House Committee on Energy and Commerce

May 18, 2009

Mr. Chairman, members of the Subcommittee, Good Afternoon, my name is Janette Fennell and I am the founder and president of the national nonprofit organization KidsAndCars.org; an agency dedicated to improving the safety of children in and around motor vehicles. I wish to thank you and the members of the Subcommittee on Commerce, Trade and Consumer Protection for inviting me to appear before you today to testify on the important issue of child safety. I come before you today because there are a number of legislative measures that Congress can enact that will save the lives of thousands of people each year, but in particular to express our views on the issue of transportation safety as it relates to children.

I would like to share a bit of my background with you so you can better understand why I personally have dedicated my life to the issue of vehicle safety.

My family and I were victims of a trunk entrapment incident in 1995. Without getting into too much detail, I will quickly share our story.

We were pulling into our garage a little before midnight when two masked men slipped in under our garage door before it had a chance to close. My husband and I were ordered at gunpoint to get into the trunk of our car. Our nine-month-old son, Alexander, was asleep in his car seat when the gunmen noticed him. The gunmen drove off with us in the trunk as we wondered what the abductors had done with our son. We were taken in the trunk of our car to a remote area where we were robbed, assaulted and left to die. The abductors then fled and left us locked inside the trunk of our car. Desperate to find out what had happened to our son, we tore at the insulation at the front of the trunk. We miraculously were able to locate the cable for the trunk release, and popped open the trunk lid. Happy to have escaped the confines of the trunk, we ran to the back seat of our car only to find an empty back seat...no baby and no car seat.

Although we did not know it, Alexander was thrown outside of our home in his car seat, alone in the middle of the night. After placing a call to 911, a police officer was sent to our home and found our son unharmed, still in his car seat. Now you may think this is a story about how a car seat can save the life of a child—even when the seat is not in a car; because literally that is what saved his life that night. But, instead I share this story with you because it shows how very small engineering changes can make a tremendous difference in the lives of people in this country. After this incident we dedicated our lives to make sure this type of trauma would not happen to another family.

After collecting a tremendous amount of data and bringing this issue to the national agenda we were successful in getting a Federal Regulation written that requires all motor vehicles beginning with model year 2002 to have a phosphorescent trunk release handle inside the trunk of a vehicle. Since the implementation of this regulation, there has *not* been ONE fatal trunk entrapment incident in a vehicle that has this escape mechanism. So please, never doubt the importance and significance of the interventions implemented by this committee; I can tell you this small change has saved countless lives.

You may just see me here today before the committee but know that KidsAndCars.org is a collaborative entity and sought input from leaders in child passenger safety for today's testimony. Included in my submission are thoughts and comments from the American Academy of Pediatrics, Children's Hospital of Philadelphia (CHOP), SafeRide News, the Traffic Safety Center at the School of Public Health, University of California, Berkeley, Department of Emergency Medicine and Center for Trauma and Injury Prevention Research at the University of California, Irvine, Safety Belt Safe USA, Traffic Safety Projects, Consumers Union, Advocates for Highway and Auto Safety, Public Citizen and the National Coalition for School Bus Safety.

The fundamental idea I would like to communicate today is that children (mechanically, psychologically, and socially) are not small adults. Therefore, their special, unique and specific needs deserve to be examined and dealt with in a manner different than the adult population.

Vehicles are designed for an average size adult male. Children's size and relative proportions vary greatly throughout the pediatric age range and are very different from the average size of an adult male. Unfortunately, children are an after-thought during the vehicle design process.

Motor vehicle injuries are the leading cause of death and acquired disability for children after the age of one in the U.S. But many of these deaths can be prevented. Placing children in age and size-appropriate car seats and booster seats reduces serious and fatal injuries by more than half.

How big is the problem?

- In the United States during 2005, 1,335 children ages 14 years and younger died as occupants in motor vehicle crashes, and approximately 184,000 were injured. That's an average of 4 deaths and 504 injuries each day.
- Among children under age 5, in 2006, an estimated 425 lives were saved by car and booster seat use.

What are the risk factors?

- Restraint use among young children often depends upon the driver's seat belt use. Almost 40% of children riding with unbelted drivers were themselves unrestrained.
- Child restraint systems are often used incorrectly. One study found that 72% of nearly 3,500 observed car and booster seats were misused in a way that could be expected to increase a child's risk of injury during a crash.

How can injuries to children in motor vehicles be prevented?

- Child safety seats reduce the risk of death in passenger cars by 71% for infants, and by 54% for toddlers ages 1 to 4 years.
- There is strong evidence that child safety seat laws, safety seat distribution and education programs, community-wide education and enforcement campaigns, and incentive-plus-education programs are effective in increasing child safety seat use.
- According to researchers at the Children's Hospital of Philadelphia, for children 4 to 7 years, booster seats reduce injury risk by 59% compared to seat belts alone.

- All children ages 12 years and younger should ride in the back seat. Adults should avoid placing children in front of airbags. Putting children in the back seat eliminates the injury risk of deployed front passenger-side airbags and places children in the safest part of the vehicle in the event of a crash.
- Overall, for children less than 16 years, riding in the back seat is associated with a 40% reduction in the risk of serious injury.

There are many transportation related issues that deal with children. Due to the limited amount of time, I will highlight the areas that we view can significantly reduce the number of injuries and death to your youngest constituents.

They are:
Progress to date - The Cameron Gulbransen Kids Transportation Safety Act
Auto-reverse power windows
Rear Visibility
Rear seatbelt reminders systems
Reminder Systems To Prevent Unattended Children
Child Passenger safety-LATCH improvements
Improving the ease of installing child restraints (CRs) in the center of the back seat
Weight limits for children in CRs installed with the universal anchorage system LATCH
Improving tether use and tether anchor access
Reconsider the mandate to states to include the 4'9" provision in state laws
Assessing methods to reduce entanglement of children in safety belts
Encourage innovative child restraint designs that could increase protection for children
Identification of safety seats
Improve access to safety seats
School Bus Safety
Inside the Bus
Outside the Bus
Data Collection
Funding for the National Highway Traffic Safety Administration (NHTSA)

Progress to date - The Cameron Gulbransen Kids Transportation Safety Act

The Cameron Gulbransen Kids Transportation Safety Act was signed by the President on February 28, 2008 and directs the Secretary of Transportation to issue safety standards to decrease the incidence of child injury and death. The law:

- Establishes reasonable rulemaking deadlines regarding child safety, applicable to all passenger motor vehicles, in three ways:
  - Ensures that power windows and panels automatically reverse direction when they detect an obstruction to prevent children from being trapped, injured or killed.
  - Requires a rearward visibility performance standard that will provide drivers with a means of detecting the presence of a person behind the vehicle in order to prevent backing incidents involving death and injury, especially to small children and disabled people.

  - Requires the vehicle service brake to be depressed whenever the vehicle is taken out of park in order to prevent incidents resulting from children disengaging the gear shift and causing vehicles to roll away.
- Establishes a child safety information program, administered by the Secretary of Transportation. This will involve collecting non-traffic incident data, informing parents about these hazards to children and ways to mitigate them, as well as making this information available to the public through the Internet and other means.

To date, NHTSA has done an excellent job meeting the deadlines prescribed in the act and published it's first report utilizing a virtual system about incidents that take place off our public roads and highways. Entitled, "Not-in-Traffic Surveillance 2007 – Highlights" this summary brings to light the different ways people are injured via the interaction with a vehicle; but only reports incidents that take place exclusively on private property. The Not-in-Traffic Surveillance (NiTS) system produced an overall annual estimate of 1,747 fatalities and 841,000 injuries in nontraffic crashes and noncrash incidents. Backovers accounted for 221 fatalities and 14,000 injuries. There were another 393 fatalities and 20,000 injury nonoccupant noncrash events (e.g., frontovers, vehicles set into motion, etc.) reported. More research is needed to better understand the causal factors involved (beyond knowing that SUVs increase risk) and evaluate potential countermeasures (e.g., rearview camera systems and sensors, educational campaigns, etc.)

Power Windows

No later than August 2009, the act requires NHTSA to initiate rulemaking requiring power windows and panels to automatically reverse direction when detecting an object or person. Electric power windows are a decades-old convenience feature that most drivers take for granted. Millions of parents use them every day, but few know how dangerous these devices can be to children when not equipped with the proper safeguards.

Since their introduction into the U.S. market (without any safety controls) in the late 1950s and early 1960s, power windows have repeatedly been the instruments of death and/or serious physical injury to children and others. According to the NiTS system, there were at least 5 fatalities and 2000 people injured severely enough to require emergency room treatment in 2007.

The accidental activation of power windows has resulted in the deaths of dozens of children and thousands more have been injured over the course of their history. In almost every case, the child died from strangulation after becoming lodged between the window and the frame.

If a child (or someone else in the vehicle) activates a window unintentionally, the consequences can be instantaneous and often tragic. In as little as two seconds, an inadvertently activated power window can clamp down on a child's head, neck or other body part, causing severe injury or death.

How much pressure can a power window exert? Enough to pull the body of a small child off the seat of a vehicle. The mechanics of an electric power window are very simple. By applying a small two pound force on a power window switch, the window motor is activated to exert an upward raising force of between 50-80 pounds. Since only eight to 12 pounds of force is

needed to raise the average car window glass, these excessively overpowered windows have enough power to lift and strangle a child between the glass and the upper window frame.

For decades the American automotive industry has been aware of the dangers of power windows, but has arbitrarily chosen not to act. The history of their awareness of the problem goes back to the earliest days of power window usage.

One early highly publicized instance occurred literally in the American auto industry's own back yard. In 1962, Christopher Cavanaugh, the 3-year-old son of Detroit's Mayor was nearly strangled by the tailgate power window on a Dodge Station Wagon.

Recognizing the terrible toll being taken by power windows, Ralph Nader sent a letter in May of 1968 to Dr. William Haddon, Jr. Administrator of the National Highway Safety Board urging the NHSB to order a recall and require the immediate modification of power windows -- or at least to issue a public warning of the dangers.

Unfortunately, Nader's suggestions were rejected.

However, later that same year, the U.S. Government, due to numerous reported deaths and injuries, issued advisory warnings to the public regarding the dangers of power windows to children who were left alone in automobiles. This advisory, which was distributed to all major automobile manufacturers, as well as the public, even recommended that the dangers could be lessened by wiring power windows so they would not operate without the ignition switch being on.

The following year, in response to the known dangers of power windows, Dr. Haddon, Jr. called for a Federal Motor Vehicle Safety Standard "which will reduce, if not eliminate, the toll of deaths and injuries resulting from accidents involving power-operated windows." (FMVSS) (8-23-69; 34FR13608).

Decades later, American consumers are still waiting for a safety standard that lives up to that initial mandate.

Just as the dangers posed by power windows to children have been known for years, so too have been workable solutions that could easily prevent these senseless tragedies. Patent information which addresses the safety of power windows has been available to Ford and other automakers for decades.

The first window-reversing patent (Patent 3,465,476) was issued in 1967, and in 1972 a French mechanism company was issued a reversing electrical switch patent (Patent 3,662,491). This patent clearly points out the hazards that are presented to a child's head and neck by a power window. During the period 1980 to 1987, at least nine additional patents were issued addressing power window safety and window reversing mechanisms.

Numerous technically feasible alternative designs were and are available that would have prevented these tragedies.

Automatic power window reversing mechanisms exist in several forms, including optical sensors, which detect an object in the window path; voltage load buildup sensors, which reverse at contact with an obstruction; or infrared sensors, which reverse the window without contact. Some Japanese vehicles made in the 1980's were equipped with windows that stop - but do not reverse - when they meet with resistance.

A representative of the European Automobile Manufacturers' Association has estimated that more than 90 percent of vehicles on the road in Europe are equipped with a power window auto-reverse feature, including vehicles sold by American manufacturers.

The cost for this added safety feature is about $6 to $8 dollars per window, according to a German-based company that is one of the prime suppliers of auto-reverse technology in Europe.

Oddly enough, many American manufacturers commonly include this feature on cars sold overseas, many times on the same models available in the United States. They have simply chosen not to offer what should be a basic safety feature to North American consumers.

Are European children more precious than American children? I think not.

These deaths and injuries are 100% preventable. After 4 decades of death and dismemberment, we need a final rule.

Rear Visibility

In March NHTSA published an Advanced Notice of Proposed Rule Making (ANPRM) to amend the rearview mirror standard. The agency also solicited comments on the state of current research and countermeasures that might assist it in amending Federal Motor Vehicle Safety Standard (FMVSS) 111 to eliminate blind zones. The agency sought answers to 52 questions in seven different areas, including the scope of the problem, technologies for improving rear visibility, effectiveness, driver behavior, options for measuring rear visibility and countermeasure performance. The sheer volume of questions is a good sign that the agency wants to take an in-depth look at all available information before crafting a standard.

KidsAndCars.org would like to re-emphasize that the rear visibility standard needs to apply to all passenger vehicles because every vehicle has a blind zone.

Rear Seatbelt Reminders Systems

The importance of seat belts in saving lives is indisputable. We should do everything possible to get people to buckle up. European vehicle manufacturers employ seat belt use reminder systems using chimes and other audible sounds, which become more insistent based on increasing vehicle speed or distance driven. In 2003 the National Academy of Sciences conducted a study of new seat belt reminder technologies for NHTSA, recommending, among other actions, that all new light-duty vehicles be equipped with an enhanced belt reminder system that includes an audible warning and a visual indicator for front seat occupants and that the current 4-8 second limitation on audible warnings be amended to remove the time limit. *See Buckling Up: Technologies to Increase Seat Belt Use,* Transportation Research Board Special Report No. 278 (http://trb.org/publications/sr/sr278.pdf)

In recent years the government and safety organizations have made a major effort to educate the public about securing children in child restraints in the rear seat of vehicles for their safety. At the same time, rear seat occupancy by older children using booster seats and teens who use adult seat belts has also increased but seat belt use rates lag well behind front seat belt use rates. Rear seat reminder systems can both remind the driver and rear seat occupants to buckle up and alert the driver when a passenger unbuckles their seat belt while the vehicle is moving.

Although safety belt systems are installed at all designated seating positions in passenger vehicles, systems to remind passengers to buckle their seat belts are limited to the front seats of passenger vehicles only. Seat belt reminder systems should be available for all designated seating positions to remind the driver and each passenger to buckle their seat belt.

On August 28, 2007, safety groups filed a petition with NHTSA requesting that seat belt reminder systems be required in the rear seats of cars and in the second and third row of seats in multipurpose passenger vehicles including minivans and sport utility vehicles. Though NHTSA is required to respond to petitions within 120 days (49 CFR Section 552.8) the agency has not yet responded to this petition after almost 2 years.

I submit the 2007 petition to my testimony as it cites multiple studies and provides every justification needed to move quickly on this proposal.
(http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=NHTSA-2007-29108)
Reasons Congress needs to direct NHTSA to require a rear safety belt reminder system include:

- requiring rear seat belt reminders would save hundreds of lives each year, a large percentage of which would be children;
- rear seat belt reminders are necessary to save lives because primary enforcement of seat belt laws does not typically cover rear seat occupants;
- multiple studies have proven that rear seat belt use would increase significantly if rear seat belt reminders were required;
- requiring rear seat belt reminders is consistent with NHTSA's statements, Rulemaking Agenda, and SAFETEA-LU requirements to increase safety belt use for all passengers because implementing rear safety belt reminder systems would be the easiest way to achieve further gains in safety belt use and lives saved;
- rear seat belt reminders are technologically feasible and
- rear seat belt reminders would be less costly per unit if required in all vehicles

Government, industry and safety groups all agree seatbelts save lives.

There are two 30-second Public Service Announcements from Britain that are excellent examples of why rear seatbelt reminders systems are crucial to every passenger in the vehicle. I strongly encourage you to view these.

http://www.youtube.com/watch?v=e6Qhmdk4VNs&feature=related

http://www.youtube.com/watch?v=4SEy_FCJlpk&feature=related

Reminder Systems To Prevent Unattended Children can easily be incorporated after seatbelt reminder systems have been added.

A riveting article, "Fatal Distraction," was published by Pulitzer Prize winning author, Gene Weingarten, in the Washington Post Magazine on March 8, 2009. He did a phenomenal job bringing together the many complicated and misunderstood reasons how children can be inadvertently left alone in a hot car and why these unthinkable deaths continue to happen. Mr. Weingarten explained the ways our brain/memory function and how lack of sleep, stress and a change in routine can have devastating consequences. It conveys a powerful message and tells the heart-breaking stories of parents who have lost their young child so tragically. I submit this article for the record. This article has been blogged about in the New York Times, Wall Street Journal, etc. It has been characterized as a "must read" for this year. Examples of comments follow:

As a new parent, I've read as much of this stuff as I can find. This article drives home very well that this can happen to anybody, as in no amount of education or wealth makes a person immune from making this mistake.

But I agree with Wise Old Woman that "it can happen to anyone" and the fact that we're looking at cases of "mere" negligence has pushed some to minimize what happened here. There's a reason that these otherwise good parents struggle with guilt: they were catastrophically bad parents, albeit on one occasion. It wasn't criminal and the results weren't fair, but the were still awful and still preventable.

Preventing this is not out of a parents hands, and I hope this article and people push cars to be better going forward. But in the end, these would be machines, like our memories, and could fail. Nothing avoids the simple reality that each parent paying attention to what their doing is the best way to avoid such tragedies.

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I think what this article stresses is the need for prevention. Simply saying these are cases of bad parenting is not enough. They were not bad parents. They were like most parents: they had multiple responsibilities, and they were human. They made mistakes, and these were incredibly unfortunate ones. More needs to be done to prevent this from happening again. Saying horrible things about the parents involved is not enough. In fact, it is completely counter-productive. Focus on solutions, not on making yourself feel like a better human being for never having made this particular mistake with your children.

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Every Christian at least knows the story of Jesus teaching in the Temple at the age of twelve. The priests wondered at his precocious wisdom. Jesus was there alone because Joseph and Mary accidentally left him when they started for home. Each thought he was with the other, until they had an "I thought he was with you!" moment. If the Holy Family can make this mistake, then anyone can.

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This is one of the saddest articles I have ever read. There but for the grace of God go ALL of us. If you have ever let your child play outside by himself, if you have ever turned your back on your child at the grocery store to grab something off the shelf, if you have ever let your 5-year-old go to the bathroom at McDonalds without accompanying him or her, you are no different from these people whose momentary lapses of memory caused the agonizing, tortuous deaths of their beloved infants.

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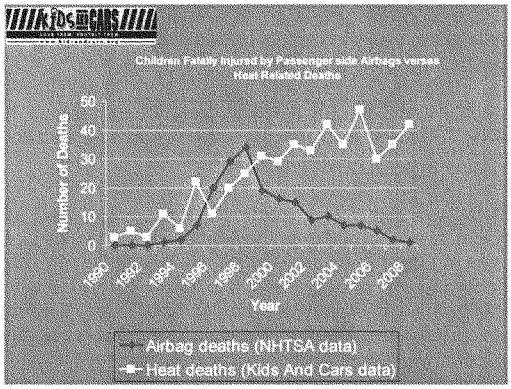
During the 1990s, there were many reports of deaths caused by airbags. At least 180 children were killed by deploying passenger side airbags between 1990 and 2008; while during those same years over 500 children died in vehicles due to hyperthermia. Where's the outrage?

NHTSA's latest report on side passenger airbag deaths shows that in 2007, for the first time since 1992, there were no child or adult deaths caused by deploying airbags. Industry, government and safety groups worked together to prevent these unnecessary deaths by educating parents about the importance of transporting children only in the back seat. The campaign changed forever how Americans transport their children in motor vehicles.

But today, we are suffering from an unintended consequence of moving children to the backseat. The attached chart shows as we reduced the number of airbag deaths, the numbers of children who died because they were inadvertently left alone in the backseat of a vehicle began. This modern day a phenomenon was responsible for forty-two child deaths due to vehicular hyperthermia just last year. Many more children have died from being forgotten in a motor vehicle than have ever been killed by an airbag.



Reminder Systems To Prevent Unattended Children can easily be incorporated after seatbelt reminder systems have been added. All too often, adults inadvertently leave infants and young children in child restraint systems in the rear seats of passenger vehicles. Exposure of young children, particularly in hot weather, leads to hyperthermia that can result in death or severe injuries. Such inadvertent deaths can be avoided by equipping vehicles with sensors to detect the presence of the child and sound a warning at the time the driver locks the vehicle with a child inside.

These systems also prevent children from being inadvertently forgotten in vehicles by signaling the driver that a seat belt is still buckled once the vehicle is locked. Similar warning features currently remind drivers when they have left the key in the ignition, left the headlamps on and when a door is open while the vehicle is in motion.

Child Passenger Safety-LATCH Child Safety System Improvements

When children are moved from a rear-facing restraint to a forward-facing restraint, it is a demotion. It is not anything to celebrate. We would all, in fact, be safer rear-facing in the backseat. We need to promote keeping children rear-facing as long as possible. Did you know in Sweden children ride rear-facing until the age of 3 or 4?

When children are then moved from a forward-facing restraint to a belt-positioning booster, it is a bigger demotion. Notice the lack of 'restraint' in the name of the device they will be using in a vehicle. Belt-positioning boosters do not restrain children. They boost children so the adult seatbelt system fits them better.

When children are moved from a belt-positioning booster and allowed to ride in a vehicle using the adult seatbelt, this is the biggest demotion in safety terms. Remember for whom these adult seatbelts were originally designed - 170 lb male.

And then at the magic age of 15 (formerly 13), it is safe for children to ride in the front seat! With only two or three years to their high school graduation... we finally 'graduate' them into the adulthood of becoming a driver.

We all need to help parents stretch out the time kids spend at each stage -- keeping the kids there "as long as possible." Every step is a learning step for both parents and kids. Celebrities ride in the back--where it is 40% safer.

As a prelude to any discussions about child restraints I'm always struck by one basic fact. There is not another consumer product that is *required by law* that takes 32 hours to learn how to install correctly and continues to have an 80 -90% mis-installation rate. Scholars and Moms alike are literally brought to their knees when trying to ensure the safety seat they chose for their child will provide with the best protection possible. Child restraint manuals contradict vehicle manuals and vice-versa. In 1999 NHTSA required that passenger vehicles and child restraints must be equipped with Lower Anchorages and Tethers for Children – the "LATCH" system – by 2002, in order to promote an easier system of child restraint in place of using vehicle seat belts to secure child restraints.

The Chicago Tribune published an article entitled "Car seat test reveal 'flaws' on March 1, 2009 calling into question once again the efficacy of child restraints and the testing procedures necessary to determine what is needed to keep children safe.

The Insurance Institute for Highway Safety (IIHS) responded to the article with the recommendation that consumers put the findings of that particular study in perspective with the overall history of real-life crashes that take place everyday on our roads and highways.

Safe Ride News (March/April 2009) published an article entitled, "Putting the Latest Car Seat Testing Revelations in Perspective" highlighting the following information:

- Today's CRs provide extremely good protection in the vast majority of crashes. There has not been an epidemic of babies killed or seriously injured from infant seats flying off their bases, as confirmed by the response from CHOP to the Tribune article: "'Our investigations of real-world crashes over the past ten years found infants in rear-facing car seats had an extremely low risk of injury in a crash. Of the crashes studied, very few infants in rear-facing seats were injured,' said Kristy Arbogast, Ph.D., director of engineering at the Center for Injury Research and Prevention. 'Of the few injuries we did see, most were minor and without long term consequences.'"
- CRs made today pass tests that are stringent, although limited to frontal crashes. The 30-mph speed of the FMVSS 213 sled test is more severe than at least 95% of actual crashes.
- Very, very few crashes are of the severity of the 35-mph tests of vehicles run by the New Car Assessment Program (NCAP) and reported in the Tribune article. At 35 mph, the forces are about one-third higher than in the 30-mph sled test. (To learn more about this, see "Physics 201" on page 3.)
- Testing every CR in every vehicle model every year would be an extraordinarily complicated, time-consuming, and expensive process that would greatly increase the cost of CRs. The benefit of having a single test standard is that it offers a reproducible test process that uses a representative crash pulse that is reasonably severe. No one should expect a CR to protect its occupant in all possible crash conditions.

In general, it appeared to be a 'blip' that generated interest for a short period of time followed by a period of questioning the results. It has caused the agency to look more closely at child restraint testing and an appropriate response came from Secretary LaHood. We hope this is helpful to the agency to continue working on the best methods to test car seats and improve the transparency consumers' demand in today's marketplace.

Although parents have long been advised that the center rear seating position is the safest for a child, no LATCH System was required in the center rear seat position, only the outboard seating positions. A 2005 agency report also established that many parents and other adults were confused about how the LATCH system works, could not identify or find the lower anchorages, or did not realize that there were no LATCH systems in the rear center seating position of cars. Although NHTSA identified technical improvements that could be made to make the use of LATCH system hardware easier, the agency has not yet proposed a solution. In conjunction with the agency's efforts to increase education regarding the use of the LATCH system, certain changes to the LATCH hardware are necessary and should be pursued.

Major issues concerning the LATCH System as per Deborah Davis Stewart
Editor/Publisher, Safe Ride News Publications

Improving the ease of installing child restraints in the center of the back seat

The center rear is known to be safer for children and many parents prefer to have their children positioned there.

There are various design features that hinder center position use, such as a hump in the cushion, narrow space for a third (center) occupant, and fold-down arm-rests. These are primarily designed for adult use/comfort, but since the back seat is predominantly the domain of children, it should be maximized for their safety.

FMVSS 225 does not address installation of child restraints (CRs) in the center seating position. Most CRs have flexible lower attachments so it is feasible to install them in the center rear using the anchors from the side position. The recommendations of original vehicle manufacturers (OEMs)* vary, as do the allowances of the CR manufacturers.

Making the center rear more accommodating to children, by having lower LATCH anchors installed there in all vehicles would not be a simple matter. Some OEMs that have done so have inadvertently created other compatibility issues. If separate anchors for the center position were mandated, the requirement would have to include a test for usability without causing other safety problems.

The other solution, requiring a built-in CR in the center rear, would greatly improved child safety in the back seat for children large/old enough to ride forward facing. Since forward-facing position has increased hazard for the occupant, compared to rear-facing infant position, there would be justification for encouraging the forward-facing occupants to ride in the center. Today, they are less likely than an infant to ride in the center position.

Weight limits for children in CRs installed with the universal anchorage system, LATCH

Since FMVSS 225 fails to determine a uniform maximum weight for children in CRs installed with LATCH, it is being interpreted differently by various OEMs.* Some limit lower and tether anchors to 40 lb, others specify 48 lb, and some stating no limit or following the CR manufacturers' recommendations on their products. Therefore, the system is not uniform. Users have to know the limits for the particular vehicles they own.

At the same time, CR manufacturers have developed more restraint systems with harnesses for children weighing over 48 pounds. There are now over 30 CR models. These are particularly useful for obese youngsters (a growing group) who are not mature enough to sit reliably in a booster seat. These also have different recommendations for the use of the tether and lower anchors.

Vehicle and CR manufacturers have organized a committee of the SAE to work on this issue. However, without support of NHTSA, this effort is slow and any definitive weight limits arrived at will only be voluntary. Until this problem is dealt with in regulation, it will hinder maximum effectiveness of FMVSS 225.

Improving tether use and tether anchor access

The top tether that is part of the LATCH system is widely recognized as providing substantial benefit to children riding in forward-facing CRs. However, caregivers often do not use the tether on their child's forward-facing CRs, and one common reason is because it is a hassle to attach. In the recent NHTSA-MVOSS report, only 60% of caregivers who know their CRs have tethers actually use it every time and 28 percent never fasten it.

In many vehicles, it is very hard to reach the tether anchor to hook the strap. For example, caregiver may have to climb into the back of a SUV or into the other side of the vehicle in order to attach the tether. Access to the tether anchor needs to be improved, so it will be convenient to use. This could be encouraged by a "usability" rating for vehicle LATCH systems that could be implemented by NHTSA.

*See attached Quick Reference List from The LATCH Manual, 2009, published by Safe Ride News Publications, Edmonds, WA

Please note that Ms. Stewart who is perhaps one of the foremost experts on LATCH has produced a full-sized book that has already been updated 3 times as an essential tool for the child passenger safety technicians (who have already received over 32 hours of training) to assist families through the puzzling process of securing a child restraint in their family vehicle. Have we made this easier?

Stephanie M. Tombrello, LCSW, CPST I0061, Executive Director, SafetyBeltSafe U.S.A. provides several suggestions to be considered priorities for Congressional action regarding car safety seats as well:

Reconsider the mandate to states to include 4'9" in state laws to qualify for incentive funding for improving state laws to protect older children in motor vehicles

We recommend providing incentive funding to states that pass laws to protect the safety of older children by requiring the correct use of a safety seat or booster until the child is big enough to wear a properly fitted safety belt. However, 4'9" is not an appropriate determinant.

To assess whether a child needs a booster seat or can ride safely wearing just a vehicle belt, one has to take into account the specific vehicle dimensions, including placement of safety belt attachments and angles and depth of vehicle seats. Recent research at the University of Michigan Transportation Safety Institute has reinforced the fact that in a two-variable problem like this one (i.e., the variability of the child's torso and leg lengths and the variability of the vehicle's belts and seat cushions), the evaluation must be conducted with the child in the actual vehicle.

Since 2001, SBS USA has offered such an approach, the 5-Step Test**, which can be presented in a 4-minute video or quickly understood from reading a simple handout. It does not require the parent or child to know either the child's height or the dimensions of the vehicle, and it can be done quickly in any vehicle in which the child rides. However, a state that uses those criteria in their law does not qualify for incentive funding from the U.S. government.

The 5-Step Test** works well, can be applied by non-experts—indeed, by the children themselves as they get older—and, in hundreds of "tests," has shown that age 8 is, by far, NOT the cut-off for booster use if one's goal is to protect children who do not fit properly in belts. A great many youngsters ages 10-12 need boosters to get the belts to fit. Using these criteria for the law would allow law enforcement officers in the field to assess belt fit easily when considering citing parents for non-compliance of "correct use" of belts.

It has been shown by many field assessments that it is common for parents NOT to know the height of their children. Even if the child's height is known, it is still necessary to have the child sit in the family vehicle to find out if the child needs a booster for proper belt fit.

We suggest that, at the very least, the 5-Step Test** system of evaluation be permitted as part of state laws to qualify for incentive funding. Even more important, this change would make it easier for parents to make good decisions about protecting their children. Frequently, we have found that parents still own a booster but do not use it because they do not know how to assess whether or not the child needs it. We know of cases in which children were injured while the booster sat unused in the family garage because the child had attained the age specified by state law.

Assessing methods to reduce entanglement of children in safety belts

Although shoulder-and-lap belts are considered the most protective safety feature in motor vehicles, there have been several instances of children who have strangled or nearly strangled because they placed a belt with a locking (switchable) retractor around their necks while traveling. It can be assumed that many more unreported cases have occurred. Most of the parents who experienced this frightening situation state that they were not even aware of the possibility that their children could be harmed by a vehicle belt. We recommend funding an exploratory study of a technological method for preventing such unintentional consequences. We also recommend that warnings to parents be provided not only in vehicle and safety seat owner's manuals but also in educational materials and media campaigns.

Suggestions for current, practical methods to reduce this risk should be solicited. The effectiveness of such a two-level approach in reducing deaths of children attributed to frontal passenger air bags has already been demonstrated. Finally, we want to make it clear that belt lockability is still an important feature for child restraint installation. NHTSA has issued a Notice of Proposed Rulemaking to remove the sunset clause that would rescind the lockability requirement for safety belts in 2012. A petition requesting this action was submitted by SafetyBeltSafe U.S.A. and Safe Ride News and supported by 177 CPS advocates.

Revising regulations to encourage innovative child restraint designs that could increase protection for children

We recommend that NHTSA consider permitting U.S. companies to manufacture and/or distribute child restraints designed for specified vehicles to improve compatibility, even if the design requires use of vehicle-specific equipment so the restraint could not be used in other vehicles. LATCH has not solved all incompatibility problems. Since vehicles have different configurations of seat cushions and belt anchors, it could be beneficial in some cases to have a child restraint designed to fit a particular car. However, FMVSS 213 requires that every child restraint be capable of being attached to the vehicle with two standard methods: a safety belt and the LATCH system (using one, not both). According to NHTSA, the restraint cannot be attached only by a special mechanism that not every vehicle has. It can have a supplementary, vehicle-specific attachment mechanism in addition to those universal means of attachment, but it must pass testing with only the standard attachment. A NHTSA representative states that the reason for requiring a standardized means of attachment is to reduce the likelihood of misuse. However, this should not be a concern if the restraint is available only through the vehicle manufacturer.

Identification of safety seats
It is not currently required that safety seat model names be visible to users. Because it is totally unrealistic to expect consumers to remember lengthy model numbers, which are used primarily by manufacturers for quality control and inventory control, it is very important that products have clearly discernible names permanently attached. It is as if we expected car buyers to remember the VINs on their vehicles so they could look up features and other characteristics of their vehicles or ask questions about them. Imagine having to remember a 17-digit number for your Ford Focus in order to identify it in a discussion with a service department!

Improve access to safety seats
Today, most families can easily obtain safety seats for a reasonable price. However, there are definitely pockets of the community who do not have the resources to purchase safety seats to protect their children. Economic analysis has shown that providing free or low-cost safety seats generates considerable savings in parents' lost work time and in medical, educational and long term disability costs for the injured children in addition to the considerable effects on families of a child with substantial physical, mental, and emotional challenges.

Since there is no consistent, national program that provides needy families with access to low-cost safety seats, local programs must rely on short-term, inconsistent funding through a variety of state and local resources. This makes it difficult for families to locate programs; moreover, it makes it very difficult for social service personnel to locate resources for their clients. Parents seeking specialized, expensive safety seats for youngsters with special needs face even greater challenges.

School Bus Safety
There is a great deal of published information that tells us sending our child to school on the big yellow school bus is beyond the safest way to transport them. KidsAndCars.org, the American Academy of Pediatrics and School Transportation News data collection efforts are questioning the accuracy of reported injuries and death regarding pupil transportation.

The American Academy of Pediatrics studied school bus related injuries actually treated in US emergency departments from 2001 to 2003. The physicians found an estimated 51,100 school bus–related injuries, two and a half times the accepted national estimates of 17,000.[1]

In a like manner, a year-long study of national and local newspaper headlines by industry journal *School Transportation News* found school bus riders killed outside the school bus were actually three times those reported in the highly respected 2006-2007 National School Bus Loading and Unloading Survey. [2]

The need for seatbelts on school buses has been debated for decades. After studying this issue for 10 years an announcement was made by the agency in October of 2008. The U.S. Department of Transportation released a final rule from NHTSA that requires three-point lap/shoulder restraint systems on all newly purchased *small* school buses, updating a previous

[1] McGeehan, J et al., "School Bus–Related Injuries Among Children and Teenagers in the United States, 2001-2003" PEDIATRICS Vol. 118 No. 5 November 2006, pp. 1978-1984.
[2] Wegbrit, D., "Trying Figures, Independent Research Highlights Challenges to the National Loading and Unloading Survey," *School Transportation news Magazine,* Jan. 2008, pg. 54.

regulation that the vehicles come equipped with lap belts. There is *no requirement* for larger school buses to install lap/shoulder belts.

It is strongly recommended that NHTSA require lap/shoulder belts on all newly manufactured school buses produced. All riders will be provided with protection during side impact and roll over accidents, discipline will be improved, incidents reduced and the life long habit of seat belt use reinforced.

Another aspect of school bus safety that gets little to no attention is that more children are killed outside of a school bus than have ever been killed inside a school bus. When assessing the overall safety a complete picture of the entire ride to and from school should be analyzed.

Attached is a copy of the response from the National Coalition for School Bus Safety to the NPRM (NHTSA 2007-0014). The document provides a good synopsis of the current state of affairs.

Data Collection

In order for government and industry to effectively and prudently address these issues, they need a quality real-world child-focused crash data system, as outlined in the National Child Occupant Special Study white paper and supported by the NHTSA, the automotive and insurance industries, as well as the pediatric health and traffic safety advocacy communities. (attached)

Funding for the National Highway Traffic Safety Administration (NHTSA)

One of the most critical weapons in the battle to reduce deaths and injuries is adequate financial resources to support programs and initiatives to advance safety. At present, nearly 95 percent of all transportation-related fatalities are the result of motor vehicle crashes but NHTSA's budget is less than one percent of the entire DOT budget.

Motor vehicle safety regulatory actions languish and NHTSA data collection is hampered because of insufficient resources to address these problems. Insufficient program funding and staff resources can contribute to the agency's missteps in identifying and acting upon the problems.

Since 1980, the agency has been playing a game of catch-up. Today, funding levels for motor vehicle safety and traffic safety programs are not much higher than 1980 funding levels in current dollars.

For over twenty years, NHTSA has been underfunded and its mission compromised because of a lack of adequate resources to combat the rising tide of increased highway deaths and injuries. Increase funding authorization for NHTSA's motor vehicle safety and consumer information programs.

Safety, medical, health, and law enforcement groups and DOT all agree that seat belt use is critical to safety in most crash modes. Last year, statistics show that the majority of fatally injured victims were not wearing their seat belts. It is incumbent on safety advocates, the Administration, and Congress, to ensure that everyone gets the message to "click it, or ticket." Please provide sufficient funding resources for the agency to fulfill it's mission.

**The "5-Step Test" is the best way to determine if a child can be demoted/graduated to wearing an adult safety belt.

The 5-Step Test.

1. Does the child sit all the way back against the back of the auto seat?
2. Do the child's knees bend comfortably at the edge of the auto seat?
3. Does the belt cross the shoulder between the neck and arm?
4. Is the lap belt as low as possible, touching the thighs?
5. Can the child stay seated like this for the whole trip?

If you answered "no" to any of these questions, your child needs a booster seat to make both the shoulder belt and the lap belt fit right for the best crash protection. Your child will be more comfortable, too and will be able to see out the back window better!

The back seat is the safest part of the car for all passengers. Recent research shows that children should ride in the back seat until they reach age 15. At my house we say, you can sit up front when you start driving.

Quick Reference Lists

Maximum Anchor Weights and Use of Inner Bars for Center Position

Brand	LATCH System anchor maximum weight (lb), both lower and tether anchors used	Tether anchor maximum weight with seat belt (lb) if CR instructions allow	Use of inner bars for center seat in non-LATCH positions–if CR instructions allow	Notes
Acura	40	Not rated separately	Not allowed	
Audi	48 with tether 40 without tether (see note)	48	Not allowed	A4 Cabriolet, TT Roadster (MY 03–07), no TAs and 40 lb limit TT Coupe (MY 03–06), front-seat LA weight limit, 40 lb even if tethered
Bentley	60 (see note)	60 (see note)	Not stated	Weight of child plus CR
BMW	Not stated	Not stated	Not recommended	2007 data
Buick	48	40	Not allowed (see note)	Retroactive change; previously had allowed in all models if CR instructions permitted
Cadillac	48	40	Not allowed (see note)	" "
Chevrolet	48	40	Not allowed (see note)	" "
Chrysler	48	48	**Allowed—specific models**	
Daewoo	48	40	Not allowed	
Dodge	48	48	**Allowed—specific models**	
Ferrari	40	40	Does not apply (see note)	No center positions
Ford	48	Follow CR instructions (see note)	**Allowed—specific models** through MY 2008 Allowed—all models as of MY 2009	Change in TA weight limits; previously had been limited to 60 lb with a CR and 80 with a harness/vest
Geo	48	40	Not allowed (see note)	Retroactive change; previously had allowed in all models if CR instructions permitted
GMC	48	40	Not allowed (see note)	" "
Honda	40	Not rated separately	Not allowed	
Hummer	48	40	Not allowed (see note)	Retroactive change; previously had allowed in all models if CR instructions permitted
Hyundai	Not stated	Not stated	Not stated	2007 data
Infiniti	Follow CR instructions	Follow CR instructions	Not allowed	
Isuzu	Not stated	Not stated	Not allowed	
Jaguar	Not stated	Not stated	Not allowed	
Jeep Eagle	48	48	**Allowed—specific models**	
Kia	Not stated	Not stated	Not allowed	
Land Rover	Not stated	Not stated	Not allowed	
Lexus	Follow CR instructions	Follow CR instructions	Not allowed	
Lincoln	48	Follow CR instructions (see note)	**Allowed—specific models** through MY 2008 Allowed—all models as of MY 2009	Change in TA weight limits; previously had been limited to 60 lb with a CR and 80 with a harness/vest.
Maserati	Not stated	Not stated	Not stated	2007 data
Mazda	Not stated	Not stated	**Allowed—specific models**	

Quick Reference Lists

Maximum Anchor Weights & Use of Inner Bars for Center Position, page 2

Brand	LATCH System anchor maximum weight (lb), both lower and tether anchors used	Tether anchor maximum weight with seat belt (lb) if CR instructions allow	Use of inner bars for center seat in non-LATCH positions–if CR instructions allow	Notes
Mercedes-Benz	40	Not stated	Not allowed	
Mercury	48	Follow CR instructions (see note)	**Allowed—specific models** through MY 2008 Allowed—all models as of MY 2009	Change in TA weight limits; previously had been limited to 60 lb with a CR and 80 with a harness/vest.
Mini	Not stated	Not stated	Not allowed	2007 data
Mitsubishi	48	48	Not allowed	
Nissan	Follow CR instructions	Follow CR instructions	Not allowed	Do not use tether for adult-size occupant
Oldsmobile	48	40	Not allowed (see note)	Retroactive change; previously had allowed in all models if CR instructions permitted
Plymouth	No LATCH vehicles	48	**Allowed—specific models**	
Pontiac	48	40	Not allowed (see note)	Retroactive change; previously had allowed in all models if CR instructions permitted
Porsche	Not stated	Not stated	Not allowed	
Rolls-Royce	Not stated	Not stated	Not stated	2007 data
Saab	48	40	Not allowed (see note)	Retroactive change; previously had allowed in all models if CR instructions permitted
Saturn	48	40	Not allowed	" "
Scion	Follow CR instructions	Follow CR instructions	Not allowed	
Subaru	60 (see note) 48 if no tether used	Follow CR instructions	Not allowed	Weight of child plus CR in both cases
Suzuki	Not stated	Not stated	Not allowed	
Toyota	Follow CR instructions	Follow CR instructions	Not allowed	
Volkswagen	48 (see notes 1, 2)	48 (see note 3)	Not allowed	**1.** Except Passat (pre-05MY) and New Beetle convertible, 40 lb LA limit. **2.** EOS convertible allows 48 lb for LAs without a tether. **3.** Except Passat (pre-05MY), 40 lb TA limit
Volvo	Follow CR instructions	Follow CR instructions	Not allowed	Do not use tether for adult-size occupant

Side Air Bags (SABs)—Out-of-Position Occupant Tests

Side curtain and torso air bags should not affect properly restrained passengers. Although no serious injuries have been reported, concerns have been raised about passengers leaning against the door or side of the vehicle, .

Tests have been developed to demonstrate the effect of SABs on out-of-position occupants Information on models that have passed these voluntary tests can be found at: *www.safercar.gov*.

Enter the vehicle in the "Crash Test" section, then click on the vehicle name and scroll down to "side impact." Any tests are listed under "SAB Out of Position."

The Children's Hospital *of* Philadelphia®

Hope lives here.

The Center *for* Injury Research *and* Prevention at The Children's Hospital *of* Philadelphia

Restore and Enhance the National Automotive Sampling System

Accurate and Timely Data are Crucial for Setting Priorities in Highway & Motor Vehicle Safety

The Request: Restore and Enhance NASS Capabilities to Achieve its Goals

Increasing NASS funding from $12.5 million to $20 million in 2010, with annual increases through the authorization period to expand and enable the program to collect high quality data to serve the 21st century safety needs of adults and children in motor vehicles:

1. ***Restore Necessary Capacity***: Increase the number and geographic distribution of data collection sites to collect a sufficient number of high-quality, nationally representative crash cases.
2. ***Enhance NASS capacity to monitor safety for children***: Implement the National Child Occupant Special Study (NCOSS), a program essential to the traffic safety community and already in pilot development at NHTSA through industry grants to The Children's Hospital of Philadelphia ($3 million per year).

Why the US Needs Motor Vehicle Crash Data

- Motor vehicle crashes are a leading cause of death for all US citizens
  - Crashes are the #1 cause of death for children.
  - Motor vehicle fatalities have hovered around 42,000 for the past 10 years
  - Crashes cost society more than $230.6 BILLION annually.
- The National Automotive Sampling System (NASS) is a nationwide crash data collection program operated by the National Highway Traffic Safety Administration (NHTSA). Used by government, industry, and academia in the US and around the world, crash data collected through NASS:
  - Set crash injury benchmarks and measure highway injury and crash trends
  - Determine effectiveness of occupant protection systems (like airbags and seat belts)
  - Identify emerging safety hazards

Shortfalls in NASS due to Budget Cuts

- Overall Capacity: Over the last 20 years, budget cuts have severely reduced the number of crash cases collected. If current conditions continue, the number of cases will drop even further to 20% of needed volume, reducing NASS' ability to provide reliable data to support evidence-based policy and serve as an early alert system for emerging risks or successful safety advances.
- Children: The NASS System lacks adequate data on children in crashes.

The Return on Investment: Reducing the Societal Costs of Crashes

By implementing the above proposal, the system could support research that will save lives and reduce expenditures – including healthcare and insurance costs – that result from preventable injuries.

Already Saving Children! As an example, a child-focused crash data collection system was created by The Center for Injury Research and Prevention at The Children's Hospital of Philadelphia – the nation's leading authority on child passenger safety research. Since 1998, this system supported efforts by the automotive and occupant restraints industries, NHTSA, state legislators and public health officials that have resulted in more children today riding in age-appropriate restraints so that fewer are killed or injured in motor vehicle crashes:

- In the 1990's, an average of over 2,000 children under age 16 were killed every year.
- By 2007, fewer than 1,500 children under 16 were killed.
- Since 2000, over 2,600 lives have been saved (a 16% decrease).

A child-focused crash surveillance system must be publicly available to provide policymakers and researchers with an adequate data source to inform their work. The NHTSA, whose mission is to ensure the safety of Americans on the road, must restore, enhance and sustain a cutting-edge data source to ensure the safety of Americans well into the 21st century.

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Broad Support* for Restoration of NASS and the Development of the National Child Occupant Special Study

Advocates for Highway and Auto Safety

American Academy of Pediatrics

Association of International Automobile Manufacturers

AAA (Automobile Association of America)

Automotive Occupants Restraints Council

Insurance Institute for Highway Safety

Juvenile Products Manufacturers Association

National Association of Children's Hospitals and Related Institutions

National Safety Council

Safe Kids USA

The Children's Hospital of Philadelphia

*These organizations represent the interests of more than 98,000 automotive, restraints and juvenile products manufacturers, insurance companies, pediatric health systems, community-based safety and traffic safety coalitions, as well as 60,000 pediatricians. These figures do not account for groups or individuals that belong to more than one of the above organizations.

January 16, 2008

National Coalition for School Bus Safety comments regarding Docket No. NHTSA–2007–0014, Notice of proposed rulemaking (NPRM) announced by the National Highway Traffic Safety Administration Federal Register / Vol. 72, No. 224 / pages 65509-655532, Wednesday, November 21, 2007:

The above referenced NPRM requiring installation of lap/shoulder belts on newly manufactured small school buses but only suggesting their placement on new large buses to bus operators; raising the school bus seat back height by four inches; and improving seat cushion retention is a long overdue proposal but it unfortunately does little to improve the safety of the 25 million children who ride back and forth to school and school related activities every school day in the United States.

The National Transportation Safety Board (NTSB), following a most comprehensive investigation of real world school bus accidents, on September 21, 1999 issued their special study to determine school bus crashworthiness. The Board's report concluded that, "Current compartmentalization is incomplete in that it does not protect school bus passengers during lateral impacts with vehicles of large mass and in rollovers, because in such accidents, passengers do not always remain completely within the seating compartment." The Board went on to point out that those passengers who were propelled from the compartment during collisions were more likely to be injured.

The NTSB then urged the National Highway Traffic Safety Administration (NHTSA) to develop a restraint system for children riding in school buses to protect during lateral and roll over crashes.[1]

Now, and based on NHTSA's 2002[2] report of the results of their comprehensive school bus research program examining ways of further improving school bus safety, NHTSA is proposing changes to the school bus passenger crash protection requirements. New small school buses of 4,536 kilograms (10,000 pounds) or less gross vehicle weight rating (GVWR) will be required to have installed lap/shoulder belts. For larger school buses with gross vehicle weight ratings (GVWR) greater than 4,536 kilograms (kg) (10,000 pounds), the NPRM provides only guidance to State and local jurisdictions on the subject of placement of seat belts but no requirement for the lap/shoulder belts to be installed.

In addition the proposal calls for raising the height of seat backs from 20 inches to 24 inches on all new school buses and a mechanism for improved seat cushion retention absent any real world examples of their need or effectiveness. In the thirty years that the current seat standards have been in place there has been no documentation of mortality or morbidity due to the 20" seat back height or failure of cushion retention. This stands in sharp contrast with scores of documented fatalities and severe injuries proven

[1] National Transportation Safety Board, Highway Special Investigation, NTSB/SIR-99/04, Washington D.C., September 21, 1999.

[2] NHTSA, Report to Congress, 2002, page 6, available at http://www-nrd.nhtsa.dot.gov/departments/nrd-11/SchoolBus/SBReportFINAL.pdf accessed January 8, 2008.

to result from inadequacy of protection from lateral and rollover crash forces exhibited by currently constructed, seat belt missing, school bus seats.

School Buses under 10,000 pounds

Because these small buses are already required by NHTSA to be manufactured with lap belts they are therefore already equipped with a restraint system that will function to keep the child passengers in the compartment during lateral and rollover crashes. This requirement, in effect for over 30 years has already addressed the NTSB's 1999 concern for child passengers in small buses.

School Buses over 10,000 pounds

However, after NHTSA acknowledges, "... in terms of the optimum passenger crash protection that can be afforded an individual passenger on a large school bus, a lap/shoulder belt system, together with compartmentalization, would afford that optimum protection," the proposal fails to require these lap/shoulder belts on all but the smallest school buses but merely "encourages providers to consider lap/shoulder belts on large school buses."

The exclusion of the larger buses effectively denies the overwhelming majority of children protection during lateral and rollover crashes and disregards the NTSB's concern.

On pages 52 and 53 of the NPRM, NHTSA reports that U.S. school bus sales for the sales years 2001-2005 averaged about 40,000 school buses produced per year. Of the 40,000 school buses manufactured each year, 2,500 of them were 10,000 pounds GVWR or under. The other 37,500 school buses were over 10,000 pounds GVWR[3].

Based on this NHTSA determination, calculating for number of seating positions to be lap/shoulder belted, based on 16 seats per small and 66 seats for large buses finds that if NHTSA's proposal is enacted only 1.6% of seats installed for the student rider ship would have belts available while 98.5% would ride unprotected in buses produced.[4]

The unwarranted exemption of large buses, coupled with the demonstrated, thirty year history of failure to voluntarily install belts on large buses by Districts and states argues strongly for NHTSA to require all newly manufactured school buses to be equipped with lap/shoulder belts.

Children transported on large buses should not be denied the protection of lap/shoulder belts.
This is an embarrassingly minimal effort by NHTSA and is a tragic error for America's children.

Alleged Reduction in Capacity

In the NPRM, NHTSA incorrectly asserts that installation of lap/shoulder belts in large school buses requires a seating space of 15 inches[5] and could result in a 17 percent reduction in seating capacity. [6]

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[3] School Bus Fleet 2007 Fact Book

[4] 2500 x 16 = 40,000 seating positions, small bus
37,500 x 66 = 2,475, 000 seating positions, large bus
40,000 is 1.6% of 2,475,000

[5] NPRM Page 37, available at http://www.nhtsa.gov/portal/site/nhtsa/, accessed Jan. 14, 2008.

[6] Ibid Page 31, available at http://www.nhtsa.gov/portal/site/nhtsa/, accessed Jan. 14, 2008.

The Agency goes on to allege that children would be then be diverted to other less safe means of transport to school.

It is difficult to understand that NHTSA is unaware of the fact that school bus seat manufacturers have already developed and are currently marketing a 39 inch seat with lap/shoulder belts that is congruent with current seat width and passenger capacity.[7]

Further, NHTSA again disappointingly points out that as a result of this proposal each State or local jurisdiction may decide whether to install lap/shoulder belts on large school buses. NHTSA officials must be aware that the Agency made the very same suggestion over thirty years ago as NHTSA in their Docket 73 response rejecting the request in a petition from Physicians for Automotive Safety for requiring seat belts on all buses, large and small. The agency replied that while they were not requiring belts on larger buses, any school district so desiring was free to do so.

In the three decades that have passed since the notice precious few of the 16,850 school districts[8] and only four states have implemented requirements for seat belts. A record of a most dismal performance by the operators of school buses regarding the safety child passengers.

Missed Opportunity

On the other hand, as the result of strong NHTSA efforts and broad cooperation by the states, from their very first ride home from the hospital, young children have always traveled, become habituated, and been well protected in motor vehicles by utilizing appropriate safety restraints.

It is most reprehensible that these kids experience their first ride unrestrained when they enter school, board the school bus for the first time and begin to unlearn this safety lesson carefully taught and nurtured.

For the next dozen formative years, children will be told that they do not need seat belts. The reinforcement potential of use of this important safety measure is lost and the habit of restraint use of this safety measure broken.

Bus Discipline and Crash Causation

According to Jim Ellis, the director of Research & Instructional Design at the Pupil Transportation Safety Institute in Syracuse, N.Y:

> The third potential safety benefit (of seat belts) gets remarkably little attention - barely a passing mention in most studies and position papers - but might wind up being the most important in the long run: reducing driver distraction by improving student behavior. The lack of attention to this issue is very odd, since the No. 1 concern of most bus drivers and supervisors is student management, as indicated on survey after survey. In my experience, driver distraction because of

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[7] "One Seat Fits All, Advertisement, *School Transportation News,* January 2008, page 19. More information available at www.safeguardseat.com, accessed Jan. 14, 2008.

[8] Institute of Education Sciences, US Department of Education, available at http://nces.ed.gov/pubs2001/100_largest/discussion.asp#1 accessed January 8, 2008.

> on-board behavior problems is one of the most common causes of school bus accidents and fatalities.[9]

Can there be any doubt that loud out-of-control behaviors, heads stuck out of windows, threats, bullying, property damage, and any displays of disrespect toward fellow students, the bus driver and the bus driver's directions distracts drivers and diverts their attention from their primary task of driving, taking attention and eye glance from the roadway?

Reporting on the recently enacted California lap/shoulder belt requirement, the San Diego Union-Leader reports "Wherever and whenever seat belts are being used there are reports of better discipline, lower noise levels and children remaining seated."[10]

During NHTSA's July 11, 2007 Public Meeting on Seat Belts on School Buses, John Green representing the State of California explained that they had already noticed that there was, "Improved student behavior (students stay seated) on buses equipped with seat belts."[11]

The record of school bus accidents is replete with example of driver distraction's role in crash causation:

> When North Carolina's Highway Safety Research Center studied 61 school bus crashes they concluded, "Driver error by one party or the other entered into virtually all of the crashes investigated..."[12]
>
> The NTSB report of a school bus loss of control accident in Miami, Florida September 28, 1983 states, "Contributing to the accident was the bus driver's distraction from her driving duties by an unruly student passenger." [13]
>
> The NTSB reports that four children were killed and four others received serious injury when the driver, distracted by a disruptive child pulled in front of a Tractor-Semitrailer in Snyder Oklahoma in November 1993.[14]
>
> The Board also describes a school bus roll over in a year 2000 Herndon, Kentucky caused by the distraction of a child out of their seat. [15]

Unfortunately the NPRM fails to take into consideration the role of reinforcing the habit of seat belts use on young riders as well as the positive potential of better bus discipline in accident prevention.

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[9] "Showing No Restraint for Lap/Shoulder Belt Opponents," web site, *School Transportation News,* available at http://www.stnonline.com/stn/articlearchive/stirring%20the%20pot1105.htm, accessed Jan. 3, 2008.
[10] Gao, H., "Buses buckling down, School districts gradually are getting on board with seat belts, *San Diego Union-Tribune,* December 12, 2006.
[11] Testimony of John Green, NHTSA Public Meeting on Seat Belts on School Buses, July 11, 2007 available at **http://dms.dot.gov/,** Docket 28103 accessed Jan. 14, 2008.
[12] "Investigation of 61 School bus Crashes in Three North Carolina Counties," Univ. of NC, Hwy Safety Research Center, Jan. 1980.
[13] NTSB, PB85-916204 NTSB/HAR-85-3, Report date: May 2, 1985
[14] Snyder Oklahoma Collision of Small School Bus and Tractor-Semitrailer near Snyder, Oklahoma, November 10, 1993. NTSB Report Number: HAR-94-04, adopted on 11/29/1994
[15] NTSB HWY-01-FH008, School bus run-off-the-road and rollover November 30, 2000'

Measure of these effects is difficult to assess because official reports of school bus injuries and fatalities are drastically understated.

The American Academy of Pediatrics studied school bus related injuries actually treated in US emergency departments from 2001 to 2003. The physicians found an estimated 51,100 school bus–related injuries, two and a half times the accepted national estimates of 17,000.[16]

In a like manner, a year-long study of national and local newspaper headlines by industry journal *School Transportation News* found school bus riders killed outside the school bus were actually three times those reported in the highly respected 2006-2007 National School Bus Loading and Unloading Survey.[17]

As a result accurate determination of lives saved, injuries prevented and property destroyed is not possible, however common sense dictates that if discipline is improved, accidents will be prevented and if the seat belt use is a continual routine through childhood and adolescence, the positive effects will persist on into later life.

To Conclude

It is strongly recommended that NHTSA's NPRM be revised to require lap/shoulder belts on all newly manufactured school buses produced after the effective date. With that change in effect, all riders will be provided with protection during side impact and roll over accidents, discipline will be improved, accidents reduced and the life long habit of seat belt use reinforced.

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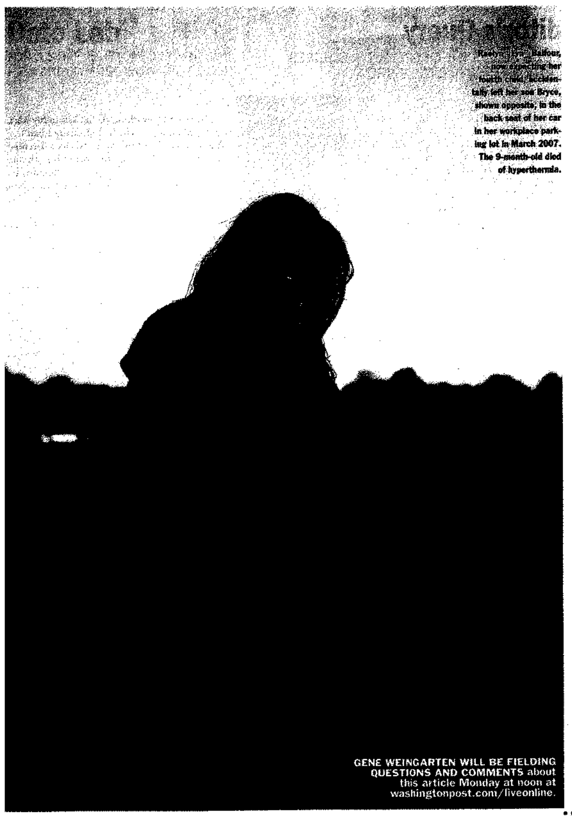
[16] McGeehan, J et al., "School Bus–Related Injuries Among Children and Teenagers in the United States, 2001-2003" PEDIATRICS Vol. 118 No. 5 November 2006, pp. 1978-1984.
[17] Wegbrit, D., "Trying Figures, Independent Research Highlights Challenges to the National Loading and Unloading Survey," *School Transportation news Magazine,* Jan. 2008, pg. 54.



Raelyn [illegible] Balfour, now expecting her fourth child, accidentally left her son Bryce, shown opposite, in the back seat of her car in her workplace parking lot in March 2007. The 9-month-old died of hyperthermia.

GENE WEINGARTEN WILL BE FIELDING QUESTIONS AND COMMENTS about this article Monday at noon at washingtonpost.com/liveonline.

FATAL DISTRACTION

Forgetting a child in the back seat of a hot, parked car is a horrifying, inexcusable mistake. **But is it a crime?**

The defendant was an immense man, well over 300 pounds, but in the gravity of his sorrow and shame he seemed larger still. He hunched forward in the sturdy wooden armchair that barely contained him, sobbing softly into tissue after tissue, a leg bouncing nervously under the table. In the first pew of spectators sat his wife, looking stricken, absently twisting her wedding band.

BY GENE WEINGARTEN

Harrison saw that there were people witnessing his disgrace. **The big man swayed a little** until someone steadied him, and then he gasped out in a keening falsetto: "My poor baby!"

The room was a sepulcher. Witnesses spoke softly of events so painful that many lost their composure. When a hospital emergency room nurse described how the defendant had behaved after the police first brought him in, she wept. He was virtually catatonic, she remembered, his eyes shut tight, rocking back and forth, locked away in some unfathomable private torment. He would not speak at all for the longest time, not until the nurse sank down beside him and held his hand. It was only then that the patient began to open up, and what he said was that he didn't want any sedation, that he didn't deserve a respite from pain, that he wanted to feel it all, and then to die.

The charge in the courtroom was manslaughter, brought by the Commonwealth of Virginia. No significant facts were in dispute. Miles Harrison, 49, was an amiable person, a diligent businessman and a doting, conscientious father until the day last summer — beset by problems at work, making call after call on his cellphone — he forgot to drop his son, Chase, at day care. The toddler slowly sweltered to death, strapped into a car seat for nearly nine hours in an office parking lot in Herndon in the blistering heat of July.

It was an inexplicable, inexcusable mistake, but was it a crime? That was the question for a judge to decide.

At one point, during a recess, Harrison rose unsteadily to his feet, turned to leave the courtroom and saw, as if for the first time, that there were people witnessing his disgrace. The big man's eyes lowered. He swayed a little until someone steadied him, and then he gasped out in a keening falsetto: "My poor baby!"

A group of middle-schoolers filed into the room for a scheduled class trip to the courthouse. The teacher clearly hadn't expected *this;* within a few minutes, the wide-eyed kids were hustled back out.

The trial would last three days. Sitting through it, side by side in the rear of the courtroom, were two women who had traveled hours to get there. Unlike almost everyone else on the spectator benches, they were not relatives or co-workers or close friends of the accused.

". . . the lower portion of the body was red to red-purple. . ."

As the most excruciating of the evidence came out, from the medical examiner, the women in the back drew closer together, leaning in to each other.

" . . . a green discoloration of the abdomen . . . autolysis of the organs . . . what we call skin slippage . . . the core body temperature reaches 108 degrees when death ensues."

Mary — the older, shorter one — trembled. Lyn — the younger, taller one with the long, strawberry-blond hair — gathered her in, one arm around the shoulder, the other across their bodies, holding hands.

When the trial ended, Lyn Balfour and Mary Parks left quietly, drawing no attention to themselves. They hadn't wanted to be there, but they'd felt a duty, both to the defendant and, in a much more complicated way, to themselves.

It was unusual, to say the least: three people together in one place, sharing the same heartbreaking history. All three had accidentally killed their babies in the identical, incomprehensible, modern way.

"Death by hyperthermia" is the official designation. When it happens to young children, the facts are often the same: An otherwise loving and attentive parent one day gets busy, or distracted, or upset, or confused by a change in his or her daily routine, and just... forgets a child is in the car. It happens that way somewhere in the United States 15 to 25 times a year, parceled out through the spring, summer and early fall. The season is almost upon us.

Two decades ago, this was relatively rare. But in the early 1990s, car-safety experts declared that passenger-side front airbags could kill children, and they recommended that child seats be moved to the back of the car; then, for even more safety for the very young, that the baby seats be pivoted to face the rear. If few foresaw the tragic consequence of the lessened visibility of the child . . . well, who can blame them? What kind of person forgets a baby?

The wealthy do, it turns out. And the poor, and the middle class. Parents of all ages and ethnicities do it. Mothers are just as likely to do it as fathers. It happens to the chronically absent-minded and to the fanatically organized, to the college-educated and to the marginally literate. In the last 10 years, it has happened to a dentist. A postal clerk. A social worker. A police officer. An accountant. A soldier. A paralegal. An electrician. A Protestant clergyman. A rabbinical student. A nurse. A construction worker. An assistant principal. It happened to a mental health counselor, a college professor and a pizza chef. It happened to a pediatrician. It happened to a rocket scientist.

Last year it happened three times in one day, the worst day so far in the worst year so far in a phenomenon that gives no sign of abating.

The facts in each case differ a little, but always there is the terrible moment when the parent realizes what he or she has done, often through a phone call from a spouse or caregiver. This is followed by a frantic sprint to the car. What awaits there is the worst thing in the world.

Each instance has its own macabre signature. One father had parked his car next to the grounds of a county fair; as he discovered his son's body, a calliope tootled merrily beside him. Another man, wanting to end things quickly, tried to wrestle a gun from a police office at the scene. Several people — including Mary Parks of Blacksburg — have driven from their workplace to the day-care center to pick up the child they'd thought they'd dropped off, never noticing the corpse in the back seat.

Then there is the Chattanooga, Tenn., business executive who must live with this: His motion-detector car alarm went off, three separate times, out there in the broiling sun. But when he looked out, he couldn't see anyone tampering with the car. So he remotely deactivated the alarm and went calmly back to work.

There may be no act of human failing that more fundamentally challenges our society's views about crime, punishment, justice and mercy. According to statistics compiled by a national childs' safety advocacy group, in about 40 percent of cases authorities examine the evidence, determine that the child's death was a terrible accident — a mistake of memory that delivers a lifelong sentence of guilt far greater than any a judge or jury could mete out — and file no charges. In the other 60 percent of the cases, parsing essentially identical facts and applying them to essentially identical laws, authorities decide that the negligence was so great and the injury so grievous that it must be called a felony, and it must be aggressively pursued.

As it happens, just five days before Miles Harrison forgot his toddler son in the parking lot of the Herndon corporate-relocation business where he worked, a similar event had occurred a few hundred miles southeast. After a long shift at work, a Portsmouth, Va., sanitation department electrician named Andrew Culpepper picked up his toddler son from his parents, drove home, went into the house and then fell asleep, forgetting he'd had the boy in the car, leaving him to bake to death outside his home.

Harrison was charged with a crime. Culpepper was not. In each case, the decision fell to one person.

With Harrison, it was Ray Morrogh, the Fairfax commonwealth's attorney. In an interview a few days after he brought the charge of involuntary manslaughter, Morrogh explained why.

"There is a lot to be said for reaffirming people's obligations to protect their children," he said. "When you have children, you have responsibilities. I am very strong in the defense of children's safety."

Morrogh has two kids himself, ages 12 and 14. He was asked if he could imagine this ever having happened to him. The question seemed to take him aback. He went on to another subject, and then, 10 minutes later, made up his mind:

"I have to say no, it couldn't have happened to me. I am a watchful father."

In Portsmouth, the decision not to charge Culpepper, 40, was made by Commonwealth's Attorney Earle Mobley. As tragic as the child's death was, Mobley says, a police investigation showed that there was no crime because there was no intent; Culpepper wasn't callously gambling with the child's life — he had forgotten the child was there.

"The easy thing in a case like this is to dump it on a jury, but that is not the right thing to do," Mobley says. A prosecutor's responsibility, he says, is to achieve justice, not to settle some sort of score.

"I'm not pretty sure I made the right decision," he says. "I'm *positive* I made the right decision."

There may be no clear right or wrong in deciding how to handle cases such as these; in each case, a public servant is trying to do his best with a Solomonic dilemma. But public servants are also human beings, and they will inevitably bring to their judgment the full weight of that complicated fact.

"You know, it's interesting we're talking today," Mobley says.

He has five children. Today, he says, is the birthday of his sixth.

"She died of leukemia in 1993. She was almost 3."

On the couch, Balfour and her teenage son, Christopher, watch 9-month-old Braiden play with toys that belonged to Bryce.

PHOTOGRAPH BY ERIKA LARSEN/REDUX

Mobley pauses. He doesn't want to create the wrong impression.

He made the decision on the law, he says, "but I also have some idea what it feels like, what it does to you, when you lose a child."

So, after his son's death, Andrew Culpepper was sent home to try to live the remainder of his life with what he had done. After his son's death, Miles Harrison was charged with a felony. His mug shot was in the newspapers and on TV, with the haunted, hunted, naked-eyed look these parents always have, up against the wall. He hired an expensive lawyer. Over months, both sides developed their cases. Witnesses were assembled and inter-

viewed. Efforts at a plea bargain failed. The trial began.

The court heard how Harrison and his wife had been a late-40s childless couple desperately wanting to become parents, and how they'd made three visits to Moscow, setting out each time on a grueling 10-hour railroad trip to the Russian hinterlands to find and adopt their 18-month-old son from an orphanage bed he'd seldom been allowed to leave. Harrison's next-door neighbor testified how she'd watched the new father giddily frolic on the lawn with his son. Harrison's sister testified how she had worked with her brother and sister-in-law for weeks to find the ideal day-care situation for the boy, who would need special attention to recover from the effects of his painfully austere beginnings.

From the witness stand, Harrison's mother defiantly declared that Miles had been a fine son and a perfect, loving father. Distraught but composed, Harrison's wife, Carol, described the phone call that her husband had made to her right after he'd discovered what he'd done, the phone call she'd fielded on a bus coming home from work. It was, she said, unintelligible screaming.

In the end, Fairfax County Circuit Court Judge R. Terence Ney found Miles Harrison not guilty. There was no crime, he said, citing the identical legal reasons Earle Mobley had cited for not charging Andrew Culpepper in the first place.

At the verdict, Harrison gasped, sobbed, then tried to stand, but the man had nothing left. His legs buckled, and he crashed pathetically to his knees.

So, if it's not manslaughter, what is it? An accident?

"No, that's an imperfect word."

This is Mark Warschauer, an internationally acclaimed expert in language learning and technology, professor of education at the University of California at Irvine.

"The word 'accident' makes it sound like it can't be prevented," Warschauer says, "but 'incident' makes it sound trivial. And it is not trivial."

Warschauer is a Fulbright scholar, specializing in the use of laptops to spread literacy to children. In the summer of 2003, he returned to his office from lunch to find a crowd surrounding a car in the parking lot. Police had smashed the window open with a crowbar. Only as he got closer did Warschauer realize it was his car. That was his first clue that he'd forgotten to drop his 10-month-old son, Mikey, at day care that morning. Mikey was dead.

Warschauer wasn't charged with a crime, but for months afterward he contemplated suicide. Gradually, he says, the urge subsided, if not the grief and guilt.

"We lack a term for what this is," Warschauer says. And also, he says, we need an understanding of why it happens to the people it happens to.

It was unusual: three people together in one place, **sharing the same heartbreaking history.** All three had accidentally killed their babies in the identical, incomprehensible, modern way.

David Diamond is picking at his breakfast at a Washington hotel, trying to explain.

"Memory is a machine," he says, "and it is not flawless. Our conscious mind prioritizes things by importance, but on a cellular level, our memory does not. If you're capable of forgetting your cellphone, you are potentially capable of forgetting your child."

Diamond is a professor of molecular physiology at the University of South Florida and a consultant to the veterans hospital in Tampa. He's here for a national science conference to give a speech about his research, which involves the intersection of emotion, stress and memory. What he's found is that under some circumstances, the most sophisticated part of our thought-processing center can be held hostage to a competing memory system, a primitive portion of the brain that is — by a design as old as the dinosaur's — inattentive, pigheaded, nonanalytical, stupid.

Diamond is the memory expert with a lousy memory, the one who recently realized, while driving to the mall, that his infant granddaughter was asleep in the back of the car. He remembered only because his wife, sitting beside him, mentioned the baby. He understands what could have happened had he been alone with the child. Almost worse, he understands exactly why.

The human brain, he says, is a magnificent but jury-rigged device in which newer and more sophisticated structures sit atop a junk heap of prototype brains still used by lower species. At the top of the device are the smartest and most nimble parts: the prefrontal cortex, which thinks and analyzes, and the hippocampus, which makes and holds on to our immediate memories. At the bottom is the basal ganglia, nearly identical to the brains of lizards, controlling voluntary but barely conscious actions.

Diamond says that in situations involving familiar, routine motor skills, the human animal presses the basal ganglia into service as a sort of auxiliary autopilot. When our prefrontal cortex and hippocampus are planning our day on the way to work, the ignorant but efficient basal ganglia is operating the car; that's why you'll sometimes find yourself having driven from point A to point B without a clear recollection of the route you took, the turns you made or the scenery you saw.

Ordinarily, says Diamond, this delegation of duty "works beautifully, like a symphony. But sometimes, it turns into the '1812 Overture.' The cannons take over and overwhelm."

By experimentally exposing rats to the presence of cats, and then recording electrochemical changes in the rodents' brains, Diamond

Miles Harrisan holds a toy that belonged to his son, Chase, shown opposite, who died after being left in the back seat of his father's car last summer.

CLOSE-UP OF FAMILY PHOTOGRAPH OF CHASE BY REBECCA ANDRES

PHOTOGRAPH BY REBECCA ANDRES

has found that stress — either sudden or chronic — can weaken the brain's higher-functioning centers, making them more susceptible to bullying from the basal ganglia. He's seen the same sort of thing play out in cases he's followed involving infant deaths in cars.

"The quality of prior parental care seems to be irrelevant," he said. "The important factors that keep showing up involve a combination of stress, emotion, lack of sleep and change in routine, where the basal ganglia is trying to do what it's supposed to do, and the conscious mind is too weakened to resist. What happens is that the memory circuits in a vulnerable hippocampus literally get overwritten, like with a computer program. Unless the memory circuit is rebooted — such as if the child cries, or, you know, if the wife mentions the child in the back — it can entirely disappear."

Diamond stops.

"There is a case in Virginia where this is exactly what happened, the whole set of stress factors. I was consulted on it a couple of years ago. It was a woman named, ah . . ."

He puts down his fork, searches the ceiling, the wall, the floor, then shakes his head. He's been stressing over his conference speech, he says, and his memory retrieval is shot. He can't summon the name.

Lyn Balfour?

"Yeah, Lyn Balfour! The perfect storm."

It's mid-October. Lyn Balfour is on her cellphone, ordering a replacement strap for a bouncy seat for the new baby and simultaneously trying to arrange for an emergency sitter, because she has to get to the fertility clinic, pronto, because she just got lab results back, and she's ovulating, and her husband's in Iraq, and she wants to get artificially inseminated with his sperm, like right now, but, crap, the sitter is busy, so she grabs the kid and the keys and the diaper bag and is out the door and in the car and gone. But now the baby is fussing, so she's reaching back to give him a bottle of juice, one eye on him and the other on a seemingly endless series of hairpin turns that she negotiates adroitly.

"Actually," she laughs, "I'm getting better about not doing too much at once. I've been simplifying my life a lot."

Raelyn Balfour is what is commonly called a type-A personality. She is the first to admit that her temperament contributed to the death of her son, Bryce, two years ago. It happened on March 30, 2007, the day she accidentally left the 9-month-old in the parking lot of the Charlottesville judge advocate general's office, where she worked as a transportation administrator. The high temperature that day was only in the 60s, but the biometrics and thermodynamics of babies and cars combine mercilessly: Young children have lousy thermostats, and heat builds quickly in a closed vehicle in the sun. The temperature in Balfour's car that day topped 110 degrees.

Experts recommended that child seats be in the back of the car. If few foresaw the consequence of the lessened visibility ... **well, who can blame them?** What kind of person forgets a baby?

There's a dismayingly cartoonish expression for what happened to Lyn Balfour on March 30, 2007. British psychologist James Reason coined the term the "Swiss Cheese Model" in 1990 to explain through analogy why catastrophic failures can occur in organizations despite multiple layers of defense. Reason likens the layers to slices of Swiss cheese, piled upon each other, five or six deep. The holes represent small, potentially insignificant weaknesses. Things will totally collapse only rarely, he says, but when they do, it is by coincidence — when all the holes happen to align so that there is a breach through the entire system.

On the day Balfour forgot Bryce in the car, she had been up much of the night, first babysitting for a friend who had to take her dog to an emergency vet clinic, then caring for Bryce, who was cranky with a cold. Because the baby was also tired, he uncharacteristically dozed in the car, so he made no noise. Because Balfour was planning to bring Bryce's usual car seat to the fire station to be professionally installed, Bryce was positioned in a different car seat that day, not behind the passenger but behind the driver, and was thus not visible in the rear-view mirror. Because the family's second car was on loan to a relative, Balfour drove her husband to work that day, meaning the diaper bag was in the back, not on the passenger seat, as usual, where she could see it. Because of a phone conversation with a young relative in trouble, and another with her boss about a crisis at work, Balfour spent most of the trip on her cell, stressed, solving other people's problems. Because the babysitter had a new phone, it didn't yet contain Balfour's office phone number, only her cell number, meaning that when the sitter phoned to wonder why Balfour hadn't dropped Bryce off that morning, it rang unheard in Balfour's pocketbook.

The holes, all of them, aligned.

There is no consistent character profile of the parent who does this to his or her child. The 13 who were interviewed for this story include the introverted and extroverted; the sweet, the sullen, the stoic and the terribly fragile. None of those descriptions exactly fits Lyn Balfour, a 37-year-old Army reservist who has served in combat zones and who seems to remain — at least on the subject of the death of her son — in battle.

"I don't feel I need to forgive myself," she says plainly, "because what I did was not intentional."

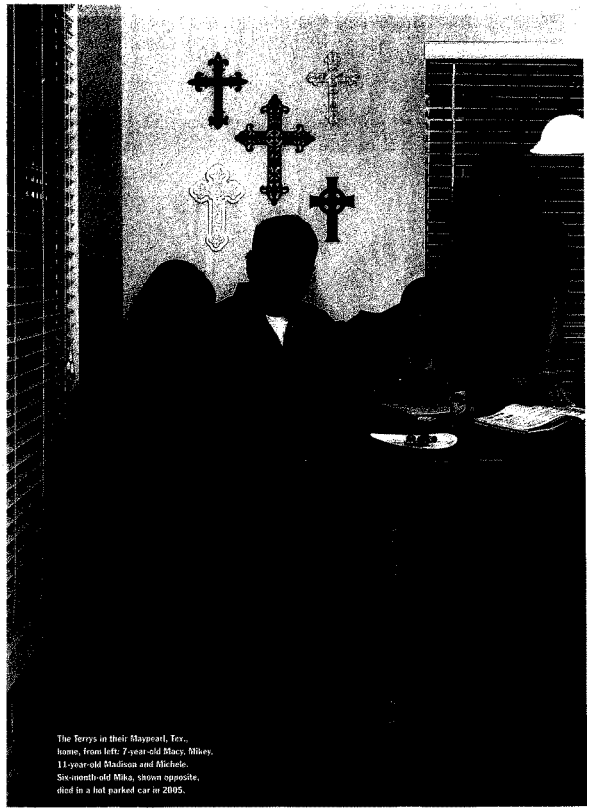
Balfour is tall and stands taller, moving with a purposeful, swinging stride. She's got a weak chin but a strong mouth that she uses without much editing. She's funny and brassy and in your face, the sort of person you either like or don't like, right away.

It had been Balfour's idea to go to the trial of Miles Harrison, and it was she who walked up to Harrison in the hallway during a break,

CONTINUED ON PAGE 22

DETAIL OF VIDEO PHOTOGRAPH BY STEVE HUMPHREYS.

PHOTOGRAPH BY STEVE HUMPHREYS



The Terrys in their Maypearl, Tex., home, from left: 7-year-old Macy, Mikey, 11-year-old Madison and Michele. Six-month-old Mika, shown opposite, died in a hot parked car in 2005.

Mr. RUSH. Thank you so very much.

Dr. Runge, you are a very patient man.

Dr. RUNGE. Mr. Chairman, I'd like the balance of their time, if that's oK.

Mr. RUSH. You are recognized for your 5 minutes and thereabouts.

STATEMENT OF JEFFREY W. RUNGE, M.D.

Dr. RUNGE. You're very charitable. Thanks.

I do have a more exhaustive written testimony that I've submitted for the record, with your permission.

I also, like these people on the panel, have devoted my life to road safety, first as an emergency physician, teaching in a residency program in North Carolina, culminating with my 4 years as administrator. I have been away for about 3 years working on issues of Homeland Security, but it's a pleasure to be back.

I want to take a little bit different tack here with you all because I would like to ask you do something that you haven't been doing, and that is, NHTSA's safety programs come out of grant funding that has been funded through the Highway Trust Fund. But I would like you to consider, Mr. Chairman, that motor vehicle safety is inextricably linked to health care and that you can't have a discussion about health care in this country without recognizing the importance of road safety. It is inextricably linked to the well-being of our society. We love the autonomy and the mobility that it provides us, but there's is a tax on that privilege.

We've made strong gains in belt usage. We've made some gains in impaired driving, but we are still a long way from where we need to be. Certainly, there's more to do in making motorcycle transportation safer; and we need better support from this committee for our emergency medical services systems across the country.

Now I understand that you are dealing basically with NHTSA's organization of vehicle safety programs, but I would like to appeal to you to take a little bit more activist role in the safety programs which have been funded out of the Highway Safety Trust Fund.

You can't talk about the cost of health care without talking about the cost of road traffic injuries. Once a crash has occurred, its victims are then part of the health care system. They are picked by the EMS. They go through expensive acute care, through expensive rehabilitation. There are work loss days, there is disability, and the Nation's productivity suffers.

America has invested in prevention programs and safer vehicles, but this investment still pales in comparison to other investments for other illnesses. So I believe that Congress should take the opportunity to be motivated by the opportunity for health care cost savings and reprioritize crash injury and its economic burden on society.

We did a study in 2003 looking at health care cost burden in the year 2000. The health care cost alone would be $40 billion in today's health care dollars. This is a disease in which prevention works, and prevention is essential.

As Congress looks everywhere that it can for savings across the health care system, I would urge you to consider the value of low-

ering that number through data-driven prevention programs. Decreasing the cost of vehicle-related trauma should be as important a consideration for you as the discussions around changes in the vehicle.

I would like to address a couple of issues dealing directly with the vehicle safety program and their important adjuncts.

First of all, safety belt use. We did make great strides in belt use, about 10 full percentage points during my time at NHTSA thanks to the nationwide Click it or Ticket program, which we estimate saved about 3,000 lives a year. But the fact that they are still only 50 percent effective in preventing fatality has been a vexing problem for me for a long time, and I would like to echo Ms. Claybrook on this. Shouldn't a belt be required to perform as well in a rollover crash as it does for frontal impact? Should belt pretentioners be mandatory in every vehicle?

So, Mr. Chairman, I would like to advocate turning up the research pace on safety belt design and acceptability, wearability and comfort. It's still the best vaccine we've got against this particular type of illness.

Secondly, I would like the committee to support whatever we can do with vehicle technology to reduce alcohol-impaired driving. Like folks at the Alliance, I believe that the time has come for technology to be part of this tool kit. But I think that Congress should really step in with some incentives for car companies who step up to the plate.

I can tell you—and Mr. Strassburger probably can't say because he represents them all—but we've seen evidence of corporation responsibility in certain of the companies in various areas, but it's very difficult for one of them to step up to the plate and introduce a new technology because it puts them at a potentially competitive disadvantage. So if there is any way, Mr. Chairman, that you could recommend building incentives in for these new technologies—and I would ask you to start with alcohol detection technology—I think it would be a really great thing for this country.

I am very happy about our side-impact tests. We now have a regulation in place which we think will save about a thousand lives a year. And I am very happy that the agency finally issued the rule on electronic stability control, which does level the playing field for all the manufacturers in the country to deliver this also lifesaving technology. These are two examples of technology which save thousands of lives.

And I don't want to diminish any activity that would help children or would solve the problem of dozens or scores of people. That would be inappropriate. But I do want to call your attention to the fact that this is pretty much a zero sum game for the agency. At their current level of funding and their current rulemaking agenda, I asked them, when I was administrator, to tackle the big stuff first.

I actually sympathize with the committee and did associate somewhat with your holding them to task to get things done on time. I think that timelines, although nobody likes them, are necessary for us all to get our work done. But I would encourage you to require the agency also to demonstrate that that regulatory agenda is data-driven, is generated by public participation, and is

a good value for the dollar spent. And I would encourage you to hold them accountable for their regulatory agenda, for their timelines, and for the automakers as well not to petition for delays and delays and delays. I do believe that we perform better when we are a little bit under the timeline gun.

And then, finally, I would ask you to consider two things that are probably even more outrageous than getting jurisdiction over the grant programs; and that is I would like you to consider how to build in incentives for automakers to bring in new crash-avoidance technologies, that they wouldn't do just one company at a time.

I remember in 2005 GM announced that they were going to put electronic stability control in all of their SUVs by 2009. I thought that was a big deal. That's millions of vehicles. Other manufacturers had already done that without the fanfare. But it was important that the companies that stepped up, that the vehicles don't cost another $300 than the vehicle down the street.

If we are going to have these technologies in, we really do need a playing field. But before we can get rules out the door—which sometimes takes years—incentives could be put in place which incentivize manufacturers to do things earlier, even before the rules come out. I know that's outrageous, but I think it's worthy of consideration.

And then, finally, your Cash-for-Clunkers program, which is being talked about in Congress right now for fuel economy, Mr. Chairman, these little clunkers, many of them are not very safe. I would love to see families with marginal incomes be incentivized to be able to go out and buy a—get out of their two-star-rated rollover SUV that they're hauling their kids around in with a high center of gravity and get into a new crossover vehicle with a low CG, with better crash performance, and side curtain airbags.That, to me, would be a benefit for society well above anything that we could get for cars that have marginal better CAFE standards.

So with that, I will stop. I know this committee has a lot on its plate. You're worried about carbon out. I am very pleased that the Insurance Institute is taking my position, and one that I helped pioneer, that we shouldn't have to give up the safety of our children to save gas. I do believe that manufacturers can do both. They can make safer vehicles that provide better fuel economy if they're given the flexibility to do so.

Thank you very much.

[The prepared statement of Dr. Runge follows:]

Testimony of
The Honorable Dr. Jeffrey W. Runge
to the
Subcommittee on Commerce, Trade, and Consumer Protection
Energy and Commerce Committee
U.S. House of Representatives

May 18, 2009

Thank you, Chairman Rush and Ranking Member Radanovich for asking me to take part in this important hearing. Up until the last four years when I was asked to tackle the job of establishing an organization within the Department of Homeland Security, I have devoted my professional life to the reduction of injuries, culminating in my service as Administrator of the National Highway Traffic Safety Administration from 2001-2005. Since leaving government, I have relished the chance to re-engage in what I deem to be the nation's most important and urgent public health issue, road traffic injury. I am delighted to appear with this panel of experts and advocates for the health and safety of our citizens.

Motor vehicle safety is inextricably linked to the well-being of our society. We value the mobility and autonomy afforded by travel in our personal vehicles. But there is a heavy tax on that privilege. Although we have made huge strides in reducing the numbers of people who die or are seriously injured on our roads over this decade, car and truck crashes are still the leading cause of death of children in America, and in adults to age 34. It is therefore appropriate that Congress be fully engaged in the science of prevention. The creative programs of the current highway authorization, SAFETEA-LU, the dedication of the NHTSA staff and their partners in the states and communities, and the voluntary initiatives of many auto, parts and tire companies have reduced the highway fatality rate to an all-time low, allowing the agency to exceed its goals set in the first term of the Bush administration.

As the Congress approaches the next authorization, I ask that it consider even bolder programs, driven by the data, to drive the death rates to the lowest in the world. We are improving, but we still lag behind other developed nations with similar vehicle ownership. We have made strong gains in safety belt usage, but nearly a fifth of Americans still drive or ride unbuckled awaiting the fate of an expensive and devastating brain, neck or major thoracic or abdominal injury. We have made some gains in impaired driving but are still a long way from where we need to be. Much of the gains in alcohol-related fatalities can be attributed to our gains in safety belt use. NHTSA produced some of the strongest vehicle safety regulations in decades during the Bush administration to deal directly with our priorities of rollover crashes and vehicle incompatibility, but opportunities await to employ better crash avoidance technology. There is certainly more to

do in making motorcycle transportation safer and our roads more pedestrian- and bicycle-friendly. And NHTSA's programs to support EMS, vital to the mitigation of crash injuries when they do occur, needs to be shored up to provide better science, training, and professional development for these devoted protectors of society.

Cost of Crashes and the Health Care Cost Burden

One cannot talk about health care costs without considering the cost of road traffic injuries. Once a crash has occurred, its victims are then part of the health care system with its attendant costs, from Emergency Medical Services (EMS) though expensive acute care and rehabilitation. From the moment of the crash, work-loss days mount and the nation's productivity suffers. America has invested in prevention programs and safer vehicles, but the investment still pales in comparison to its investment in other illnesses. As one example, the entire NHTSA budget is less than about a tenth of the size of a single supplemental appropriation in 2005 to fight pandemic avian influenza. While pandemic preparedness has indeed made our nation stronger and has enabled us to be more effective even at fighting seasonal flu, more people die each year from motor vehicle crashes than all influenza cases combined, and have since the advent of modern transportation. In the disease of crash injury, prevention works and is essential to control the disease. We already have vaccines for vehicle injury, some of which require action by the public, like buckling a belt, while others do not, like airbags and "crumple zones." Congress should be motivated by the opportunity for health care cost savings and take the necessary steps to re-prioritize crash injury and its economic burden on society.

This committee, more than any other in the House of Representatives, must see the nexus between motor vehicle safety and the rising cost of health care. The fact that you have jurisdiction over both health care and road safety affords the opportunity for a holistic approach. The data are clear. The *health care cost burden* from motor vehicle crashes in the U.S. in the year 2000 was $32.6 billion. In 2008 dollars, that is *over $40 billion* per year. As Congress looks everywhere it can for savings across the health care system, I urge you to consider the value of lowering this number through data-driven prevention programs. Decreasing the cost of vehicle-related trauma care should be an important consideration in the discussions around health care reform.

In the next authorization, I also urge that Congress give this committee its proper share of jurisdiction over the safety grant programs, which heretofore have been the domain of committees on both houses of Congress having jurisdiction over road building. While safer roads are a critical factor in the road safety calculus, NHTSA's prevention programs tie in well with the policies with which the Energy and Commerce Committee is most expert, and would provide the opportunity for a more holistic approach to safety programs, vehicle regulations and the cost of health care.

Safety Belt Use

In 2001, safety belt use in the nation stood at an average of 71%, even with large states like California and Washington having use rates around 90%. Four years later, we achieved a nationwide average of 82%, saving 3,000 lives per year over 2001 levels. This was achieved by linking safety belt use to enforcement of existing safety belt laws through the "Click It or Ticket" campaign. The success of this program can be traced to Congress' approval of a grant program to incentivize states to use the enforcement theme and to supply paid advertising aimed at high-risk groups. Most importantly, the success was tied directly to the willingness of state and local law enforcement to make the traffic stop. Support for traffic law enforcement should be a priority.

Among states, there is a considerable disparity in average usage rates among states with "primary belt laws" and states where failure to wear a safety belt is a secondary infraction (88% vs. 75%). Under SAFETEA-LU, the administration proposed, and Congress agreed, to provide significant incentives to states to pass primary belt laws or to demonstrate 85% belt use. This has had a very positive effect with 11 states passing such laws and six others qualifying for the incentive money based on 85% use. As an example, the latest state to take this action was Florida, the result of which is the saving of a projected 124 lives and over 1,700 serious injuries every year. These injuries avoided have the effect of a $408 million in cost savings. As a result of the grant program, Florida receives an infusion of $35 million into the state for any highway safety purpose, including infrastructure improvements.

There remain 15 states that have resisted changing to a primary offense and cannot get belt use to acceptable levels, and thus continue to suffer the economic and human costs of crash injury. While we must respect the autonomy of states, the failure to pass a law cannot be traced to the will of its citizens. In most cases, the majority of people – usually the safest drivers – already buckle their belts, and thus have no stake in whether a law is primary or secondary. The resistance has come mostly from ideological positions within the state houses. Encouraging states to pass primary belt laws remains a priority – and easy, low-hanging fruit – for the Congress to continue to support with the next authorization. The success of the program and the attendant cost savings are clear. Congress should also give due consideration in the next authorization as to whether incentives for passing primary safety belt laws should phase into a sanction over the life of the bill. A careful cost-benefit analysis may support such a sanction, and if so, it should be included. As the costs of health care continue to climb, this committee has a large stake in ensuring that Congress take every action it can to finish the job of getting Americans to buckle up for every errand or trip to stay out of the hospital and the emergency department.

Impaired Driving

The nation needs leadership at the highest levels to change America's social norms around getting behind the wheel after feeling the effects of alcohol. I urge the President and the leaders of the Congress to consider new, bold initiatives to foster the cultural change necessary in this country so that people no longer consider it acceptable to get behind the wheel under the effects of alcohol. Over the past few decades, we have seen this type of cultural change even in European countries where per capita consumption of alcohol is much higher than the U.S. These countries have successfully been able to separate the choice to drink alcohol from the decision to drive. We are not there. Thought leaders with moral authority need to weigh in to drive a new social norm.

Importantly, Congress must continue to provide support to law enforcement and the judicial system to make the traffic stops and make the charges stick. DWI offenders are very often dependent on alcohol; thus, support for treatment with supervision by the courts is also vital and worthy of the support of the taxpayers.

The time has come for technology to become a part of the nation's tool kit to help keep our families safe from people who drive while impaired. Congress should incentivize technologies to provide the driver with information about his/her ability to perform the tasks of driving if alcohol is present in the air, and quite possibly to prevent use if the vehicle if unable to do so. Under the effects of alcohol, one of the first areas of impairment is judgment of one's own level of motor impairment and performance ability. If the technology exists to assist the driver in making that judgment, or even to step in when ability is impaired, the technology should be put on a fast track for deployment.

Vehicle Safety

The first decade of this century has brought about some of the highest-yield programs and safety regulations in the agency's history. The implementation of the advanced airbag rule was extremely challenging technologically for the industry and a regulatory challenge for NHTSA. In spite of misgivings about unintended suppression and inaccurate assessment of passenger seat occupancy, the results have been excellent. We now have a new vehicle fleet in which the airbag is appropriate for a population buckled up 82% of the time, and a population of parents that knows to seat their children in the back seat in age-appropriate child seats.

After years of research into more effective side impact tests, we now have a regulation in place to protect the brain and major vessels in side impact crashes, which has the effect of mandating side-curtain airbags. This is projected to save close to 1,000 lives a year and prevent thousands more debilitating and expensive head injuries.

NHTSA also recently mandated a technology that can reduce single-vehicle road departure crashes in SUVs by over 60%, that being electronic stability control (ESC). This was a central action toward reducing rollover crashes, one of my top priorities as NHTSA administrator. I am very pleased that certain automakers stepped up to agree to install the technology voluntarily in their vehicles. This voluntary inclusion of ESC enabled NHTSA to promulgate the rule more quickly to make the prevention technology universally available to every car buyer.

These examples of NHTSA rulemaking demonstrate the agency's focus on regulations that move the numbers, making large impact on the nation's road safety. The resources of the agency are not infinite. I have testified to this committee – and continue to believe – that regulations imposed on automakers, the costs of which are passed on to the buyers, must focus on our largest problems. When you were debating SAFETEA-LU, I asked that you not place statutory mandates on the agency that would inhibit its ability to respond to America's big safety problems. Clearly, there are many, many good ideas and innovations that automakers could make to achieve small differences in safety. However, if NHTSA is required by Congress to divert time and its limited resources on regulating for smaller injury problems, the public is not served. Moreover, if the industry is mandated to change their vehicles to comply with requirements that cannot meet a cost/benefit test, the price of vehicles increases and purchases are delayed, which hurts the automakers, the economy, and potential buyers' families who would benefit from a newer, safer vehicle. I do believe that, as you authorize NHTSA's programs, you should require the agency to demonstrate that its regulatory agenda is informed by its rich data on road injuries, to get the largest effect for the dollars spent. I also urge you to hold NHTSA – and the industry – accountable for adhering to that regulatory agenda and its timelines.

It is my hope that NHTSA continues to put new energy into what equipment vehicles should have to *avoid* crashes, in addition to *crashworthiness* or injury mitigation. ESC is a classic example of crash avoidance technology, as is better lighting and braking assistance. Many more technologies are around the corner as processing power increases and vehicles become mobile electronic systems. This committee should support NHTSA's better understanding of how humans interact with their vehicles and perform the task of driving through more robust human factors research, so that problems caused by the deployment of new technologies can be avoided.

I also ask Congress to consider what it might do in terms of incentives to the industry to promote the introduction of new technologies before they are mandated. For example, automakers are hesitant to be the first to install new safety technologies because they raise the price of the vehicle over that of its competitors. In that case, not only do they lose the sale, but the customer loses the protection of the new technology. That is usually cited as a case for regulatory mandates. But if companies could be incentivized to install technologies that provide small but potentially important benefits, like rear-vision systems, run-flat tires, and better lighting, the cost differential may be reduced or other incentives could offset the disadvantage. This calls for creative thinking, and could involve tax rebates, some liability protection for new technologies, or other ways to mitigate the risk of new technology introduction.

Currently there is consideration of a "Cash for Clunkers" program to promote fuel economy. While this will have a positive effect on the environment and the automakers, I urge the Congress to extend this program to encompass safety considerations. Modernizing our vehicle fleet to take advantage of much improved safety technologies would have a beneficial effect on the economy, while reducing the risk of bodily harm for our citizens. NHTSA's 5-star rating program is one method with a sound, scientific basis to differentiate among the relative safety of vehicles. For example, it could only have a positive effect on preventing rollover crashes if a family junked its old, unstable 2-star-rated SUVs in favor of a new family utility vehicle less prone to roll over and equipped with electronic stability control. Giving Americans incentives to buy safer vehicles and the automakers to produce them makes good sense for safety and the economy.

Emergency Medical Services

NHTSA has been the lead federal agency for EMS since 1968, even before there was EMS. The first administrator of NHTSA, Dr. William Haddon, used a matrix to explain the disease of road traffic injury. The phases of the disease where interventions are possible are the pre-crash phase, the crash event and the post-crash phase. It remains essential, just as it was in the 1960s, that NHTSA improve the mitigation of road crash injury in the post-crash phase. This requires that NHTSA ensure that EMS continues to provide state-of-the-art pre-hospital care and transportation of the injured. This requires continued innovation in practice, national standards for credentialing and training, and the fostering of the discipline by the public.

Even though NHTSA provided this leadership for the last 40 years, NHTSA had no specific authorization for its activities until SAFETEA-LU. Under the bill, the Federal Interagency Committee on EMS (FICEMS) was authorized with NHTSA as the administrative agency. FICEMS is a committee of the departments of Transportation, Health and Human Services, Homeland Security, Commerce, and Defense, with statutory requirements for certain agencies. FICEMS has had a slow but successful start and is the proper vehicle for interagency coordination. The next authorization should tweak the membership requirements that no longer make sense given the changing makeup of the member departments. I would also urge Congress to support the important representation from state and local governments and the private sector through the Federal Emergency Medical Services Advisory Council to increase the sense of national ownership of EMS issues. All these programs are administered by a devoted but tiny staff at NHTSA. The Congress should thus fortify the EMS office at NHTSA to be able to foster the discipline more effectively in keeping with its importance to crash injury mitigation.

Fuel Economy

I wish to focus my testimony today on saving lives. While the debate rages and deals are made in Congress, the Executive Branch and the courts about what agencies, committees, members and States may and may not do, I have heard almost no discussion of the essential societal requirement that the safety of vehicles be maintained. As one who spent thousands of hours over four years worrying about the "trade-offs" discussed by the National Academy of Sciences report, I have yet to hear proper attention being paid to the health of people *today*. Climate change is a serious issue, but so is today's leading cause of death in children as well as adults to age 34, motor vehicle crashes. We cannot as a society fail to understand and address the toll from changing the vehicle fleet in response to well-intended regulations. While the increase in greenhouse gases is a public health issue, what greater public health problem can this nation have than the leading cause of death in children?

I am proud that Secretary Mineta asked Congress in 2001 to lift the freeze on the light truck fuel economy standard and put us to work to reduce the nation's consumption of oil. This also gave us the opportunity to begin to address the emerging problem of *vehicle incompatibility*, or the harm caused when a small and light car is hit by a large, heavy passenger truck. The corporate average exacerbated the incompatibility problem, and moving to another method of standards measurement is the way to address it. We needed to come up with a system that did not require manufacturers to build a light, less safe vehicle for every big, heavy one desired by the American consumer.

Our regulations presented the first attribute-based system for setting standards, allowing the agency to turn up the stringency on any size vehicle based on the statutorily-required *maximum feasible* level. We were not convinced that taking weight out was the problem, but that size also afforded protection. Our rule gave the manufacturers and the materials scientists the opportunity to bring strong, lightweight parts to the market place so that size and safety could be maintained while recognizing the nations need to save fuel. We are already seeing the emergence of lightweight materials like strong plastics and composites that can reduce fuel consumption without sacrificing size and utility.

While the arguments will be made over how stringent to make the standard in each size class, the method does not foreclose the opportunity to make all vehicles safer and more fuel efficient, as does a "flat standard" or corporate average. I am delighted that Congress agreed with us in its validation of an attribute-based standard in 2007, so that when this method is used, it will not necessarily increase the risk of harm to American families.

I ask only that as this debate continues, Congress stand up for the safety of our citizens. If the Environmental Protection Agency or any other federal or state agency is permitted to set "carbon-out" standards, they must be mandated to consider safety in the stringency and design of their rules. No agency or state government should be allowed to return to a flat average standard

that exacerbates the problems with vehicle incompatibility. If this is allowed to occur, we can expect to pay the toll in increases in death and injury of children and young adults.

Exporting and Sharing Road Safety Expertise

Road traffic injury is expected to rise to #2 on the World Health Organization's Global Burden of Disease list within 11 years. As developing countries gain wealth, early money is spent on transportation, often on vehicles traveling on "roads" meant for pedestrians and animal transportation. Road traffic injury is also the second leading cause of death to Americans living or traveling overseas and is considered a major risk for American companies doing business around the globe.

NHTSA's approach to road traffic injuries is holistic, comprehensive and complex, having evolved over the 40 years of the agency's existence. The agency is considered the best government organization in the world in road traffic injury management; in fact, it is unique among nations to have a national agency specifically devoted to road traffic safety. NHTSA has the capability to export our knowledge and experience to help address the global disease burden and be good ambassadors for the United States.

While in office, Secretary Mineta and I believed that global road safety assistance was sufficiently important that we formed liaisons with the departments of State and Health and Human Services to export our knowledge to developing countries. NHTSA continues to be sought for its expertise on the world stage, but is limited by the lack of a budget for the activity and the competing demands of its core activities. Without specific authorities and the necessary appropriation, this important work will never be anyone's "day job," and will suffer from inconsistent effort.

I urge the Congress to enable NHTSA to provide international assistance for global road safety, with specific authorization and finding, to work with the federal interagency and international allies and private sector partners. An office should be established within the Office of Traffic Injury Control to work with existing government institutions that provide international aid and global health assistance to bring our time-tested methods to bear on this emerging global health problem.

Conclusion

Mr. Chairman, thank you for the opportunity to provide testimony on these issues. I am happy to work with you and you colleagues and your staff at any time to promote the safety of our citizens.

Mr. RUSH. Well, the Chair really thanks all the witnesses for your very invigorating and interesting testimony. The Chair feels inspired by the testimony of this panel of witnesses. Unlike the previous panel that appeared before the subcommittee, you really made some remarkable and provocative commentary and suggestions; and the Chair really wants to commit himself and the subcommittee to look at each and every one of your recommendations.

I recognize myself for 5 minutes for questioning.

I asked questions of the first panel about the relationship between Congress and NHTSA, and I noted that Congress has stopped trusting NHTSA to issue needed safety standards in a timely manner and begin mandating timelines for NHTSA to issue standards that have otherwise been delayed or ignored. And each one of you please respond—some of you have already responded, but if you want to elaborate on this relationship, I want to know, is this relationship repairable? Will we ever be able to rely on NHTSA to issue necessary safety standards in a timely manner without intervention from the Congress, congressional mandates? And how do we get there?

Would you care to respond, Mr. Strassburger? And just go down the line.

Mr. STRASSBURGER. Thank you, Mr. Chairman.

It was actually Dr. Runge, when he was NHTSA administrator, published what I believe was the first priority plan for the agency; and I think, as we heard from the first panel this afternoon, that that was a very valuable tool to the agency. It was also a very valuable tool to the industry as well. It signaled a direction that we needed to go in. It allowed us to begin making product decisions, research decisions, planning decisions in advance of rulemaking. And I think it's, in part, the reason why we're seeing the implementation of advanced technology well in advance of any mandate to do so.

And it's exactly for all of those reasons that I have recommended that the agency adopt that practice—that you direct the agency to adopt that practice on an ongoing basis. They should develop that priority plan. It should ensure that we're spending the resources to get the maximum "bang for the buck"—to quote Ron Medford—and it is an excellent tool for you to exercise oversight over the agency. But it also signals a direction for all of us to follow.

Mr. OESCH. Thank you very much, Mr. Chairman.

I think it is very appropriate—in fact, it is the responsibility of Congress—to set the mandates for the agency to give them the broad directions that they should be working on.

I think that Dr. Runge's point about everyone performs better when you have a timeline, but I also think that it's important—we do have a very talented staff at NHTSA; and if they're given the general directions, I think they will march in the correct way to try and achieve the benefits that we all want to have.

And one of the things that has dramatically changed, certainly in my experience—I first became involved in highway safety in the 1970s, and at that time the motor vehicle industry and the insurance industry, aided by consumers, were at loggerheads on the issue of airbags.

What's happened now is that we now have the vehicle manufacturers that are implementing technologies far quicker than they are mandated by the Federal rules, for example, the side-impact airbags provide head protection. There isn't a Federal rule—or there wasn't until recently a Federal rule that had those in place. In part, those are coming about—I would like to take some credit for the work of the Insurance Institute for Highway Safety. We have our own test program that has promoted the development of that technology.

But, beyond that, I think there are many steps that the manufacturers are voluntarily taking because they recognize now safety sells, and they want to be able to compete in the marketplace. We see that in our own affairs in that we have what we call our "top safety pick," and that is your car has to do good in our frontal test, good in our side test, good in our rear test, and it has to have electronic stability control. Next year, we will also put in a requirement that it has to do well in our roof crash test. The manufacturers are actually coming to us and asking for us to test vehicles to get that top safety pick rating, because they know that it will help them in the marketplace.

So, again, yes, it is entirely appropriate for Congress to set the general mandates, but I do think that, with the change in the attitude among the vehicle manufacturers, that we will see much more movement voluntarily towards achieving many of these goals.

Thank you, sir.

Mr. RUSH. Ms. Claybrook.

Ms. CLAYBROOK. Thank you very much, Mr. Chairman.

I have been a strong advocate since the early 1990s of the Congress setting deadlines for the agency to act because there was such a large backlog of unattended-to matters. And the Congress has done that, and it has made a huge difference.

On the other hand, I also started, when I was at the National Highway Traffic Safety Administration in the late 1970s, something called NCAP, the New Car Assessment Program. What that does is provide consumer information for manufacturers who exceed the standards, because the NCAP test is five miles an hour higher than the standard. So those manufacturers who stood out then got kudos for doing that; and the Insurance Institute for Highway Safety, with its own design test, has also enhanced that as well.

So I certainly do believe that public information works, but the problem is that most people don't have this information. So in the 2005 law there was a provision put in that requires this information to be on the price sticker. So now the consumer is getting that information—they're not getting the Insurance Institute information, but they are getting the test information from the National Highway Traffic Safety Administration, and we have actually made some recommendations to the agency to improve that program and make it easier for people to understand. So I agree with all that.

But I will say that there were decades where, for example, in roof crush—a great area—where, with the onset of SUVs, the number of deaths and rollovers just zoomed up and the agency didn't act. And the roof crush standard then at issue was in 1971, and it hadn't been improved yet all these years. And, finally, in 2005,

the Congress said enough is enough, and you're going to have to take some action.

On the motor coach area, the NTSB has made these great recommendations, and they've been ignored for years and years and years. And the most recent evaluation—I don't think it was mentioned as clearly in the testimony—the NHTSA said that the agency, NHTSA, was responsible for some of the deaths in these cashes because it had refused to take any action.

And the last thing I would say is on voluntary standards. I do think that voluntary standards are confusing to the public. I think the manufacturers have, for example, undertook a compatibility voluntary standard. They never finished it, and it kind of disappeared. And the problem is is that some manufacturers will comply, some won't. No one knows which ones do, which ones don't.

I do think that if there's a need for a standard, it ought to be one that the public can participate in as the Federal Government considers it and issues it, and then everyone complies. It's a minimum standard. It's not a maximum standard. It's a minimum standard. And so if the companies want to do better, as Honda is doing with pedestrian safety, then they can, and they can boast about it. But I think that the standards ought to be for all cars.

Mr. RUSH. It seems that my time is ending.

The Chair recognizes the ranking member for 5 minutes for questioning the witnesses.

Mr. RADANOVICH. Thank you, Mr. Chairman.

Dr. Runge, thanks—as well as to everybody—for being here for the testimony today.

You mentioned, Doctor, that this committee should have a more direct role in the jurisdiction of safety grant programs, which I'm not clear I understand why you're recommending that. But it would seem to me, too, that the committee that has within its jurisdiction the setting of CAFE standards also ought to be considering automobile safety as well. Is that the point that you are making, or it is a different one as well?

Dr. RUNGE. That actually is one of the points. I'm a little bit biased here because of my relationships with getting certain things done on the Hill. This committee, I think, has a very comprehensive view of the job of motor vehicle safety and separating the grant programs, having—let me step back a second.

I actually was very grateful only to have two really strong committees of jurisdiction in the House of Representatives. In Homeland Security, I had 89. So it's a lot better over here.

But, nonetheless, I think you have health care reform on your plate, you have health care costs on your plate, you have CAFE on your plate. You can't really separate safety belts, impaired driving, primary safety belt law, incentive grants, EMS grants, traffic records grants—which go to the States to have better information come into the NHTSA so that the vehicle safety regulations can have a good foundation. It actually just makes sense for some shared jurisdiction here among these different programs. At least that's one man's opinion.

Mr. RADANOVICH. Thank you.

Can you tell me which, in your opinion, would have the most immediate impact on reducing driver fatalities? Would it be behav-

ioral changes, technology improvements, or improved driver ed and skill requirements?

Dr. RUNGE. I think all of those are important, sir. Unquestionably, the largest delta to be gained right now is by increasing safety belt use, still. We still have 15 States that have secondary enforcement laws. We saw gains in our impaired driving numbers because of increases in safety belt use.

So a continuation of the—I think it's the 406 RAMP program, which incentivizes States to pass primary belt laws, and I said in my written testimony—and I know this may seem heretical from a Republican, but I think it's time that we consider a progression to a sanction similar to what Congress did with the .08 law. It just provides some top cover for State legislators to do the right thing, and I think we've seen evidence where that would be needed.

Mr. RADANOVICH. Behavioral changes.

Dr. RUNGE. Behavioral changes would be, by far, the largest delta. Although the others are important. And I do believe that educating people on how to drive and enforcement of laws about how they drive is important to make sure the operator can actually operate the safe vehicle.

Mr. RADANOVICH. Thank you.

Mr. Strassburger, on the issue of CAFE mandates, how do you think—if those are increased, how do you deal with the safety mandates that might be accommodated with it?

Mr. STRASSBURGER. Well, the CAFE mandates have been increased. The way they have been dealt with is the way in which was described here, with an attribute-based system that provides a disincentive for downsizing or down-weighting vehicles; and that was the system that we have endorsed as the Alliance to preserve safety while enhancing motor vehicle efficiency.

Mr. RADANOVICH. Thank you.

Mr. Oesch, I do have a question. The Auto Manufacturers Fund and the Insurance Institute for Highway Safety——

Mr. OESCH. It's the auto insurer, sir.

Mr. RADANOVICH. I'm sorry. The Auto Manufacturers Fund, the Insurance Institute for Highway Safety. Am I right?

Mr. OESCH. No. We are funded exclusively by automobile insurers. We do not receive any Federal monies; we do not receive any moneys from the automobile insurers.

Mr. RADANOVICH. Got it. Well, the Auto Alliance and the Insurance Institute voluntarily agreed to improve vehicle compatibility in 2005 and filed such an agreement with NHTSA. Why weren't those Bumpers-for-Life trucks part of the agreement?

Mr. OESCH. This is covered in my written testimony; and you've raised a very, very good point. Because we have a situation where the existing bumper standard only applies to passenger cars. There is no requirement for SUVs. There is no requirement for pick-up trucks. There is no requirement for vans. So, clearly, one of the things that we could do that would certainly eliminate a lot of unnecessary property damage in low-speed collisions is to require a uniform bumper height for those classes of vehicles. It would also have a safety benefit as well to try and assure that the structure of the vehicles match better in the event of an impact.

One of the things that did come out of that voluntary agreement is that manufacturers did agree on the larger vehicles—the SUVs and the pick-up trucks—to add some additional structure lower than their existing bumpers to try and ensure that uniformity. But, clearly, if we had a mandated bumper standard for all vehicles to ensure a uniform height, that would help both for property damage as well as for safety.

Mr. RADANOVICH. Thank you very much.

I yield back, Mr. Chairman.

Dr. RUNGE. May I make a comment on that as well, just to get it on the record, Mr. Chairman?

I just want to make sure that the committee understands that the Federal Motor Vehicle Safety Act is probably a misnomer. It should be the Federal People Who Operate Motor Vehicles and Ride in Them Safety Act. It's not really there to deal with property damage.

Now, this is the Consumer Protection Subcommittee, and I think that if you wanted to look at those additional mandates for the agency, accompanied by the authorities and the appropriations, it might be appropriate then to venture into this area. But when NHTSA sets its regulatory agenda, it looks at fatalities and injuries, not necessarily at property damage. And it may cost $3,000 for a fender-bender, which is unfortunate and could be, certainly, done better; and certainly in the eyes of the insurance industry that's not the agency's mandate. So just please keep that this mind.

Secondly, it's not about the bumper height. It's about the places where the force is delivered vehicle to vehicle, not necessarily the bumper. The bumper is there for property damage control and to let you know that you've hit something.

Ms. CLAYBROOK. Mr. Chairman, if I could just comment on that. There is a separate statute that NHTSA does administer dealing with property damage and that deals with bumpers. Dr. Runge is correct, that what you want to have is the cell of the vehicle be the thing that's impacted, not just the bumper. So I agree with that. But there is an opportunity for property damage.

Mr. RUSH. The Chair recognizes now the gentleman from Maryland, Mr. Sarbanes.

Mr. SARBANES. Thank you very much, Mr. Chairman.

I apologize for coming as late as I did to the hearing; and I apologize to the panelists, although I did get to hear a little bit of the testimony on television before I came over.

I have two sort of conceptual questions, and I invite anybody to answer them.

The first is, of course, right now, the auto industry in this country is undergoing a radical transformation which we are viewing primarily through the lens of sort of fuel efficiency standards and those kinds of things, with great expectations that what will emerge from this period of transition will be something that kind of gets us on the cutting edge.

And what I was curious about is whether you view an opportunity in this—and if this has been asked, I apologize—but whether you view a similar kind of opportunity in this retrenchment that's going on, this remaking of the industry with respect to safety standards and perhaps, you know, consolidating a bunch of safety

issues that have accumulated over time where there is now a chance to kind of push forward in a quantum way. So is there anything about this transitional period that you see as offering opportunities?

You might, alternatively, tell me that it actually poses new challenges for the kinds of progress you are trying to see made. But I would like to put it in that context and see what you have to say.

Ms. CLAYBROOK. Well, I'm sure the Alliance would like to come in on this. They probably know more about the cost issues.

But I do think that when vehicles are being dramatically redesigned, that's the greatest opportunity, designed-in safety. And what we're talking about here is designed-in safety. And in terms of, for example, roof crush and ejection from the automobile, where 10,500 people are killed every year, that's not a big technology cost. It's really a design issue: a little bit more strength in the roof, a priority on the A pillar over the windshield and not just the B pillar, and so on. So you can really make some dramatic improvements.

There is also an opportunity to improve the belts. Belts are not tested for rollover. You could do that.

There is an opportunity to put in some of the child safety things that are very small in terms of just reminders for the rear seat. Today, the reminders are only for front-seat passengers.

So there are a lot of issues to adjust, small things that could be incorporated into this dramatic redesign that's going on for safety and fuel economy and also in the crush protection of the vehicle and in the compatibility of these vehicles because we're not going to have the same kind of differential with SUVs and cars. So as we redesign these vehicles, we can think forward about the compatibility of these vehicles. So that's why we would like to see a standard.

Dr. RUNGE. As another former administrator—I'm a has-been. I don't speak for the agency. But I can tell you that what you've raised here does raise a formidable challenge for the agency, and that is that vehicles have essentially become electronic systems. A lot of the rules don't apply.

In the year 2002, I suggested that we needed a quadrennial review of all the rules to make sure that when we talk about bulbs that it recognized the fact that they were LEDs and this sort of thing. That quadrennial review turned into a 7-year review for reasons that are beyond the scope of this discussion. It is important, but it is a very difficult thing for an agency that is fully employed to take this additional endeavor on.

I never said when I was administrator that the agency didn't have enough money to do its work. But the fact is is that Ms. Claybrook had—what—1,100 people or so to do this work. I had 600. And so it is a zero sum game for the agency. And if they are to step back and take a more comprehensive view, there is a certain cycle of activity that's going on every day just focusing on the regulatory agenda. To step back and take a larger view would really require additional resources, but I do think it's a very valuable question.

Mr. STRASSBURGER. If I could, please. Obviously, the agency should have adequate resources to do its job, but there is no higher

priority among Alliance members than to reinvent the automobile to make it cleaner, safer, and more efficient. And that's where we are investing our effort, and the results show every day. There are a number of things that we are doing voluntarily to improve the product and improve safety performance. And I would argue that the marketplace is only now catching up with its demands for more efficient vehicles to the demands that have been there already for the last 10 years or more for safer vehicles.

So the real challenge is you're going to get a lot of input here today and as you go forward as to how to reauthorize the agency. And I keep coming back to the fact that the agency is well equipped to evaluate and vet, prioritize all the suggestions that you are going to get and set a priority plan and set the direction for the country; and I think that's really the best way to proceed.

Mr. SARBANES. Well, part of the reason I asked the question was to sort of scold myself. Because I realize that, given the other issues that the larger committee has jurisdiction over, I've gotten myself very focused on this sort of fuel economy dimension of this dramatic transition that is occurring. But, clearly, the safety and other elements are as important if we're going to have a strategic approach and an efficient response to this opportunity that's presented.

So I appreciate the response. Thank you.

Dr. RUNGE. One follow-up, too, sir. I think that the agency is concerned about what are the effects of these more fuel—I avoid the word "efficiency" because you can have a very efficient big light truck. But vehicles that have greater fuel economy, we're starting to see a lot of these small, sporty, nice-looking, consumer-attractive vehicles coming into the marketplace. And I think the agency and engineers and certainly the folks in the industry are concerned about the crash pulse from these very—what are probably going to be stiffer vehicles coming onto the marketplace.

Every time you do something good, it seems like there's a Newtonian opposite effect; and I think that the agency is really struggling and grappling to try to figure out what those engineering tradeoffs are, as I know that the industry and safety folks are as well. And I appreciate your attention to that. It's very important as the committee talks about what the agency should do, keep in mind that they have to deal with these tradeoffs just constantly.

Ms. CLAYBROOK. I would say there is one other tradeoff, if I could, Mr. Chairman, and that is the question about whether or not there is any relationship between the huge amount of money that's being invested in the industry and any kind of payback, if you would, from the industry by adopting these requests as opposed to opposing them.

Because often there is a disagreement in the rulemaking process; and that's one of the reasons it takes such a long time, is that the industry has been resistant to a lot of this. And some companies have bounced ahead, some have resisted on different standards, different ways. But I do think that there ought to be more of a nexus between the money that's going into the industry and these public needs.

Dr. RUNGE. One quick follow-up. I have found out that sometimes all you got to do is ask. The belt reminders that people are

talking about, the things that drive you crazy in your car if you don't buckle up—and I know some of you are guilty—were put in there because I asked them to do it. I knew that a rule would take God knows how long and that we would get petitioned up the wazoo. And I just said, look, would you guys just do this? And they said, yes, we think we can work that out. And they did it.

So the thing that drives you nuts if you don't buckle your belt is not a mandate. It's something that they agreed to do because we asked them. And some of these other things that are not on the regulatory agenda but on the agenda of our advocate friends actually may be done if they work together.

Mr. OESCH. Could I add one point to that? This is something that actually is directly within Congress' power. That is, back in 1974, Congress put a limit on the length of time that a belt reminder could be sound within a vehicle. It can't sound more than 8 seconds. And just as Dr. Runge was referring to, we've done research of the systems that the manufacturers have voluntarily installed that have longer signals and that we have found that those have been very effective in increasing the belt usage. So there is an impediment, if you will, to the agency being able to require those because of congressional legislation. So it's certainly something that you may wish to consider.

Mr. RUSH. Thank you.

Ms. CLAYBROOK. It was in 2005 that this got eliminated.

Mr. RUSH. Thank you very much. The Chair will entertain the second round of questioning and recognize himself for another one additional question. Each member will receive one additional question.

Dr. Runge and Mr. Oesch, and Ms. Fennell, your recent comments really is a perfect segue to the question that I have, and that is whether or not there is any anti-driver distraction technology that exists? I was on my way to the airport for this hearing and the lady that was in the car in front of me was driving as she was applying her makeup, and there are so many examples of individuals on cell phones and text messaging and a whole array of different things that are distracting. Is there something that we can do or the industry could look at to remind people that you're taking your life in your hand? You look pretty good without the makeup. So, you know, is there something that could be—some kind of technology that could be utilized or implemented?

Mr. OESCH. There certainly—one way to approach this is through the enactment of State laws that ban the use, for example, of cell phones or texting while driving. And we're seeing more and more jurisdictions that have begun to take those steps.

But one of the keys to that, and this also goes to belt usage and why we had laws on the books for a number of years but it was only at the point at which we began high visibility enforcement of those laws that we began to see the seatbelt usage rise. Just like in this instance, if States but the laws on the books, for example, on cell phone use or texting, they also have to ensure then that there is active enforcement of those laws. Otherwise it's not going to have much effect.

Dr. RUNGE. If I could echo that, Mr. Chairman, this boils down to the cop on the beat, you know. We can make the safest vehicle

in the world, we can do anything we need to do, essentially it is the operator that determines whether or not a crash occurs. So enforcement of traffic laws is extremely important, and I think again I get back to these grant programs. You know, we got permission from the Congress to use, I believe it was $80 million of grant funds to soup up the enforcement for safety belt use by getting money to the States to do certain things, including providing saturation patrols for traffic enforcement. That has beneficial effects way beyond safety belts and impaired driving. These enforcement opportunities. We get the data every year and it turns out they find people with outstanding warrants, they find fugitives, they find—this really is criminal law enforcement. Traffic safety is criminal law enforcement. Most of the interface with the police and the public occurs through traffic stops, and they catch a lot of bad guys doing this.

So I think the Congress has to continue to support the funding that NHTSA gives to States to enhance traffic enforcement. It is really a critical thing.

Ms. CLAYBROOK. Maybe what we could have some technology that every time you take one hand off the wheel then it buzzes in your ear. So there are—I'm not suggesting we do that, but I'm suggesting that's a possibility of some kind of technological response to—because it is very, very difficult. It is very difficult for the police to enforce the law when we are talking about putting on lipstick or talking on a cell phone.

Mr. RUSH. A voice reminder or recording.

Ms. CLAYBROOK. It could be if you take both hands on the wheel you get a little voice reminder that says watch out.

I would like to correct the record for one second, and that is that as much as I admire Dr. Runge he is not the first person who issued a safety plan for the agency. The first ones were issued many years before Dr. Strassburger—Mr. Strassburger got involved and included by myself. I have issued one every year, but so did the agency every year back in the early seventies.

Mr. RUSH. The ranking member suggested that we were thinking along the same lines. So I asked this question so he doesn't have any additional questions.

The Chair recognizes the gentleman from Maryland for one additional question.

Mr. SARBANES. Can I follow up on your question before I ask that other question or make a comment? I find that the barrier to this issue of improving safety with respect to the use of cell phones is not the talking part of it; it is the dialing part of it. So it just occurs to me from a technology standpoint, you know, we may want to move to where cars come already equipped with voice activated opportunity to make calls, because—and maybe that's already underway, but you're fighting a losing—I mean, people know they can't have something in their hand when they come into the District, but at some point they've got to dial the thing if they haven't got a voice activated technology in place. And cars could provide that, I would imagine, right?

Ms. CLAYBROOK. Well, the research shows it is the use of your brain.

Mr. SARBANES. Well, OK. Fair enough.

Ms. CLAYBROOK. But you could slightly reduce it by allowing for automatic dialing.

Mr. SARBANES. But at least the visual disconnect that happens when—I'm giving away too much of my own driving habits here, clearly. The observation I just wanted to make was the struggle must be with respect to these safety issues to evolve to a kind of strategic approach over time, and I know there's so many episodic things that occur, you know, litigation, high profile accidents, other things that push the industry and the agencies that regulate the industry in different directions. And navigating that while maintaining a strategic approach over time that kind of builds on the safety measures that have already been developed must be a challenge, with funding concerns only adding to the task. But I imagine that's the goal that we all seek and hopefully in this reauth we will be able to achieve more of that.

So thank you all very much.

Mr. RUSH. The Chair really thanks this panel of witnesses. Again, you have been very, very helpful to us to guide us along our way for reauthorization. Your commentary and ideas and suggestions will be taken seriously by this Chair and by the subcommittee, and we look forward to working with you again.

I want to also really reiterate my expression to you that we are so grateful to you for taking your time out from your busy schedule to be with us today, and we want to let you know that our time for questioning has concluded and so you are respectfully dismissed from the witness table there.

The Chair, before he adjourns this committee, asks for unanimous consent to enter into the record a statement submitted by the Mothers Against Drunk Driving. And also there have been some extraneous materials, including articles and reports that were brought to this committee by Ms. Fennell, and the Chair asks for unanimous consent that these and any other extraneous material be submitted into the record.

Hearing no objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. RUSH. Thank you very much, and it has been a pleasure working with you.

[Whereupon, at 4:10 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Statement of
Representative John D. Dingell
Committee on Energy and Commerce
Subcommittee on Commerce, Trade, and Consumer Protection
Hearing on "Auto Safety: Current Mandates and Emerging Issues"

May 18, 2009

Thank you, Mr. Chairman, for holding today's hearing. Although congressional attention to the automotive industry has been focused of late on matters related to fuel efficiency, we must not lose sight of ensuring vehicle occupants' safety. As the Committee once again commences with this important work, I urge it to take a holistic approach that involves all stakeholders, particularly at a time of transformation in the automotive industry and the concurrent necessity to reauthorize several statutes administered by the National Highway Traffic Safety Administration (NHTSA).

I note that NTHSA has yet to complete the third of three rollover crashworthiness rules required of it by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). I would welcome NHTSA's comments on why this rulemaking, related to occupant ejection, has not yet been begun, and further, whether it believes mandating a so-called "dynamic rollover test" in this rule would be feasible. Moreover, I would ask NHTSA to discuss what progress it has made in rulemakings concerning motorcoach safety, car seats, seat belts, and vehicle compatibility testing. Lastly, given the number of vehicle safety-related issues pending examination by the agency, I would request NHTSA explain why its fiscal year 2010 budget request for operations and research is just four percent greater than the sum it requested for fiscal year 2009.

As you know Mr. Chairman, I have some years of experience in overseeing NHTSA and the automotive industry in general. In the hopes of helping the Committee in its work to reauthorize NHTSA, I offer my cooperation. I thank you for your courtesy and yield back the balance of my time.

Rep. Phil Gingrey
Opening Statement for NHTSA Hearing
Commerce, Trade, and Consumer Protection Subcommittee
May 18, 2009

Mr. Chairman, I want to thank you for calling this hearing today on the challenges that face the National Highway Traffic Safety Administration and how they need to be addressed in the upcoming SAFETEA-LU Reauthorization. As we work with our colleagues on the Transportation and Infrastructure Committee, I hope that today's hearing will provide beneficial information on vehicle safety that can be applied thoughtfully in the legislative process.

As a grandfather of eight, the issue of vehicle safety – particular the safety of children – is very close to my heart. Since the most recent transportation bill in 2005, NHTSA has taken significant steps to reduce the number of and subsequent casualties due to rollover accidents. However, despite these efforts, further safety measures need to be taken.

Mr. Chairman, I am troubled by research out of the NHTSA that indicates that more than 80% of rear-facing infant car seats are installed incorrectly and the alarmingly high level of fatalities for children between the ages of five and fifteen that are not wearing seat belts. I certainly applaud Transportation Secretary Ray LaHood for his initiative to review testing procedures awareness on this matter.

In the coming weeks and months, the Transportation and Infrastructure Committee will be moving ahead with the SAFETEA-LU reauthorization that will include important aspects of vehicle safety. As we move forward on these particular issues, I hope that this Subcommittee can play an active role in shaping new policy to ensure the enhanced safety of our vehicles. However, we should be careful that whatever action we take will not simply add further bureaucratic red tape that will only undermine existing and future efforts by the NHTSA.

Mr. Chairman, vehicle safety affects Americans everyday whenever they enter their cars, and we need to be extremely mindful of the safety of all people – especially children – when they take to the roads. I look forward to hearing from both of our esteemed panels on these issues, and I yield back the balance of my time.

Statement of Laura Dean Mooney
President, Mothers Against Drunk Driving
Regarding
Auto Safety: Existing Mandates and Emerging Technologies
Subcommittee on Commerce, Trade, and Consumer Protection
House Committee on Energy and Commerce
May 18, 2009

Chairman Rush, Ranking Member Radanovich, and members of the subcommittee. Thank you for the opportunity to submit testimony to your subcommittee on the important topic of emerging technologies in the automotive industry.

Mr. Chairman, I am pleased to report that significant progress has been made to reduce drunk driving, with a 44 percent reduction in alcohol-related fatalities since 1980 when MADD was founded. This reduction would not be possible without the hard work of law enforcement, prosecutors, NHTSA, state highway safety offices, and others. MADD thanks them as well as you and this committee for leadership on this issue. Perhaps most important, MADD would like to thank the American people, who demanded that progress be made. This has truly been a team effort.

I became involved with MADD after my husband, Mike Dean, was killed in Texas by a drunk driver leaving me to raise our 8-month old daughter alone. On November 21, 1991, Mike left a business meeting in Oklahoma and drove to the Dallas-Fort Worth area to visit his family.

At 7:15 p.m., a drunk driver going the wrong way on a Texas highway met Mike's car head on, killing him instantly. The offender, who died at the crash scene, had a BAC of .34 and was driving with an almost empty bottle of Jim Beam whiskey in the vehicle.

Mr. Chairman, as you know this must not be tolerated. In the fight against drunk driving, we must be honest with ourselves. Most of the progress on drunk driving occurred by the mid 1990's thanks to the 21 minimum drinking age, zero tolerance laws, the national .08 standard, administrative license revocation, and especially, tireless leadership by law enforcement.

Campaign to Eliminate Drunk Driving

In November 2006, MADD began a new effort to usher in the next era of combating drunk driving fatalities by launching the Campaign to Eliminate Drunk Driving (CEDD). The campaign is modeled after the highly successful airbag and seatbelt campaign.

While it may seem ambitious, MADD and its partners truly believe that drunk driving can be eliminated during our lifetime.

The campaign consists of four parts:

1. Intensive high-visibility law enforcement efforts including twice-yearly national crackdowns consisting of paid advertising to increase public awareness of frequent enforcement efforts that include sobriety checkpoints and saturation patrols in all 50 states.

2. Full implementation of current alcohol ignition interlock technologies, including efforts to require interlock devices for all convicted drunk drivers. A key part of this effort will be working with judges, prosecutors and state driver's license officials to stop the revolving door of repeat offenders.

3. Exploration of advanced vehicle technologies through the establishment of a Cooperative Research Agreement between NHTSA and leading automakers that is assessing the feasibility of a range of in-vehicle technologies intended to prevent drunk driving. Ultimately, any technologies put forth for the public must be voluntary, moderately priced, absolutely reliable, unobtrusive to the sober driver, and set at the illegal limit of .08.

4. Mobilization of grassroots support, led by MADD and its more than 400 affiliates, and our partners to make the elimination of drunk driving a reality. MADD is uniting drunk driving victims, families, community leaders, and policy makers in the fight to eliminate drunk driving.

When the campaign formed, only one state, New Mexico, required ignition interlocks for all offenders.

Today, New Mexico's law has been in place for four years and the state has seen drunk driving fatalities drop by 35 percent. Eleven states have adopted laws which will require all convicted DUI offenders to use an ignition interlock device. Perhaps more impressive is that during the 2009 state legislative sessions, 28 states introduced legislation to require these devices for all convicted DUI offenders.

What started as a Campaign in 2006 has become a movement in 2009.

Advanced Technology

While interlocks have the potential to save thousands of lives, this technology alone will not eliminate drunk driving. The Insurance Institute for Highway Safety estimates that if all states require interlocks for all convicted DUI offenders, more than 1,000 lives per year will be saved. If New Mexico's decline in fatalities is replicated all over the country, this number could be over 3,000 lives per year. In either case, these numbers are significant, but MADD is committed to eliminating drunk driving.

MADD believes that drunk driving can be eliminated through the use of exciting new technologies that could render a vehicle inoperable by an illegally drunk driver. This is why we wholeheartedly support the efforts of the cooperative research agreement between the Automotive Coalition for Traffic Safety and the National Highway Traffic Safety Administration to develop these new technologies which will unobtrusively detect whether the driver has an illegal BAC of .08.

While the details of this technology are complicated, the concept is simple. If a driver is at or above the illegal BAC limit, the proposed technology would detect and calculate the alcohol content of the driver and, if the driver is drunk, prohibit the car from operating. The auto manufacturers follow strict performance guidelines and at the end of the day must sell cars that consumers want to buy. Therefore, you can be assured that any future technology will be completely passive, non-obtrusive, better than six-sigma reliable, and must not hassle sober drivers.

While the idea of locking out drunk drivers may seem like something out of a Star Wars movie, car technology today has made some truly futuristic advances. Cars today can parallel park themselves. GPS devices give us turn-by-turn directions. On-Star can remotely unlock your door if you accidentally lock your keys in your car. Star Wars may not be as far away as we think.

The House Energy and Commerce Committee has a unique opportunity to be a driving force behind the elimination of drunk driving. MADD has requested $30 million per year in the next highway reauthorization bill to accelerate this initiative. Because the research portion of the reauthorization bill is under the jurisdiction of this committee, MADD respectfully requests that you work to provide this funding in the next highway bill.

To put this money in perspective, in 2000 NHTSA estimated that drunk driving costs the United States $1.4 billion each year. As the nation looks at economic recovery funds, $30 million per year could buy the nation $1.4 billion in savings. This is a return on an investment that would make even Warren Buffet proud.

Again, thank you Chairman Rush for the opportunity to submit testimony today. MADD looks forward to working with you and your committee to ensure that America eliminates drunk driving.

August 28, 2007

Nicole Nason
Administrator
National Highway Traffic Safety Administration
1200 New Jersey Ave. S.E.
West Building
Washington, D.C. 20590

Petition for Rulemaking Regarding Federal Motor Vehicle Safety Standard No. 208 (49 C.F. R. 571.208) Occupant Crash Protection

Dear Administrator Nason:

This petition for a safety standard submitted by Public Citizen and Advocates for Highway and Auto Safety seeks revision of Federal Motor Vehicle Safety Standard (FMVSS) 208 to require manufacturers to install a safety belt use warning system for designated seating positions in the rear seat of passenger cars and multipurpose passenger vehicles of 10,000 Gross Vehicle Weight Rating (GVWR) pounds or less. The reasons for the National Highway Traffic Safety Administration (NHTSA) to immediately revise FMVSS 208 to require a rear seat safety belt reminder system include:

- requiring rear seat belt reminders would save hundreds of lives each year, a large percentage of which would be children;
- rear seat belt reminders are necessary to save lives because primary enforcement of seat belt laws does not typically cover rear seat occupants;
- multiple studies have proven that rear seat belt use would increase significantly if rear seat belt reminders were required;
- requiring rear seat belt reminders is consistent with NHTSA's statements, Rulemaking Agenda, and SAFETEA-LU requirements to increase safety belt use for all passengers because implementing rear safety belt reminder systems would be the easiest way to achieve further gains in safety belt use and lives saved;
- rear seat belt reminders are technologically feasible;
- rear seat belt reminders would be less costly per unit if required in all vehicles; and
- the American public desires rear seat belt reminders.

INTRODUCTION

Many rear seat occupants in passenger vehicles who currently lose their lives in highway crashes would survive if they used their safety belts. According to data in the Fatal Analysis Reporting System (FARS), in 2004, only about one-third of the 2,900 fatally injured rear seat occupants were belted, a figure 15 percentage points below the 46.5 percent safety belt usage rate for fatally injured front seat occupants. About 1,100 of those rear seat fatalities were children between the ages of 5 to 18. If rear seat safety belt usage matched the level of front seat usage, about 289 lives would be saved each year, including over 78 children between the ages of 5 to 18. If rear seat belt use reached 90 percent, 598 lives of back seat passengers would be saved each year, including 211 children between the ages of 5 to 18. Furthermore, because front seat passengers are at risk when their back seat passengers do not wear their safety belt, six or more front seat passengers' lives would be saved each year by rear seat belt reminders.

While increasing safety belt use has been one of the most successful highway safety initiatives over the last 20 years, rear seat passengers are still especially at risk of serious injury or death in highway crashes. For example, front safety belt use increased from 14 percent in 1983 to 80 percent in 2004 due to coordinated campaigns and safety belt laws. Although rear seat safety belt use has increased as well, the gap between front and rear safety belt usage has remained a constant chasm over that period of time. The number of fatally and seriously injured unbelted rear seat occupants will likely continue to grow in the coming years as more children are moved into the back seat of passenger vehicles if rear seat safety belt reminder systems are not required.

Rear seat safety belt reminders would provide a necessary safety measure for rear seat passengers, who are predominately children. A safety standard requiring rear seat safety belt reminder systems is necessary because State safety belt laws and other safety devices do not adequately protect rear seat occupants. For example, only 3 states require belt use at all seating positions by all passengers 6 years of age and older and only one of those states has primary enforcement of its belt laws.[1] Moreover, although rear seat passengers are especially at risk, NHTSA has failed to take steps to improve safety for rear seat passengers at the same time it has required safety improvements for front seat passengers. While NHTSA requires belt reminder systems for the driver's position and airbags for both front seat positions, there are no parallel requirements that ensure equal safety for rear seat occupants.

This petition for a safety standard is consistent with public positions taken by agency officials and the recommendations of the National Academy of Sciences (NAS). In 2002, Dr. Jeffrey Runge, former NHTSA administrator, urged automobile manufacturers to voluntarily install improved seat belt reminder systems, including those for rear seats.[2] A 2003 study by a committee of the NAS recommended that NHTSA be given the authority to require improved safety belt reminder systems and urged that, "[r]ear seat reminder systems should be developed at the earliest possible time."[3]

This petition is also consistent with NHTSA's rulemaking agenda prescribed in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU requires the Secretary of Transportation to develop strategies for improving safety belt use.[4] NHTSA plans to study the effectiveness of enhanced front seat safety belt reminders and encourage their use;[5] however, a study of rear seat safety belt reminders is not contemplated. Since sufficient data and numerous recommendations already are available, NHTSA needs to revise FMVSS 208 to require rear seat belt reminders to save lives now, for the reasons described above.

A revised occupant protection safety standard requiring rear seat safety belt reminders would have an immediate safety impact. Several manufacturers have already developed enhanced front seat belt reminder technology and installed it in certain vehicle models. Ample research shows that significant numbers of part-time safety belt users are influenced by belt reminder systems to buckle up. Research also shows that well-designed belt reminder systems are both acceptable and desirable to the motoring public. If safety belt reminder systems were installed in rear seating positions, rear safety belt use would increase significantly. Parents would insist that their children buckle up if reminded by dashboard indicators and audible reminders. Belted drivers would also remind adult rear seat passengers to conform to their own belt use expectations.

FMVSS 208 requires automobile manufacturers to provide an audible belt reminder system only for the driver's position. "A seat belt assembly provided at the driver's seating position shall be equipped with a warning system that ....activates a continuous or intermittent audible signal for a period of not less than 4 seconds and not more than 8 seconds and that activates a continuous or flashing warning light visible to the driver....for not less than 60 seconds" *See* FMVSS 208 S4.5.3.3(b). It is common practice for vehicle manufacturers to provide warning systems at the front passenger seating position as well. However, few if any manufacturers equip their vehicles with systems to remind the driver that rear seat passengers are not using their seat belts, despite the fact that non-use of safety belts by rear seat passengers contributes significantly to the annual toll of total deaths resulting from highway crashes.

Thus, pursuant to its authority to respond to 49 C.F.R.§ 552, Public Citizen requests that NHTSA conduct a rulemaking and issue a final rule amending FMVSS 208 to require manufacturers to install seat belt use warning systems for designated seating positions in the rear seat of passenger cars and multipurpose passenger vehicles of 10,000 GVWR pounds or less.[6]

I. UNDER-USE OF SEAT BELTS BY REAR SEAT PASSENGERS IS A DEADLY PROBLEM.

Overall, 31,693 passenger vehicle occupants died in 2004 in highway crashes. About 2,900 of these fatalities were rear seat occupants. The total number of rear seat fatalities is much smaller than the total number of front seat fatalities for a simple reason: rear seat occupancy rates are far lower. However, the observed belt use by rear seat occupants in fatal crashes is also significantly lower than that of front seat occupants, and that rate of usage has not improved as

front seat occupants have increasingly buckled up. With this petition for rulemaking, NHTSA has an opportunity to save lives that are needlessly lost every year.

A. REAR SEAT OCCUPANTS OF VEHICLES WEAR SAFETY BELTS LESS FREQUENTLY THAN FRONT SEAT OCCUPANTS.

The National Occupant Protection Survey (NOPUS) conducted a study that tabulated safety belt usage in 2004.[7] Front seat passenger safety belt usage was observed to be 80 percent. Rear seat passenger use was observed to be only 47 percent. Notably, that 47 percent includes younger children in child safety seats, who tend to inflate rates of rear seat passenger usage because of a very successful program to federal and state initiatives to ensure that children are restrained.

The same disparity is evident in government data. NHTSA's database of fatal crashes gives a snapshot of this disparity:

Table 1
Belt Use by Fatally Injured Occupants in Passenger Vehicles
2004 FARS*

Seat Position	Car Fatalities	Car Belt Use By Fatalities % Belted	Light Truck Fatalities	Light Truck Belt Use By Fatalities % Belted	Total Fatalities	Total Belt Use % Belted
Front Seat	17,161	52.4	10,943	37.4	28,104	46.6
Rear Seat	1,720	34.5	1,194	29.6	2,914	32.5
Total	18,881	50.8	12,137	36.6	31,018	45.3

** FARS 2004 data summarized in Appendix at Tables A8-A10*

Table 1 shows that safety belt use for fatally injured front seat occupants is about 46.6 percent. Belt use by fatally injured rear seat occupants is significantly lower — about 32.5 percent. Further analysis demonstrates, however, that the gap in belt use rates is even higher:

Table 2
Percent of Restraint Use by Fatally Injured Occupants by Age
2004 FARS

Age	CARS		LIGHT TRUCKS	
	Front Seat	Rear Seat	Front Seat	Rear Seat
0-1*	42.9	81.9	35.3	71.4
2-4*	46.7	75.5	31	67
5-18	49.3	33.3	34.2	28.8
19+	53	23.7	37.7	20.4
Total	52.4	34.5	37.4	29.6

Total 5+ (excluding ages 0-4)	52.5	28	37.4	23.7

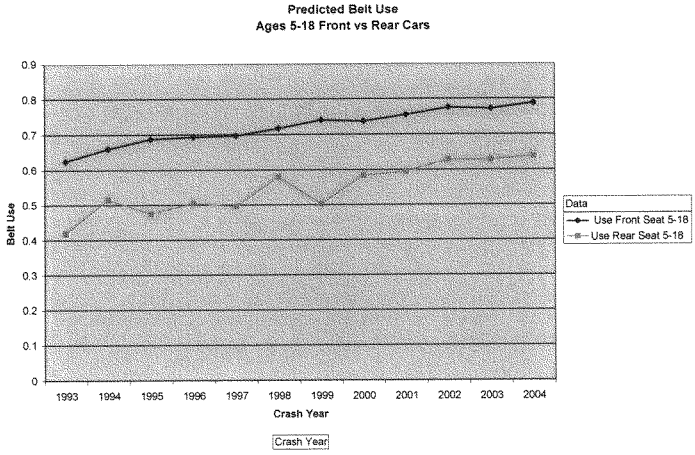
** Reflects success of child safety seat use campaigns and laws.*

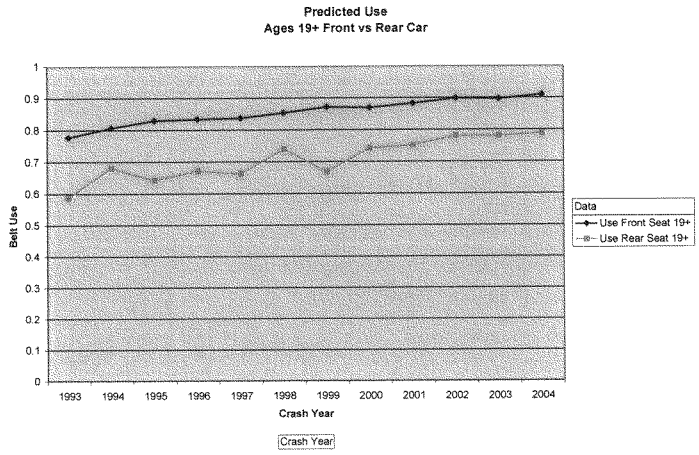
Table 2 shows that, as would be expected, use by fatally injured occupants is highest for very young children seated in child safety seats as required by state law, and the number of rear seat occupants who are belted decreases with age. Back seat occupancy rates for the 5 to 18-year-old cohort is less than one-half of the occupancy rates for the youngest children who are in child safety seats. Thus, removing the generally belted population of the youngest children from the equation would show that rear seat safety belt use is more of a problem than the general use rate of 32.5 percent (see Table 1) suggests.

Table 2 shows that the disparity in safety belt use between front and rear seat occupants is significantly worse (28 percent usage) when very young children, who are typically restrained by child safety seats, are removed from the sample population. About 90 percent of rear seat occupant fatalities were older than 5 years of age and thus not typically put into child safety seats.[8] Adding rear seat belt reminders will, therefore, most significantly influence belt use for passengers ages five and older.

B. REAR SEAT BELT USAGE COMPARED TO FRONT SEAT BELT USAGE IS STAGNANT.

The 2004 NOPUS compilation reveals another problem: the gap between use of safety belts by front and rear seat passengers has remained constant over the last ten years for both the age cohorts 5 to 18 years-old and 19 years-old and up. Thus, the gap between rear seat safety belt use and front safety belt use has not improved, even though overall safety belt use has increased:


Predicted Belt Use
Ages 5-18 Front vs Rear Cars
Belt Use
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
Crash Year
Crash Year
Data
Use Front Seat 5-18
Use Rear Seat 5-18


Predicted Use
Ages 19+ Front vs Rear Car
Belt Use
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
Crash Year
Crash Year
Data
Use Front Seat 19+
Use Rear Seat 19+

C. THE NUMBER OF CURRENT REAR SEAT PASSENGER LIVES SAVED BY SAFETY BELTS IS FAR TOO LOW.

The disparity in front versus rear seat belt usage rates has deadly consequences. Although seat belts are equally effective at saving lives in both the front and rear seats, they are saving fewer lives than they should. At the heart of this problem is the gap in belt use rates.

NHTSA has developed formulas to calculate safety belt effectiveness in saving lives.[9] The source, mathematical equations, and explanations for these formulas are contained in the Appendix. Use in Potentially Fatal Crashes (UPFC) measures the difference in safety outcomes that safety belts make for all occupants involved in a potentially fatal crash, including fatally injured unbelted passengers, fatally injured belted passengers, and surviving belted passengers. UPFC is used to calculate safety belt effectiveness because it accounts for both surviving passengers and all passengers fatally injured despite the use of safety belts. Lap and shoulder safety belt effectiveness is typically measured by "paired comparisons," in which restrained drivers are compared to restrained and unrestrained passengers (and vice versa) in the same crash. The total number of potential fatalities is calculated by measuring the effect lap and shoulder safety belt effectiveness and UPFC have on the total number of observed fatalities.[10] The total number of current lives saved is determined by subtracting the total number of fatalities from the number of potential lives saved.[11]

Table 3 summarizes NHTSA's calculations and estimates of the total number of current lives saved by safety belt use. (Because of very successful child safety campaigns and strong child safety seat use laws in the states, child safety seat use is already very high, and children age 5 and younger are not included in the chart.)

Table 3
Calculated Passenger Vehicle Safety Belt Use by Seating Position
2004 FARS Age 5 and Above

	CARS		LIGHT TRUCKS	
	Front Seat	Rear Seat	Front Seat	Rear Seat
Total Fatalities[12]	17,109	1,508	10,896	1,040
Percent of Safety Belt Use by Fatally Injured Passengers[13]	52.5	28	37.4	23.7
Estimated Percent of Safety Belt Use by All Passengers[14]	81.3	57.7	75.4	69.7
Percent of Safety Belt Use in Potentially Fatal Crashes (UPFC)[15]	66.7	41	59.9	53.5
Belt Effectiveness Percentage	45	44	60	73
Potential Fatalities	24,458	1,840	17,009	1,706
Current Lives Saved	7,349	332	6,113	666
Current Percentage of Lives Saved by Safety Belt Use	30.05	18	36	39

Potential fatalities represent the number of vehicle occupants involved in serious, potentially fatal crashes. NHTSA has developed formulas (see Appendix) that relate safety belt use by fatally injured occupants (captured by the FARS data base) to 'Use in Potentially Fatal Crashes' (UPFC). UPFC differs in theory from the use rate by fatally injured occupants in that it calculates the use rate of all those involved in a potentially fatal crash, including those unbelted fatalities, those belted fatalities, and those saved by the belt. These formulas take into account the varying effectiveness rates of safety belts at different seating positions. Potential fatalities are then calculated using the UPFC, the number of fatalities in a seating position, and the effectiveness of safety belts at that seating position.

Table 3 shows that, for passenger cars, safety belt use by rear seat occupants only prevents 18 percent of potential fatalities. In contrast, 30 percent of potential fatalities are prevented by safety belt use by front seat occupants. Thus, safety belt use by rear seat occupants saves 40 percent fewer lives than safety belt usage in the front seat, even though safety belt effectiveness is essentially the same for both front and rear seat users.

Although the estimated use of safety belts and UPFC by rear seat passengers in light trucks is high in comparison, rear seat safety belt reminders would still decrease the number of fatalities for these occupants. Most pickup trucks do not have rear seats, so most rear seat occupants in light trucks are in SUVs and minivans. Belt effectiveness in these vehicles is very high (73 percent); as belt effectiveness increases, UPFC and estimated safety belt use increase as well. However, the gap between rear seat and front seat occupants' safety belt use for passengers ages 5 and older in light trucks is still large, so rear seat safety belt reminders would save a significant number of lives.

II. REQUIRING REAR SEAT BELT REMINDERS WOULD SAVE A SUBSTANTIAL NUMBER OF LIVES, MANY OF WHICH WOULD BE CHILDREN.

Safety belts are the single most effective safety device in preventing serious injuries and reducing fatalities in motor vehicle crashes. Rear seat passengers are not using those belts at the same rate as front seat occupants, and the result is that seat belts are not saving enough lives of rear seat passengers. Improving the rear seat safety belt use rate would save hundreds of lives each year, the majority of which would be children.

A. REAR SEAT BELT USE WOULD INCREASE IF REAR SEAT BELT REMINDERS WERE REQUIRED.

The key to saving the needlessly lost lives of rear seat belt occupants is to increase the rate at which those occupants use their safety belts. Rear seat reminders will do just that.

1. Very few non-users of seat belts are unalterably opposed to belt use.

Rear seat belt reminders will not force occupants to actually use their belts; instead, they remind those occupants of their failure to use their belts, thus relying on the occupants to respond to the reminder and use their belts. Research into attitudes about belt use reveals that the vast majority of non-users will respond to the reminder signal — which means that rear seat belt reminders will be an effective solution to the problem.

In 2001, NHTSA conducted a telephone survey titled "Motor Vehicle Occupant Safety Survey" (MVOSS) that provided self-reported information on belt use by users and non-users.[16] The MVOSS summarized the reasons why non-users do not wear safety belts. The study grouped occupants into three categories based on frequency of belt use: full-time users, part-time users, and hard-core nonusers. NHTSA concluded that very few drivers (only 4%) were hard core nonusers, while 20 % self-described as part-time users. The findings are consistent with those found in Europe; for example, a recent study by the Swedish government found that only a very small percentage of non-users were "hard core" non-users.[17]

The reasons that people give for not wearing safety belts are an important consideration when estimating the contribution that technology such as belt reminder systems could have on belt use. The MVOSS reported the reasons for not using safety belts as follows:

- 59 percent did not use safety belts because they were driving a short distance;
- 53 percent forgot to buckle up;
- 41 percent were in a hurry; and
- 33 percent found safety belts uncomfortable.

In sum, the MVOSS suggests that part-time users are a majority of non-users (twenty out of twenty-four percent) and that within this group, "forgetting" to buckle up (53 percent) is a very significant reason for not using a safety belt. Because so few are hard-core nonusers and so many simply forget to buckle up, rear seat belt reminders will be an effective solution to the problem of insufficient belt use by rear seat passengers.

2. Empirical data confirm the effectiveness of rear belt reminders.

Research into belt use behavior by occupants of vehicles that already come equipped with rear seat belt reminders confirms what the attitude research suggests: rear seat belt reminders result in increased belt use.

The Insurance Institute for Highway Safety (IIHS) published a review of a paper authored by its chief scientist, Alan Williams, entitled "The effectiveness of the belt-minder system in increasing seat belt use." According to the IIHS 2002 Status Report, "76 percent of drivers in cars equipped with the [Ford BeltMinder system] were using their belts compared with 71 percent of drivers in late-model Fords without the special reminder," and the public likely accepted belt reminders because "today attitudes toward safety are much different. You're not

going to have... acceptability problems with new belt reminder systems as long as they're not overly intrusive.[18]

The NAS also reported a second study by Alan Williams in its 2003 research study.[19] This study summarized interviews of 405 owners of vehicles equipped with the FordBeltMinder system in the Boston area how the chimes and light affected their safety belt usage:

> Approximately two-thirds of the 405 drivers interviewed reported that they had experienced the reminder system one or more times when they had neglected to buckle up. Seventy-three percent reported that they buckled up the last time this happened, and 46 percent of all respondents said that their belt use had increased since driving a vehicle with a BeltMinder.....Seventy-nine percent reported that they would like a similar device in their next vehicle. The response of part-time users...Seventy percent had fastened their seat belts in response, and 76 percent reported that their seat belt use had increased since purchasing the vehicle.[20]

The 2003 NAS report also discussed several relevant European studies that found seat belt use would increase as a result of safety belt reminder systems. A 2001 Swedish study evaluated the effect older, less aggressive belt reminder systems had on safety belt use.[21] The study indicated "that only 12 percent of drivers injured in crashes were unbelted in cars with a belt reminder light-and-sound signal, compared to 23 percent in cars without a reminder system, a statistically significant difference."[22] Another Swedish study, based on interviews of observed unbelted occupants found that an aggressive belt reminder system would be acceptable to part-time users.[23] "For example, of the 500 Swedish drivers interviewed after being observed not wearing their safety belts in traffic, 83 percent said they would buckle up if they rented a car with an aggressive audible warning system."[24]

Thus, the evidence from both the Insurance Institute and the NAS is that safety belt usage increases as belt reminder systems are improved. It is highly likely that rear seat safety belt use will increase as well should NHTSA require rear safety belt reminders.

B. THE INCREASED REAR BELT USE RATES WILL SAVE SIGNIFICANT NUMBERS OF LIVES.

If rear seat belt reminders were required, the difference between the number of rear seat occupant and front seat occupant's lives saved by safety belts would shrink. A significant number of lives would be saved by rear seat belt reminder systems. Not only will some of those lives saved be front seat occupants in addition to rear seat passengers, but also many of the lives saved will be children.

1. Rear seat belt use will save many lives.

There are at least three possible scenarios that would describe the likely increase in lives saved by requiring safety belt reminder systems for the rear seat:

- Scenario 1: Belt use by rear seat occupants would rise to the level of belt use by front seat occupants. For passenger cars, this would mean rear seat use would increase from 57.7 percent to 81.3 percent. For light trucks, this would mean rear seat use would increase from 69.7 percent to 75.4 percent. (See Table 3, above).

- Scenario 2: The hypothesis of the Swedish government study noted above was that belt reminders would reach 50 percent of part-time safety belt users and that 75 percent of those people would buckle up. The study found that about 80 percent of non-regular users are part-time users and 20 percent are hard-core nonusers. [25] Assuming this hypothesis for passenger cars, safety belt use by rear seat occupants would increase from 57.7 percent (current use rate) by 12.9 percent to reach 70.6 percent. For light trucks, safety belt usage by rear seat occupants would increase from 69.7 percent (current use rate) by 9.1 percent to reach 70.8 percent. Table 4 below shows the estimated increase in seat belt use by rear seat occupants due to belt reminder systems, assuming the Swedish study hypothesis.

- Scenario 3: Given the success in increasing front seat belt use due to belt reminder systems, state use law requirements and advertising campaigns, and the fact that many rear seat passengers are children whose parents, once alerted, have a keen interest in the safety of their children, it is entirely possible that rear seat belt use could increase to 85 to 90 percent in the future.

Table 4
Estimated Seat Belt Usage by Rear Seat Occupants
Assuming the Hypothesis of the Swedish Study

	A	B	C	D	E	F
Vehicle Type	Percentage of Rear Seat Occupants who are non-users	Column A * 0.80 (Percentage of Rear Seat Occupants Who Are Part-Time Non Users)	Column B * 0.50 (Percentage of Rear Seat Occupants Who Are Reached By Belt Reminder Systems)	Column C * 0.75 (Percentage of Rear Seat Occupants Who Buckle Up As A Result Of Belt Reminder Systems)	Total Estimated Percent Increase In Seat Belt Usage By Rear Seat Occupants	Estimated Seat Belt Usage By Rear Seat Occupants With Rear Seat Belt Reminder Systems
Cars	43 %	0.423 * 0.8 = 0.3384	0.3384 * 0.5 = 0.1692	0.1692 * 0.75 = 0.1269	12.69 %	70.39 %
Light Trucks	30.3 %	0.303 * 0.8 = 0.264	0.264 * 0.5 = 0.132	0.132 * 0.75 = 0.0999	9.1 %	70.8 %

Using the 2004 fatality data from Table 3 above, potential benefits from rear seat safety belt reminder systems are quantified in Table 5, which shows that a significant number of lives would be saved under each scenario.

Table 5
Predicted Annual Life Savings
from a Requirement for Rear Seat Safety Belt Reminders

	CARS		LIGHT TRUCKS	
	Front	Rear	Front	Rear
Fatalities[26]	17,109	1,508	10,896	1,040
Percentage Used by Fatally Injured Passengers[27]	52.5	28	37.4	23.7
Percent of UPFC[28]	66.8	41	59.9	53.5
Percent of Estimated Use	81.3	57.7	75.4	69.7
Belt Effectiveness Percentage	45	44	60	73
Potential Fatalities	24,458	1,840	17,009	1,706
Current Lives Saved	7,349	332	6,113	666
Potential Lives Saved under Scenario #1		541		746
Increase in Lives Saved under Scenario #1		209		80
Lives Saved under Scenario #2		439		795
Increase in Lives Saved under Scenario #2		107		129
Potential Lives Saved under Scenario #3 (85 percent)		578		889
Increase in Lives Saved Under Scenario # 3 (85 percent)		246		223

Potential Lives Saved under Scenario #3 (90 percent)		629		795
Increase in Lives Saved under Scenario # 3 (90 percent)		297		302

Scenario number one assumes that rear safety belt reminder technology would lead to rear safety belt use equal to front seat use. For passenger cars, this would result in 209 additional lives (age 5 and over) saved when belt reminder technology are present in the passenger car fleet. Scenario number one would also result in 80 additional lives saved for light truck occupants. Many of those saved would be children aged 5 to 18.

Scenario number two assumes that belt reminder technology would reach 50 percent of part-time users and that 75 percent of these people would then routinely buckle up. This is based on the methodology of a Swedish government study discussed earlier.[29] For passenger cars, this would save an additional 107 lives (ages 5 and over). This scenario would also significantly increase rear safety belt use among the occupants of light trucks, saving an additional 129 additional lives. Again, many of those saved would be children aged 5 to 18.

Scenario number 3 assumes that rear seat belt use would rise to either 85 or 90 percent as future efforts to increase overall occupant safety belt use succeed. At 85 percent overall safety belt use, there would be a net increase of 246 lives saved in cars and 223 additional lives saved in light trucks. At 90 percent usage, there would be a net increase of 297 lives saved in passenger cars and an increase of 302 lives saved in light trucks. As was the case under scenarios 1 and 2, many of those lives saved would be children aged 5 to 18.

Moreover, it is very likely that the estimates for additional lives saved for each scenario are low because of NHTSA's longstanding underestimation of safety belt effectiveness. It is difficult to understand how NHTSA could conclude that the effectiveness of safety belts remained constant from 1993 to 2004, yet that is exactly what the agency has done. (See Appendix Tables A6 through A8 below.) NHTSA's stagnant estimate fails to reflect progress in safety belt technology, the investment manufacturers have made in safety belt technology, and improvements to the crash energy management of vehicle structures over this period of time. There are numerous on-the-shelf restraint technologies available that have significantly improved the performance of basic safety belts.[30] Although they are not all installed in the vast majority of vehicles on the road or new vehicles being produced, the minority of cars that do have these improved safety belt technologies necessarily contribute to an overall increase of safety belt effectiveness, which NHTSA fails to recognize. As a result, the number of potential lives saved under each scenario is likely underestimated because the number of potential lives saved will increase as these and future improvements are installed and safety belt effectiveness rises.

2. A significant number of front seat occupant lives will also be saved.

There are additional safety benefits for both restrained and unrestrained front seat occupants that would result from increasing rear safety belt use. Two papers have examined how unrestrained rear seat passengers can increase the risk of serious injury or death for both restrained and unrestrained front seat passengers.

The injury mechanism is simple. Unrestrained rear seat passengers can be thrown forward, especially in frontal crashes, and can seriously injure or kill front seat occupants. Similarly, restrained rear seat occupants are at greater risk if other rear seat co-occupants are not restrained. Cummings and Rivara found that "[W]hen a front target with an unrestrained rear occupant was compared with a front target with a restrained rear occupant, the relative risk for death was *1.04 for an unrestrained front target and 1.2 for a restrained front target.* For a restrained side target, the risk of death was greater (relative risk 1.15) if the target had an unrestrained occupant beside him/her compared with a target next to a restrained occupant."[31] Cummings and Rivara estimated that as many as 6 front seat fatalities annually could be prevented if rear seat occupants were restrained. Ichikawa estimated an even higher relative risk to front seat occupants from unrestrained rear seat occupants in a study using Japanese vehicle fatality data.[32]

3. Many of the lives saved by rear seat belt reminders will be children.

A 2003 NHTSA evaluation noted a study about child occupancy trends entitled *Moving Children from the Front Seat to the Back Seat.*[33] The study examined a variety of safety issues related to moving children from the front to the rear seat. An interesting finding was that about 35 percent of children 8 to 12 years of age still rode in the front seat as of 2001, but that front seat occupancy is gradually decreasing (it was about 40 percent in 1995). Other studies have confirmed this trend.[34] This change was due in part a nationwide advertising campaign to reduce child passenger fatalities implemented by the government in coalition with other groups. The trend indicates that there will very likely be more children riding in the rear seat in the future as additional educational campaigns promote the rear seat as the safer location. Unfortunately, unless rear safety belt use is increased, the overall safety of children might decrease as a result of this trend. Indeed, there is evidence that unrestrained children in the back seat may be at greater risk for serious injury or death than restrained children in the front seat.[35]

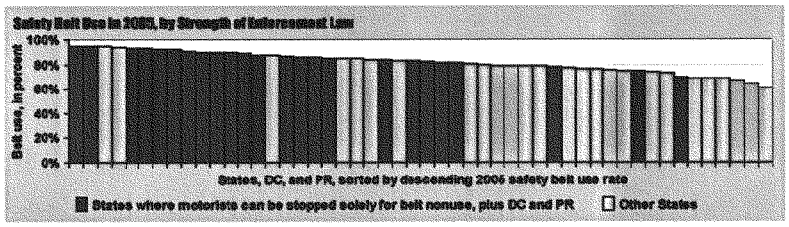
The group of passengers who would be most affected by rear seat belt reminders, occupants ages 5 and older, currently makes up a disproportionate number of rear-seat fatalities. For example, in 2004, 686 of the 1,720 fatally injured rear seat occupants were between the ages of 5 and 18 years old, even though the rear seat occupancy rate for the 5 to 18-year-old cohort is less than one-half of the occupancy rate for the youngest children (aged 0-4) who are typically placed in child safety seats. (See Appendix, Tables A8 and A10.)

Accordingly, as rear seat belt reminders increase seat belt use rates, many of the lives that will be saved will be children.

III. A FEDERAL REQUIREMENT OF REAR SEAT BELT REMINDERS IS A NECESSARY SOLUTION.

State laws do not provide an adequate solution. As of June 2006, all states except New Hampshire have safety belt laws; however, belt use laws in only 25 states and the District of Columbia are primary, meaning police may stop vehicles solely for belt law violations. Police authority to enforce belt laws in other jurisdictions is limited.

The chart below illustrates that high safety belt use rates are directly related to primary enforcement of safety belt laws. Safety belt us in generally higher in states with primary enforcement of belt laws.



* *Chart available at: http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/*

A requirement for rear safety belt reminders is necessary because primary enforcement of state safety belt laws is limited even within states that have primary enforcement laws. According to the IIHS, as of June 2006, only 19 states primary enforcement laws cover rear seat passengers. Moreover, **only 1 of those states, South Carolina, has a primary enforcement law covering all passengers 6 years of age and older**.[36] Thus primary enforcement of belt laws does not influence many rear seat passengers to buckle up in the majority of states. Safety belt reminder systems would provide the incentive to buckle where state belt enforcement laws have failed.

IV. REQUIRING REAR SEAT BELT REMINDERS IS CONSISTENT WITH NHTSA'S POLICY, RULEMAKING, AND THE DOT/NHTSA TRANSPORTATION REAUTHORIZATION LEGISLATION.

A. A NEW STANDARD IS CONSISTENT WITH NHTSA'S POLICY.

Former NHTSA Administrator Dr. Jeffrey Runge strongly endorses seat belt reminder technology. On February 25, 2002, he wrote to all passenger vehicle manufacturers asking them to consider voluntarily upgrading the belt reminder systems in their vehicles:

> The American people win when vehicle manufacturers demonstrate good corporate citizenship by going beyond the minimums required under the safety standards. Innovation beyond the standard allows greater flexibility in product design, while

> allowing those products to reach consumers faster and keep them safer.....Ideally, the systems should cover rear seating positions as well as front. Together we can realize dramatic increases in seat belt use in the United States.[37]

Dr. Runge's letter cited both the Ford upgraded belt reminder system and the IIHS research.

NHTSA has an obligation to carry out needed safety research and development to reduce deaths resulting from traffic crashes. *See* 49 U.S.C. § 30101(2). NHTSA sponsored a 2003 National Academy Study (NAS) study entitled "Buckling Up Technologies to Increase Seat Belt Use" in part to learn about the effectiveness of belt reminder systems in reducing deaths. Rear seat safety belt reminder systems were strongly endorsed by the report.[38] After considering the importance of increasing safety belt use and securing public acceptability of enhanced reminder technology, the committee recommended the following:

> Congress should provide NHTSA with more flexibility and the authority to require more effective belt reminder technology; ...
>
> NHTSA should encourage the industry to develop and deploy enhanced belt reminder systems; ... and ...
>
> **Rear seat reminder systems should be developed at the earliest possible time** . . . to take advantage of the benefits of restrained rear occupants to the safety of both front and rear-seat occupants. Until that time, manufacturers should provide systems that notify the driver if rear-seat occupants either have not buckled up or have unbuckled their belts during a trip.[39]

With the research already done, NHTSA now must proceed to a response based on that research: require rear seat belt reminders.

B. MERE STUDY IS INSUFFICIENT.

Congress demanded that NHTSA focus on the problems of rear seat belt use. The DOT/NHTSA Transportation Reauthorization legislation requires a study of safety belt use technologies: "The Secretary of Transportation shall conduct a review of safety belt use technologies to evaluate progress and to consider possible revisions in strategies for achieving *further gains* in safety belt use. The Secretary shall complete the study by July 1, 2008."[40] This mandate requires a study of safety belt use technologies for all seating positions. In fact, language restricting the study to front safety belt use technologies was removed from the legislation.

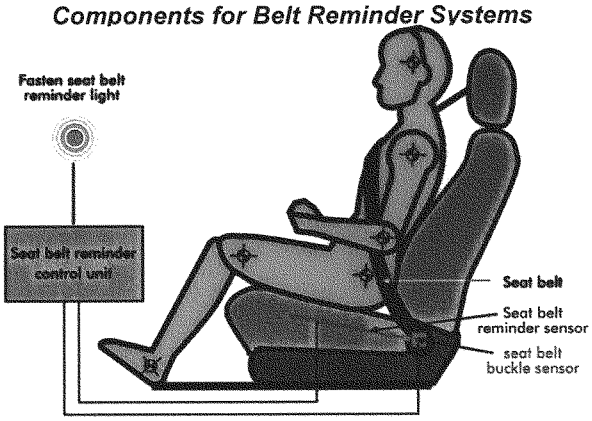
NHTSA should recognize that implementing rear safety belt reminder systems would be the easiest way to achieve further gains in safety belt use and lives saved. A safety standard requiring rear safety belt reminder is necessary at this time to save lives because it would close the gap between rear seat and front seat safety belt use rates. Merely studying the

effectiveness of rear seat safety belt reminder systems would be an inadequate response and, given that no vehicles have rear seat safety belt reminder systems, impossible to accomplish. Rear seat occupants make up a larger population of potential new safety belt users than front seat occupants do, and many rear seat occupants are children, who could be reminded to buckle up by their parents.

This requirement is separate from but consistent with NHTSA's plans to conduct a study of safety belt reminder systems. NHTSA's priority plan for calendar years 2003 through 2006 noted the agency would "[s]tudy the effectiveness of different safety belt reminders and other technologies for increasing belt use," with the goal of reducing ejection related deaths that could be prevented by safety belts.[41] Indeed the January 2005 update to NHTSA's Vehicle Safety Rulemaking and Supporting Research Priorities noted that NHTSA would "conduct research on effectiveness of advanced reminders in CY 2005-2006 and make a rulemaking decision on next steps in 2007."[42] NHTSA's study will evaluate the effectiveness and acceptability of several different types of safety belt reminder systems currently offered by a number of manufacturers. Observations of actual belt use will be compared with survey data to determine the extent which reminder systems increase belt use and driver acceptance of the different approaches to reminder system design. When NHTSA completes this study and receives permission from Congress to require enhanced performance reminders, the new, enhanced reminder requirement should also apply to the rear seat.

V. REAR SEAT BELT REMINDERS ARE TECHNOLOGICALLY FEASIBLE AND COST EFFECTIVE.

Safety belt reminder systems encourage drivers and passengers to wear a safety belt through the use of physical reminders, *e.g.*, warning lights and audible chimes. The systems are comprised of three basic components: 1) a sensor in the seat which detects occupancy; 2) a sensor in the safety belt buckle; and 3) and a control unit for a reminder system that generally features both flashing lights and an audible chime.



Although FMVSS 208 requirements governs only the driver position, modern restraint system design with frontal airbags already requires occupant sensing and safety belt use sensor technology for both front seat occupants. Almost all frontal air bag systems rely on sophisticated suppression sensors to accurately measure occupant size in order to mediate airbag deployment when small children or children in child safety seats are seated in the front passenger seat.

Affordable technology is readily available that could easily be employed in the rear seat of passenger cars to provide accurate belt reminder systems. Rear seat occupant sensors would only need to distinguish between packages or other items and rear seat passengers to avoid reminder warnings. A less complex and less costly version of the same type of capacitive sensing technology that is used in the front seat could be used to design rear seat safety belt reminders. Low cost 2-D or digital cameras could also be used to detect the presence of a rear seat passenger. In addition to being cheaper than sensor technology, these cameras have been demonstrated to be highly reliable. They are not used in the front seat because complex sensors are needed to determine the appropriate force of airbag deployment for front seat passengers, which is dependent on the passenger's size. The same sensors in the safety buckle that are used in the front seat could be used in the back seat and the control unit and associated tones or lights would be the same as well. Overall, it is highly likely that safety belt reminder systems could provide a very effective strategy for saving lives at minimal additional cost to manufacturers and consumers.

At least two major domestic manufacturers are already selling vehicles with enhanced belt reminder systems. Ford Motor Company is selling vehicles with the FordBeltMinder system. Regular belt reminder systems trigger a warning chime and flashing light when the vehicle is started with an unbelted front seat passenger. Without the BeltMinder system, the warning chime and flashing light would both dissipate after 4 to 8 seconds. The BeltMinder system resumes both the warning chime and the flashing light about 65 seconds after starting the

engine when the vehicle is moving more than 3 mph if a front seat passenger is still unbelted. The advanced warning cycle repeats for up to five minutes after it is deployed, far more than the time period required system required by FMVSS 208. FordBeltminder was phased-in for right front-seat passengers beginning in model year 2003 vehicles.

General Motors Corporation also recognizes the benefits of improved safety belt use reminder systems. Currently, driver position belt reminder systems in the majority of new GM vehicles include an 8-second chime and 20-second solid warning light, followed by an additional 55 seconds of flashing light. In model year 2004 full-size pick-ups and sport-utility vehicles equipped with automatic front seat air bag suppression systems, front seat passengers are also reminded electronically to fasten their belts.

Ford and General Motors sales show the industry is capable of developing and marketing cars with superior belt reminder systems. NHTSA should require all manufacturers to go further by extending existing front seat belt reminder technology to the rear seat.

VI. THE AMERICAN PUBLIC DESIRES REAR SEAT BELT REMINDERS.

The 2003 NAS report favorably described data presented by General Motors on reminder system acceptability. The data was collected from consumer testing in California and reported that among those consumers, "81 percent indicated interest in an enhanced belt reminder system for front seat occupants. **Seventy-one percent thought that the systems should be extended to rear seat occupants, particularly drivers of sport utility vehicles (SUVs) and vans who frequently transport children** and find it difficult to see whether their children are buckled up."[43]

The NAS report also summarized information provided by Ford Motor Company from surveys completed by owners of vehicles with the FordBeltMinder enhanced reminder system. Overall, user satisfaction was high. "Eight of ten owners said they would purchase a vehicle with a belt reminder in the future. More than 7 in 10 would recommend the BeltMinder to other drivers, and **almost 90 percent of Ford drivers with the BeltMinder want the system for their passengers**."[44]

Another NHTSA study entitled "Qualitative Research Regarding Attitudes Towards Four Technologies Aimed at Increasing Safety Belt Use" conducted focus group research on belt reminder technology. The study confirmed that consumers both accept and desire improved belt reminder systems, especially consumers who transport children:

> Most respondents reacted positively to the concept of a reminder indicating whether or not passengers were buckled. In particular, this resonated strongly among respondents who frequently transport children in their vehicle. They explained it would help them ensure children were buckled up and prevent them from needing to look back to check, which could lead to a dangerous driving situation. Others stated they liked this concept because as

> drivers they felt responsible for the safety of their passengers and this device helped them ensure that safety.[45]

Clearly, the American public desires rear seat reminders for the benefit of their passengers' safety.

VII. RULEMAKING SOUGHT

Based on the data and analysis presented in this petition, Public Citizen requests that NHTSA conduct a rulemaking to revise FMVSS 208 to require manufacturers to install a seat belt use warning system for designated seating positions in the rear seat of passenger cars and multipurpose passenger vehicles of 10,000 GVWR pounds or less.

NHTSA is responsible for implementing safety standards that save passengers' lives. Current efforts to increase safety belt use have been successful, but many passengers still do not buckle up and the gap between rear seat and front seat safety belt usage remains a huge problem. A safety standard requiring rear safety belt reminder systems would save hundreds of lives each year, many of which would be children.

APPENDIX:

FORMULAS REGARDING SAFETY BELT USE AND LIVES SAVED[46]

SAFETY BELT USE IN FATAL CRASHES (uf)*

Estimates of safety belt use by fatally injured occupants are based on data in the FARS system. According to NHTSA, "these estimates are believed to be more accurate than use rates of survivors because most of those killed either die on impact or are unconscious or disabled. This facilitates an accurate observation of their belt use by police or emergency personnel. In addition, FARS analysts can utilize medical or autopsy reports to verify belt use."
* Source: NHTSA, Estimating the Benefits from Increased Safety Belt Use, June 1994

SAFETY BELT EFFECTIVENESS RATES (e)

The effectiveness of safety belts against occupant fatalities varies by seating position and vehicle type:

	CARS		LIGHT TRUCKS	
	Front Seat	Rear Seat	Front Seat	Rear Seat
Safety Belt Effectiveness Rate	45	44	60	73

USE IN POTENTIALLY FATAL CRASHES (UPFC)

UPFC = uf / [(1-e)*(1-uf)]

According to NHTSA, "an estimate of the usage rate of those who were involved in potentially fatal crashes is derived as follows:

Assumptions:

- safety belt effectiveness against fatalities is 45 percent
- 33 percent of those killed were wearing safety belts

Persons involved in potentially fatal crashes can be divided into three groups

1. safety belt users who were saved by the belt
2. safety belt users who were killed
3. Non-users who were killed."

The formula is used to determine the aggregate usage rate measures the total incidence of safety belt users as a function of all occupants involved in potentially fatal crashes.

POTENTIAL FATALITIES (PF)

PF = n / [1-(UPFC * e)]

Where n equals the total number of fatalities.

PREDICTED USE

NHTSA has developed a statistical relationship (Blincoe et al, "Estimating Benefits from Increased Safety Belt Use," NHTSA Technical Report, DOT 808 133) that uses safety belt use by fatally injured occupants to predict safety belt use in the general driving population. Since NOPUS and other observational data is not collected on rear seat occupants on a yearly basis or with as much statistical rigor as front seat safety belt usage, NHTSA's formula is used in this paper for this purpose.

Estimating Use Rate From UPFC:

Use Rate= (-0.43751 + $\sqrt{}$(0.191415 + 1.88996 * UPFC))/0.94498

CALCULATING CURRENT SAVINGS (CS)

There are two different methods:

CS = PF – n; or

CS = PF * UPFC * e

CALCULATING FUTURE SAVINGS (FS) FROM AN INCREASED RATE OF SAFETY BELT USE

FS = PF * ui * e

Where ui = increased rate of safety belt use.

CALCULATING NET LIVES SAVED (NLS) FROM AN INCREAED RATE OF SAFETY BELT USE

NLS = FS - CS

LINKING CHANGES IN UPFC TO OBSERVED USAGE RATES

Most users will want to reflect change in terms of observed use. However, the relationship between change in UPFC and observed use in not linear – it is curvilinear. Therefore, at current usage levels, a 1 percent change in observed use will result in more than a one percent change in UPFC.

$UPFC = 0.43751 * u + 0.47294 * u^2$

TABLES*

* The Excel Spreadsheets used to create these tables are enclosed in electronic format. These spreadsheets also contain the formulas and calculations used in the tables.

TABLES A 1 – A3

Calculation of Lives Saved Assuming Scenarios 1-3
Benefits of Belt Reminder Systems for Rear Seat Occupants Ages 5 and Above

	CARS		LIGHT TRUCKS	
	Front Seat	Rear Seat	Front Seat	Rear Seat
Fatalities	17,109	1,508	10,896	1,040
Percentage Used by Fatally Injured Passengers	52.5	28	37.4	23.7
Percent of UPFC	66.8	41	59.9	53.5
Percent of Estimated Use	81.3	57.7	75.4	69.7
Belt Effectiveness Percentage	45	44	60	73
Potential Fatalities	24,458	1,840	17,009	1,706
Current Lives Saved	7,349	332	6,113	666

Table A1

Scenario # 1: Rear Seat Usage Equals Front Seat Usage

	CARS	LIGHT TRUCKS
New Use Percentage	0.812776	0.754412
New UPFC	0.668024	0.599231
Future Savings From Increased Use Percentage	540.7615	746.4493
Net Savings From Increased Use Percentage	209.0015	80.04044

Table A2

Scenario # 2: Assuming the Hypothesis of the Swedish Study

	CARS	LIGHT TRUCKS
New Use Percentage	0.703962	0.788214
New UPFC	0.542362	0.638681
Future Savings From Increased Use Percentage	439.0389	795.5907
Net Savings From Increased Use Percentage	107.2789	129.1819

Table A3

Scenario # 3: Assuming an Increase to 85 or 90% Percent Use

Assuming an Increase to 85 Percent Use		
	CARS	LIGHT TRUCKS
New Use Percentage	0.85	0.85
New UPFC	0.713583	0.713583
Future Savings From Increased Use Percentage	577.612	888.8946
Net Savings From Increased Use Percentage	245.8812	222.4857
Assuming an Increase to 90 Percent Use		
	CARS	LIGHT TRUCKS
New Use Percentage	0.90	0.90
New UPFC	0.77684	0.77684
Future Savings From Increased Use Percentage	628.848	967.6934
Net Savings From Increased Use Percentage	297.088	301.2845

TABLE A4-A5
Calculation of Front Seat vs. Rear Seat Safety Belt Use from Use by All Fatally Injured Occupants in FARS for years 1993 Through 2004

Table A4: Passenger Cars

YEAR	Belt Use Percentage for Fatally Injured Occupants		Belt Effectiveness Percentage		UPFC		Predicted Use	
	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat
1993	0.383	0.227	0.45	0.44	0.532319	0.344002	0.695023	0.507797
1994	0.411	0.239	0.45	0.44	0.559222	0.359312	0.719352	0.524436
1995	0.416	0.263	0.45	0.44	0.564297	0.389214	0.723886	0.555891
1996	0.436	0.253	0.45	0.44	0.584294	0.376869	0.741583	0.542988
1997	0.445	0.268	0.45	0.44	0.593136	0.395327	0.749326	0.562220
1998	0.460	0.318	0.45	0.44	0.607662	0.454338	0.761940	0.621422
1999	0.462	0.282	0.45	0.44	0.609579	0.412232	0.763595	0.579524
2000	0.473	0.320	0.45	0.44	0.620043	0.455621	0.772590	0.623648
2001	0.488	0.317	0.45	0.44	0.634096	0.453194	0.784568	0.620305
2002	0.492	0.326	0.45	0.44	0.637801	0.463437	0.787707	0.630265
2003	0.520	0.360	0.45	0.44	0.663265	0.501114	0.809070	0.666146
2004	0.524	0.345	0.45	0.44	0.666836	0.484687	0.812037	0.650645

Table A5: Light Trucks

YEAR	Belt Use Percentage for Fatally Injured Occupants		Belt Effectiveness Percentage		UPFC		Predicted Use	
	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat
1993	0.210	0.210	0.60	0.73	0.399240	0.496102	0.566251	0.661144
1994	0.226	0.239	0.60	0.73	0.421957	0.537719	0.589349	0.699947
1995	0.238	0.223	0.60	0.73	0.438467	0.515261	0.605829	0.679329
1996	0.256	0.216	0.60	0.73	0.462428	0.505051	0.629288	0.669830
1997	0.269	0.264	0.60	0.73	0.479159	0.570539	0.645380	0.729439
1998	0.278	0.231	0.60	0.73	0.490473	0.526640	0.656129	0.689821
1999	0.275	0.257	0.60	0.73	0.486726	0.561614	0.652580	0.736072
2000	0.312	0.270	0.60	0.73	0.531335	0.578035	0.694123	0.745726
2001	0.313	0.279	0.60	0.73	0.532494	0.589018	0.695183	0.758076
2002	0.325	0.291	0.60	0.73	0.463437	0.603196	0.707656	0.703654
2003	0.354	0.242	0.60	0.73	0.501114	0.541799	0.736088	0.763055
2004	0.374	0.296	0.60	0.73	0.484687	0.608953	0.754412	

Tables A6-A7
Calculation of Front Seat vs. Rear Seat Safety Belt Use from Use by Fatally Injured Occupants Ages 5 and above in FARS for years 1993 Through 2004

Table A6: Passenger Cars Ages 5 to 18

YEAR	Belt Use Percentage for Fatally Injured Occupants		Belt Effectiveness Percentage		UPFC		Predicted Use	
	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat
1993	0.317	0.169	0.45	0.44	0.457663	0.266410	0.624662	0.419171
1994	0.351	0.232	0.45	0.44	0.495798	0.350411	0.661153	0.514759
1995	0.378	0.204	0.45	0.44	0.524927	0.313962	0.688248	0.474448
1996	0.384	0.225	0.45	0.44	0.531267	0.341426	0.694061	0.504986
1997	0.388	0.218	0.45	0.44	0.535468	0.332358	0.697897	0.495020
1998	0.409	0.282	0.45	0.44	0.557183	0.412232	0.717526	0.579524
1999	0.435	0.223	0.45	0.44	0.583305	0.338844	0.740714	0.502159
2000	0.432	0.285	0.45	0.44	0.580333	0.415816	0.738099	0.583155
2001	0.452	0.294	0.45	0.44	0.599947	0.426483	0.755257	0.593890
2002	0.477	0.324	0.45	0.44	0.623815	0.461171	0.775816	0.628070
2003	0.473	0.324	0.45	0.44	0.620043	0.461171	0.77259	0.628070
2004	0.493	0.333	0.45	0.44	0.638725	0.471324	0.788488	0.637874

Table A7: Passenger Cars Ages 19 and Above

YEAR	Belt Use Percentage for Fatally Injured Occupants		Belt Effectiveness Percentage		UPFC		Predicted Use	
	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat	Front Seat	Rear Seat
1993	0.349	0.164	0.45	0.44	0.493600	0.259428	0.659083	0.410755
1994	0.416	0.168	0.45	0.44	0.564297	0.265018	0.723886	0.417499
1995	0.418	0.212	0.45	0.44	0.566319	0.324516	0.725687	0.486319
1996	0.440	0.191	0.45	0.44	0.588235	0.296565	0.745041	0.454632
1997	0.450	0.211	0.45	0.44	0.598007	0.323203	0.753570	0.484854
1998	0.465	0.240	0.45	0.44	0.612446	0.360577	0.766067	0.525700
1999	0.464	0.196	0.45	0.44	0.611492	0.303293	0.765244	0.462358
2000	0.477	0.210	0.45	0.44	0.623815	0.321888	0.775816	0.483385
2001	0.49	0.216	0.45	0.44	0.635951	0.329751	0.786140	0.492136
2002	0.492	0.234	0.45	0.44	0.637801	0.352962	0.787707	0.517516
2003	0.528	0.243	0.45	0.44	0.670391	0.364362	0.814984	0.529743

2004	0.53	0.237	0.45	0.44	0.672162	0.356777	0.816450	0.521625

Table A8-A10
2004 Passenger Vehicle Occupant Fatalities by Location

Table A8: Passenger Cars

Age	FRONT SEAT				REAR SEAT			
	Total Fatalities	Belted Occupant Fatalities	Unbelted Occupant Fatalities	Safety Belt Use Percentage	Total Fatalities	Belted Occupant Fatalities	Unbelted Occupant Fatalities	Safety Belt Use Percentage
0-1	22	9	13	42.9	99	81	18	81.9
2-4	30	14	16	46.7	113	85	28	75.5
5-18	2236	1102	1134	49.3	686	228	458	33.3
19+	14873	9008	8153	52.4	822	593	1127	34.5

Table A9: Light Trucks

Age	FRONT SEAT				REAR SEAT			
	Total Fatalities	Belted Occupant Fatalities	Unbelted Occupant Fatalities	Safety Belt Use Percentage	Total Fatalities	Belted Occupant Fatalities	Unbelted Occupant Fatalities	Safety Belt Use Percentage
0-1	18	6	12	35.3	62	44	18	71.4
2-4	29	9	2	31.6	92	62	30	67
5-18	843	288	555	34.2	413	119	294	28.8
19+	10053	3790	6623	37.7	627	128	499	29.6

Table 10: Totals

	CARS			LIGHT TRUCK			TOTAL
	Front Seat	Rear Seat	Total	Front Seat	Rear Seat	Total	
Total Fatalities	17,161	1,720	18,881	10,943	1,194	12,137	31,018
Total Belted Occupant Fatalities	9,008	593	9,601	4,093	353	4,446	14,047
Total Unbelted Occupant Fatalities	8,153	1,127	9,280	6,850	841	7,691	16,971
Total Safety Belt Use Percentage	52.4	34.5	50.8	37.4	29.6	36.6	45.3

REFERENCES

[1] http://www.iihs.org/laws/state_laws/restrain3.html

[2] See February 25, 2002 letter from Jeffrey W. Runge, M.D. to Honda, BMW, DaimlerChrysler, Ford, Daewoo, GM, Hyudai, Subaru-Izuzu, KIA, Lotus, Mazda, Mitsuibishhi, Nissan, Porche, Suzuki, Volkswagen, Volvo, Mercedes-Benz and Saab.

[3] Buckling Up Technologies to Increase Seat Belt Use, Special Report 278, 2003, Transportation Research Board, National Academy of Sciences, at 13, available at http://newton.nap.edu/html/SR278/SR278.pdf

[4] Safe, Accountable, Flexible, Efficient Transportation Equity Act, Pub. L. No. 109-59, § 10306 (2005)

[5] NHTSA VEHICLE SAFETY RULEMAKING PRIORITIES and SUPPORTING RESEARCH: Calendar Years 2003-2006 § I(A)(1)

[6] Although safety belt reminder systems are required only for the driver's seating position, right front passenger reminder systems are provided in 100% of the passenger vehicle fleet. The industry provides front seat passenger reminder systems in part because current designs of advanced air bags include occupant and belt use sensors to suppress air bag deployment for small occupants and children in child safety seats. Thus, this petition for rulemaking only addresses rear seat safety belt reminder systems.

[7] National Occupant Protection Use Survey: Shopping Center Study, 2004, NHTSA

[8] Public Citizen recommends child restraints for kids up to 8 years of age. *See* Public Citizen with Tab Turner and Susan Lister, *The Forgotten Child: The Failure of Motor Vehicle Manufacturers to Protect 4-to-8-year-olds in Crashes*, available at http://www.citizen.org/documents/auto3.pdf. Advocates for Highway and Auto Safety recommends, in its model law, that children up to age 8 be secured in an age/size appropriate child restraint system.

[9] Wang J, Blincoe, L., Beltuse Regression Model 2003 Update, May 2003, NHTSA Research Note

[10] See Appendix for an explanation that PF = number of fatalities / [1-(UPFC*Lap and shoulder safety belt effectiveness)]

[11] See also Appendix for an explanation that current savings = potential fatalities - fatalities

[12] Age 5 and up from 2004 FARS

[13] Calculation is weighted by the total number of fatalities. (See Table 2, above)

[14] Use in the general population is always higher than use in potentially fatal crashes because, on average, occupants in fatal crashes are more of the risk taking population. This may be due in part to differences in the usage of belts by daytime verus nighttime drivers, and to the higher-risk behavior of those people within the driving population that tend to be involved in fatal crashes. For a more detailed analysis, see Public Citizen's report *Rolling Over On Safety*, at page 14, available at http://www.citizen.org/documents/update_w_appx.pdf.

[15] See Appendix for an explanation that UPFC = Use rate of fatally injured occupants / [(1-Lap shoulder belt effectiveness)*(1-Use rate of fatally injured occupants)]

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[18] IIHS Status Report, Vol. 37, No. 2, at 2, February 9, 2002 (citing Williams, A.F., et al, The effectiveness of the belt-minder system in increasing seat belt use)

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[20] Buckling Up Technologies to Increase Seat Belt Use, *supra* at 77

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[22] Buckling Up Technologies to Increase Seat Belt Use, *supra* at 64

[23] Dahlstedt, S. 1999. *Non-Users' Motives for Not Wearing the Seat Belt.* VTI Rapport 417, Swedish National Road and Transport Research Institute, Linkoping, Sweden.

[24] Buckling Up Technologies to Increase Seat Belt Use, *supra* at 65

[25] Larsson, *supra*

[26] Age 5 and up from 2004 FARS

[27] Ages 5 and above

[28] Use in Potentially Fatal Crashes (See Appendix 1)

[29] Larsson, *supra*

[30] These technologies include pretensioners, emergency locking retractors to prevent safety belt spool-out, and safety belts integrated into vehicle seats. For a complete list of available technologies and their effectiveness see Public Citizen's Comments on Notice of Proposed Rulemaking; Roof Crush, available at http://69.63.136.213/documents/372656_web.pdf.

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[38] Buckling Up Technologies to Increase Seat Belt Use, *supra*

[39] Buckling Up Technologies to Increase Seat Belt Use, *supra* at 13 (emphasis added).

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[41] NHTSA VEHICLE SAFETY RULEMAKING PRIORITIES and SUPPORTING RESEARCH, *supra* at § I(A)(1)

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