

THE TREAD ACT REVISITED

HEARING

BEFORE THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

ONE HUNDRED EIGHTH CONGRESS

SECOND SESSION

—————
JUNE 3, 2004
—————

Printed for the use of the Committee on Commerce, Science, and Transportation



U.S. GOVERNMENT PUBLISHING OFFICE

27-959 PDF

WASHINGTON : 2018

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED EIGHTH CONGRESS

SECOND SESSION

JOHN McCAIN, Arizona, *Chairman*

TED STEVENS, Alaska	ERNEST F. HOLLINGS, South Carolina,
CONRAD BURNS, Montana	<i>Ranking</i>
TRENT LOTT, Mississippi	DANIEL K. INOUYE, Hawaii
KAY BAILEY HUTCHISON, Texas	JOHN D. ROCKEFELLER IV, West Virginia
OLYMPIA J. SNOWE, Maine	JOHN F. KERRY, Massachusetts
SAM BROWNBACK, Kansas	JOHN B. BREAUX, Louisiana
GORDON H. SMITH, Oregon	BYRON L. DORGAN, North Dakota
PETER G. FITZGERALD, Illinois	RON WYDEN, Oregon
JOHN ENSIGN, Nevada	BARBARA BOXER, California
GEORGE ALLEN, Virginia	BILL NELSON, Florida
JOHN E. SUNUNU, New Hampshire	MARIA CANTWELL, Washington
	FRANK R. LAUTENBERG, New Jersey

JEANNE BUMPUS, *Republican Staff Director and General Counsel*

ROBERT W. CHAMBERLIN, *Republican Chief Counsel*

KEVIN D. KAYES, *Democratic Staff Director and Chief Counsel*

GREGG ELIAS, *Democratic General Counsel*

SUBCOMMITTEE ON COMPETITION, FOREIGN COMMERCE,
AND INFRASTRUCTURE

GORDON H. SMITH, Oregon, *Chairman*

CONRAD BURNS, Montana	BYRON L. DORGAN, North Dakota, <i>Ranking</i>
SAM BROWNBACK, Kansas	BARBARA BOXER, California
PETER G. FITZGERALD, Illinois	BILL NELSON, Florida
JOHN ENSIGN, Nevada	MARIA CANTWELL, Washington
JOHN E. SUNUNU, New Hampshire	FRANK R. LAUTENBERG, New Jersey

CONTENTS

Hearing held on June 3, 2004	Page 1
Statement of Senator Smith	1
Prepared statement	1

WITNESSES

Claybrook, Joan, President, Public Citizen and former Administrator, National Highway Traffic Safety Administration	62
Prepared statement	64
Runge, M.D., Hon. Jeffrey W., Administrator, National Highway Traffic Safety Administration, U.S. Department of Transportation	2
Prepared statement	4
Shea, Donald B., President and CEO, Rubber Manufacturers Association	53
Prepared statement	54
Starr, Hon. Bruce, Oregon State Senator, Smart Tread, LLC	38
Prepared statement	40
Strassburger, Robert, Vice President, Safety and Harmonization, Alliance of Automobile Manufacturers (Alliance)	46
Prepared statement	47

APPENDIX

Association of International Automobile Manufacturers, Inc., prepared statement	93
Consumers Union, prepared statement	89
Response to written questions submitted by Hon. Byron L. Dorgan to Hon. Jeffrey W. Runge, M.D.	95

THE TREAD ACT REVISITED

THURSDAY, JUNE 3, 2004

U.S. SENATE,
SUBCOMMITTEE ON COMPETITION, FOREIGN COMMERCE,
AND INFRASTRUCTURE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 3:30 p.m. in room SR-253, Russell Senate Office Building, Hon. Gordon Smith, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. GORDON H. SMITH, U.S. SENATOR FROM OREGON

Senator SMITH. Ladies and gentlemen, we'll convene this hearing of the Subcommittee on Competition, Infrastructure, and Foreign Commerce to consider the Transportation Recall, Enhancement, Accountability, and Documentation Act, known as TREAD. I apologize to all our witnesses and those who have prepared much and traveled long distances to be here that we have had this hearing brutally interrupted by four stacked votes. In the interest of time, because I may be scheduled to preside over the Senate at 4, I'm going to place my statement in the record as if read and I want to give a special welcome to my colleague from the Oregon State Senate, Bruce Starr, who will be one of our witnesses to testify today, and we thank him for coming all this way.

Our first witness then will be Dr. Runge. Thank you for being here, Doctor, we appreciate it, and we look forward to your testimony. And for all those who will be testifying, whatever you can do to summarize them in the interest of time, we thank you for that.

[The prepared statement of Senator Smith follows:]

PREPARED STATEMENT OF HON. GORDON H. SMITH, U.S. SENATOR FROM OREGON

I thank the witnesses for being here today. Today's hearing will examine the status and effectiveness of the Transportation Recall Enhancement, Accountability, and Documentation Act—also known as TREAD—which was signed into law in 2000.

I have always been an avid fan of cars. I know the purr of well-tuned auto and the roar of a racing engine. For most of my life, I remember cars being relatively simple machines. When I growing up, if you had a problem, you could open your hood, take a look, and if you knew something about cars, fix your problem.

Nowadays, you hear a knock, or a strange whir, and a mechanic hooks your car up to the automotive equivalent of an MRI machine. Technology has changed dramatically, and it seems that mechanics are more computer technicians than anything else.

Congress passed the TREAD Act in response to the Ford/Firestone tire recall, which served to highlight serious deficiencies with the ability of the Department of Transportation, and more specifically, the National Highway Traffic Safety Administration, to adequately detect and investigate safety-related defects in motor vehicles and motor vehicle equipment. I am pleased to say that all but a few of the TREAD Act's requirements have been implemented.

The tire recall also raised consumer awareness concerning the importance of tire safety and proper tire maintenance. As we saw as a result of that recall, the failure to ensure proper tire use or inflation can have deadly consequences as we saw a month ago in my home state when a family of five was killed as a result of a tire failure.

However, despite the importance of proper tire use and maintenance, the best advice commonly given to consumers to check their tires for wear is to get down at eye-level with the tire, stick a penny in the groove of their tire's tread, and see whether Abe Lincoln's hairline is visible. Not to sell our greatest President short, but there's got to be a better system. Tread wear warning systems are simply not working.

During today's hearing, the Subcommittee will discuss the status of the TREAD Act's many mandated rulemakings and will examine the effectiveness of the TREAD Act, including any safety shortcomings that may require the attention of Congress. In addition, the Subcommittee will discuss what actions have been taken by the automobile and tire industries since the enactment of TREAD, as well as any technological advancement that has occurred.

I want to especially welcome one of my constituents, State Senator Bruce Starr, who is here to testify about the role of technology in this effort to prevent tragedy on our highways.

Again, I want to thank the witnesses that are here today and I look forward to an enlightening hearing that will point us in a positive direction toward safer highway travel for all Americans.

**STATEMENT OF HON. JEFFREY W. RUNGE, M.D.,
ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, U.S. DEPARTMENT
OF TRANSPORTATION**

Dr. RUNGE. Thank you, Mr. Chairman. I appreciate the opportunity to update you today on the TREAD Act. Transportation safety is one of the top priorities for President Bush as well as Secretary Mineta. We appreciate this Subcommittee working with us.

The TREAD Act was challenging to the agency in many ways. It required us to complete 15 separate rulemaking actions, three reports, two studies, and a strategic plan. Of the eight final rules regarding defects and enforcement, I think the most significant is the requirement that manufacturers report various types of information to NHTSA that could give us clues about the existence of a safety defect. We developed and built an automated system to receive and house these data, which we have been receiving from the manufacturers for about the last 6 months, and the system is working well.

In the standards area, TREAD directed us to update our tire performance standards to change the way tires are labeled and to require a tire pressure monitoring system in new vehicles, and we published final rules in all these areas.

It also directed us to develop and implement a dynamic roll-over resistance test, which we completed last year. We began using those ratings this past fall for model year 2004.

TREAD also had a child safety focus. We undertook a comprehensive review of our child restraint performance and use, and in response, we created a system for ease of use as well as a final

rule to improve performance during a crash for child safety seats, which we expect to save the lives of 40 to 50 children per year.

We've submitted a chart, Mr. Chairman, that shows a status report on each of the requirements of the TREAD Act for the record along with my written testimony.

Senator SMITH. That will be included.

Dr. RUNGE. Now that I've provided the Subcommittee an update on TREAD, I want to take a moment to describe some of the collateral benefits we've seen because of the law. When TREAD was enacted on November 1, 2000, NHTSA had no rulemaking plan, no process of regular review of our rules and regulations, and it took about 4 years to complete an average rule.

When I became Administrator in August 2001, I challenged the agency to improve our rulemaking operations and we have done so. We created a rule-making priority plan, which is based on real world injury and fatality numbers. We reorganized the agency to streamline our work flow, allowing our research priorities to support our rulemaking efforts, and we set a goal that the entire rule-making process should take no more than 2 years from the 4 years that it was.

Inspector General of the DOT, Ken Mead, performed an audit in March of this year and found that we have met that goal, which was accomplished with careful attention to time lines, milestones, and internal deadlines that we imposed on ourselves. Since completing the TREAD mandates, we've been able to refocus our efforts on those actions that offer the greatest potential for saving lives and preventing injuries, which we've detailed in the rule-making priority plan also submitted for the record with my written testimony, Mr. Chairman.

Senator SMITH. We'll include that as well.

Dr. RUNGE. These priorities reflect the size and severity of the various parts of the traffic injury problem as well as their costs to society. The Administration believes that setting rule-making priorities based on injury data produces better results and is more cost-effective than politically mandated rule-makings that can displace data-driven priorities by consuming scarce agency resources.

Very briefly, Mr. Chairman, in the minute that I have left, I'd like to highlight two problems that we are focusing on: vehicle compatibility and rollover. While the vehicle fleet has been changing toward the purchase of light trucks, there is an increasing danger to passenger car occupants who are struck in the side. To deal with this, we recently proposed a new vehicle side impact standard that will require manufacturers to provide head protection in side crashes for the first time. We estimate that this new requirement will save 700 to 1,000 lives a year. And we're also engaged actively in the necessary research to improve the characteristics of the striking vehicle during a crash as well.

The second problem is rollovers, an extremely lethal type of crash. Less than 3 percent of passenger vehicle injuries—sorry, crashes—account for more than 30 percent of fatalities, which is more than 10,000 people a year. To address this problem, we have taken a comprehensive look at protecting people in a rollover, the most immediate component of which is our efforts to get people to buckle their safety belts. Nearly half of rollover deaths are the re-

sult of full or partial ejections from the vehicle and nearly all ejections are unbelted.

Over the last 3 years of this Administration, we've raised the national usage rate from 73 percent to 79 percent through a nationwide high visibility enforcement program. We expect the 6 percentage point increase to result in the savings of nearly 1,500 lives a year and \$4.8 billion savings in national economic impact.

But in addition to increasing belt use, there is work to be done on the vehicle as well. We are working toward improving the structural integrity of vehicles in rollovers, safety belt performance, and reducing ejections, in addition to studying new technologies to prevent those rollovers in the first place.

Mr. Chairman, that's a very quick summary of my written testimony. I'd be happy to answer any questions.

[The prepared statement of Dr. Runge follows:]

PREPARED STATEMENT OF HON. JEFFREY W. RUNGE, M.D., ADMINISTRATOR,
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, U.S. DEPARTMENT OF
TRANSPORTATION

Mr. Chairman, Members of the Subcommittee, thank you for the opportunity to speak about the National Highway Traffic Safety Administration's (NHTSA) implementation of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act and various motor vehicle safety issues.

I want to express my appreciation for this subcommittee's long-standing support of motor vehicle programs. Transportation safety is a top priority for President Bush and Secretary Mineta. We are grateful to this subcommittee for its continuing leadership and for scheduling this hearing.

Overview of TREAD Act

As you know, the TREAD Act was enacted on November 1, 2000, as a direct consequence of hearings held before the House and the Senate, including this committee, on the safety of tires and related matters. In the course of the hearings, the committees determined that NHTSA might have detected the problems with the tires in question sooner, if reports of the problems with these tires had been obtained in a timelier manner.

The TREAD Act challenged us to do a lot of work. The TREAD Act required us to complete 15 separate rulemaking actions, three reports, two studies, and one strategic plan. Many of these required actions had tight deadlines, some as short as 30 days. Some of the actions had not been on our rulemaking agenda before the TREAD Act, so our priorities changed to accomplish what the Act mandated. These changes also required a shift of agency efforts away from several important priorities.

In the Defects and Enforcement areas, we have issued 8 final rules. These rules included a comprehensive regulation requiring vehicle and equipment manufacturers to report periodically to NHTSA on a wide variety of information that could indicate the existence of a potential safety defect and to advise NHTSA of foreign safety recalls and other safety campaigns. We have developed a computer system to receive and house this data, and manufacturers have already begun to submit the required data to the agency. We also implemented a host of other provisions of the TREAD Act, including those relating to increased civil penalties, the acceleration of vehicle remedy programs, consumer reimbursement procedures, and the disposition of recalled tires. In addition, NHTSA undertook a comprehensive review of the way in which the agency determines whether to open a defect investigation.

In the Federal Motor Vehicle Safety Standards area, the TREAD Act also directed the Secretary to conduct rulemaking actions to revise and update the standards for tires and tire labeling, and to require Tire Pressure Monitoring Systems (TPMS) in new motor vehicles. Final rules were published in all of these areas and we will conduct another rulemaking relating to TPMS in accordance with a 2003 court reversal of our final rule. We plan to publish an NPRM with a new TPMS proposal by September 2004. The new proposal is expected to save approximately 124 lives and 8,722 injuries each year, based on our previous benefits assessments. The tire upgrade rule is expected to save 1 to 4 lives and 23 to 102 injuries each year when all tires on the road meet the new requirements.

The Act also directed the Secretary to develop a dynamic rollover test for motor vehicles, to carry out a program of dynamic rollover tests, and to disseminate the results to the public. The agency announced the final test program in 2003, and we began rating model 2004 vehicles this past fall. Manufacturers have begun to make design changes to several popular sport utility vehicles (SUVs) to reduce their propensity to roll over.

An extensive provision on child restraints required that the Secretary undertake a comprehensive review of the safety of child restraints, upgrade the safety standard for child restraints where appropriate, establish a rating system for child restraints, study the effectiveness of automobile booster seats for children, and establish a plan for saving lives and reducing injuries through the use of booster seats. We published the final rule to upgrade the standard in 2003, which is expected to save 36–50 lives per year. We have completed all of the actions required in the child safety provisions.

I have attached a chart to this statement that provides a complete status report on each of the requirements of the TREAD Act.

Rulemaking Priority Plan

When the TREAD Act was enacted on November 1, 2000, NHTSA had no formal rulemaking plan and no process to regularly review rules and regulations, and it took an average of about 4 years to complete a rule.

When I became Administrator in August 2001, I committed the agency to improving our rulemaking operation. I began with the basics, such as realigning our research priorities to support our rulemaking efforts. I also directed that we develop a Rulemaking Priority Plan, and finally, I set a goal of a 2-year duration for the entire rulemaking process. A March audit by the Department of Transportation's Inspector General found that, based on a sample of significant rules for 2003, we have met our goal. This was accomplished with careful attention to timelines, milestones, and internal deadlines that we imposed upon ourselves.

Since completion of the TREAD Act requirements, we have been able to devote our efforts toward activities that offer the greatest potential for saving lives and preventing injuries. To accomplish this, we published NHTSA's multi-year Rulemaking Priority Plan in the summer of 2003. It documents the agency's rulemaking goals through 2006. We defined these rulemaking priorities through extensive discussions both within the agency and through public comment. The agency works closely with Congress and the public to define our priorities openly and with ample public comment.

We prioritized potential new rules and upgrades of existing rules according to the size and severity of the problems they address, and the best estimates of the cost and effectiveness. Once the rulemaking priorities were established, we then prioritized our research studies to make sure that those needed to support the priority rulemakings were also given the highest priority.

We intend for our priority plan to be a living document and we will update it annually. We also are committed to reviewing all Federal motor vehicle safety standards systematically over a 7-year cycle. Each standard will be assessed according to a set of criteria related to safety problems, potential solutions, technology issues and enforcement issues.

The Administration believes that setting rulemaking priorities based on data produces better results and is more cost effective than legislatively mandated rulemakings that displace valuable agency resources.

Mr. Chairman, our priority rulemaking actions are detailed in our priority plan, which I am submitting for the record. Very briefly, I would like to highlight two vehicle-based programs that we are working on that we expect to greatly reduce fatalities: vehicle compatibility and rollover. We formulated and published a road map to address these concerns last year, and our Rulemaking Priority Plan reflects this effort.

Of the 32,598 passenger-vehicle occupants killed in 2002, over 9,000 were killed in side impacts. In side impacts involving two passenger vehicles, an occupant of the struck vehicle was about seven times more likely to die than an occupant of the striking vehicle.

Just three weeks ago, we proposed a new vehicle side-impact standard that would require auto manufacturers to provide head protection in side crashes for the first time. It would also improve protection of the thorax and pelvis for more sizes of people involved in such crashes. We estimate that changes in vehicle design to satisfy these proposed requirements could save 700 to 1,000 lives a year. When this standard becomes final, it will address much of the problem with crash compatibility in side crashes.

Beyond the side-impact proposal, we are continuing to research compatibility issues with the striking vehicle to control how vehicles interact in these crashes.

Rollovers are another highly lethal type of crash and one of our highest priorities. Even though rollovers account for less than 3 percent of passenger vehicles crashes, they account for about a third of all passenger vehicle occupant fatalities—over 10,000 people killed a year. In SUVs, rollovers account for more than 60 percent of occupant fatalities.

To address this problem, we are taking a comprehensive look at protecting people in a rollover. One major component of this approach is to continue our efforts in getting people to buckle their safety belts. Nearly half of rollover deaths are the result of full or partial ejections from the vehicle, and nearly all ejections are unbelted. Last year, with the help of Congress, we were able to raise the national safety belt usage rate from 75 to 79 percent. Since higher safety belt usage rates translate into decreased fatalities, this 4 percent increase will result in a 1,000 lives saved annually.

In addition to our safety belt efforts, we will work on optimizing the structural integrity of vehicles. Our Integrated Project Team report on Rollover Initiatives outlines our strategies to address this critical problem. We believe that our upgrade of the side-impact standard will also lead to reductions in ejection, since the countermeasures for side-impact protection we foresee could also prevent ejections in the event of a rollover. As our research matures, we will consider appropriate rulemakings on these matters.

Longer term, to reduce the occurrence of rollover and other crashes, we will be exploring the new frontier in technology-assisted crash avoidance, including electronic stability control systems and driver-assist technologies. We are also pursuing an expanded research program to evaluate the potential of some of the more promising crash avoidance technologies. Further, we need to undertake research and development with respect to the safety of hydrogen-powered vehicles to support the President's Hydrogen Fuel Initiative and the FreedomCAR Program.

Mr. Chairman, this concludes my overview of our actions to implement the TREAD Act and the agency's rulemaking goals as detailed in our priority plan. I will be glad to answer any questions you may have.

ATTACHMENT

TREAD STATUS REPORT 5/26/2004

Sec. No.	Title	NHTSA Actions	Statutory Due Date	Estimated Completion Date	Actual Completion Date	Current Status
03(a)	Defects in Foreign Countries 49 U.S.C. § 30166(f)	Publish NPRM	None		10/04/01	Completed.
		Publish Final Rule	None		10/11/02	Completed.
03(b)	Early Warning Reporting Requirements: 49 U.S.C. § 30166(m)	Publish ANPRM	03/01/01		01/22/01	Completed.
		Publish NPRM	None		12/21/01	Completed.
		Publish Final Rule	06/30/02		07/10/02	Completed.
		Report to House and Senate Committees on Appropriations	7/1/2003		10/28/03	Completed.
03(c)	Sale or Lease of Defective or Noncompliant Tires: 49 U.S.C. § 30166(n)	Publish Interim Rule	01/29/01		12/26/00	Completed.
		Publish Final Rule	None		07/23/01	Completed.
03(d)	Insurance Study	Study to Congress	03/01/01		03/05/01	Completed.
05(a)	Civil Penalties (Conforming amendments to dollar amounts in 49 CFR § 578); 49 U.S.C. § 30165(a) Civil Penalties	Publish Final Rule	None		11/14/00	Completed.
05(b)	Criminal Sanction: Safe Harbor Provision: 49 U.S.C. § 30170 Criminal Penalties	Publish Interim Rule	01/29/01		12/26/00	Completed.
		Publish Final Rule	None		07/24/01	Completed.
06(b)	Reimbursement Prior to Recall - Amends section 30120(d) of title 49, USC	Final Rule	None		12/05/02	Completed

TREAD STATUS REPORT
5/26/2004

Sec. No.	Title	NHTSA Actions	Statutory Due Date	Estimated Completion Date	Actual Completion Date	Current Status
7	Sale of Replaced Tires – Amends Section 30120(d) of title 49, U.S.C.	Final Rule	None	12/04		Although the statute does not require rulemaking to implement Section 7, we plan to issue a final rule on that subject by December 2004.
8	Sale of Replaced Equipment, Section 30120 of title 49, U.S.C.	Final Rule	None		04/23/02	Completed.
9	Certification Label: 49 U.S.C. § 30115 Amended	Publish NPRM	None	N/A		The agency does not intend to engage in rulemaking on this issue.
10	Endurance and Resistance Standards for Tires	Publish NPRM	None		03/05/02	Completed.
		Publish final rule	06/01/02		06/26/03	Completed.
11	Improved Tire Information	Publish ANPRM	12/01/00		12/01/00	Completed.
		Publish NPRM	None		12/19/2001	Completed.
		Publish Final Rule	06/01/02		11/18/02	Completed.
		Publish Final Rule with Correcting Amendments	None		06/26/03	Completed.
12	Rollover Tests	Publish Request for Comments	None		07/03/01	Completed.

TREAD STATUS REPORT
5/26/2004

Sec. No.	Title	NHTSA Actions	Statutory Due Date	Estimated Completion Date	Actual Completion Date	Current Status	
		Provide information to the public to describe dynamic testing on motor vehicle rollovers	11/01/02		11/14/03	Completed.	
13	Tire Pressure Warning	Publish NPRM	None		07/26/01	Completed.	
		Publish Final Rule	11/01/01		06/05/02	Completed.	
		Publish New NPRM (By court's decision)	N/A	9/00/04			NHTSA is currently working on the new NPRM, in response to the court decision.
		Publish New Final Rule (By court's decision)	N/A	7/31/05			
14(a)	Improving the Safety of Child Restraints	Publish NPRM	11/01/01		05/01/02	Completed.	
		Publish Final Rule	11/01/02		06/26/03	Completed.	
		Report to Congress	12/01/02		4/15/04	Completed.	
14(b)(5)	Improve Child Restraint Labeling	Publish NPRM	11/01/01		11/02/01	Completed.	
		Publish Final Rule	11/01/02		10/01/02	Completed.	
14(g)	Child Restraint Safety Ratings	Publish notice on proposed CRS rating system	11/01/01		11/06/01	Completed.	

TREAD STATUS REPORT
5/26/2004

Sec. No.	Title	NHTSA Actions	Statutory Due Date	Estimated Completion Date	Actual Completion Date	Current Status
		Publish notice announcing final CRS rating system	11/01/02		11/05/02	Completed.
14(h)	Improving the Safety of Child Restraints – Booster Seat Study	Report to Congress	11/01/01		11/27/02	Completed.
14(i)	Booster Seat Education	Final plan and budget	11/01/01		08/07/02	Completed.
15	Improving Criteria Used in a Recall	Report to Congress	11/01/01		01/03/02	Completed.
16	Follow-Up Report	Report to Congress	11/01/01		12/17/01	Completed.

[The information referred to follows:]

NHTSA VEHICLE SAFETY RULEMAKING PRIORITIES AND SUPPORTING RESEARCH:
CALENDAR YEARS 2003–2006

Introduction

Table 1: Rulemaking and Potential Rulemaking Areas by Crash Modes and Special Issues

I. Prevent Crashes

- A. Data for Crash Avoidance Countermeasures
- B. Reduce Driver Distraction
- C. Improve Vehicle Visibility Factors
- D. Warn Drivers of Impending Crash Situations
- E. Improve Vehicle Control and Handling

II. Improve the Protection of Occupants

- A. Frontal Crashes
- B. Side Crashes
- C. Rollover Crashes
- D. Rear Crashes

III. Address Incompatibility Between Passenger Cars and Light Trucks

IV. Make Large Trucks Safer

V. Protect Special Populations

- A. Children
- B. People with Disabilities
- C. Older Population

VI. Appendix A: Other Active Areas, 2003–2006

VII. Appendix B: Vehicle Safety Information for Consumers

- A. Consumer Information on Child Restraints
- B. Consumer Information on Light Vehicle Rollover
- C. Consumer Information on Braking Performance
- D. Consumer Information on Light Vehicle Headlighting Performance
- E. Consumer Information: Summary Safety Score

VIII. Appendix C. Regulatory Review Plan Description

Introduction

The National Highway Traffic Safety Administration's (NHTSA) mission is to save lives, prevent injuries, and reduce traffic-related health care and other economic costs. The agency develops, promotes, and implements effective educational, engineering, and enforcement programs directed toward ending preventable tragedies and reducing safety-related economic costs associated with vehicle use and highway travel. In 2002, an estimated 6 million crashes were reported to law enforcement agencies, with more than 42,000 people killed and 2.9 million people injured. In ad-

dition to the terrible personal toll, these crashes make a huge economic impact on our society with an estimated annual cost of \$230.6 billion, or an average of \$820 for every person living in the United States.

The NHTSA Vehicle Safety Rulemaking Priorities Plan contained herein outlines the agency's vehicle safety rulemaking actions for the period 2003 to 2006 that offer the greatest potential for saving lives and preventing injury. NHTSA has made major strides in improving motor vehicle safety, and an important way in which it carries out its mandate is to issue and enforce Federal Motor Vehicle Safety Standards (FMVSS). Through these rules, NHTSA strives to reduce the number of crashes and to minimize the consequences of those crashes that do occur. NHTSA's rulemaking activities—via the Office of Rulemaking with support from the offices of Applied Research, Enforcement, Advanced Research and Analysis, Planning, Evaluation and Budget, and Chief Counsel—identify safety problem areas, develop countermeasures, and collect and analyze information to develop new FMVSS and amendments to existing FMVSS. As we continue into the new century, NHTSA will strive to improve the FMVSS to encourage the automotive industry to incorporate the rapidly accelerating pace of advances in vehicle and safety technology, while ensuring that the use of the new technologies enhances vehicle safety.

In addition to addressing the most significant vehicle safety problems, we have considered the realistic likelihood for successful action in setting our priorities, especially in the context of numerous worthwhile options competing for limited budget dollars. The rulemaking and supporting research priorities in this plan were defined through extensive discussions within the agency, taking into account the views we have heard over several recent years at public meetings, and comments submitted to the agency via rulemaking notices and Requests for Comment. This includes 44 comments submitted in response to a Request for Comments on the draft plan published in July 2002. The final version of the plan incorporates changes prompted by some of these comments. The results produced by previous NHTSA rulemaking priority planning exercises also provided valuable input to this process. These assessments prioritized potential rules and upgrades to existing rules according to the size and severity of the problems being addressed, and best educated estimates of the cost and likelihood of effective solutions and of potential benefits.

For the near term (2003–2004), NHTSA's regulatory priorities will address enhanced side crash protection; improved head restraints and fuel system integrity; occupant ejection prevention in rollover crashes through improved door locks and other means; reducing glare from vehicle lights; advanced air bags and dummies; upgraded roof crush resistance, and improved protection for children in school bus crashes. The agency also will implement a Congressional mandate (Anton's Law) by requiring lap/shoulder safety belts in light vehicles' center rear seating position, and will conduct testing and analysis to address rear end collision avoidance systems. Longer term (2005–06) potential rulemaking actions include electronic stability control; roadway departure collision avoidance systems; reducing driver distractions; and additional actions to address issues resulting from incompatibility between passenger cars and light trucks.

It is important to note that any priority plan's execution depends on factors beyond its control—external factors such as petitions, budgets, and legislation. NHTSA's rulemaking resources and priorities can be affected by mandates and petitions. Also, plans must fit within budgets submitted by the President and enacted by Congress. For example, funding for the research activities projected for the plan's milestones beyond Fiscal Year 2003 are proposed but are not guaranteed and are subject to change. In some cases, developments in rulemaking actions after the submittal of information for the Unified Agenda, published in the *Federal Register* in May 2003, resulted in revision of these milestone dates to 2004 rather than the late 2003 dates published in the Agenda.

This is the first of NHTSA's multi-year vehicle safety rulemaking priorities plans, and the agency intends to periodically update them. The plans will serve as internal management tools as well as means to communicate to the public our highest priorities to meet the vehicle safety challenges of the new century.

Background and Plan Components

Driver behavior, such as driver error and impaired or aggressive driving and safety belt non-use, is at the root of most highway crashes and injuries, and NHTSA devotes considerable resources to address these problems. NHTSA also works with other government entities, including its sister agencies within the U.S. Department of Transportation (DOT), notably the Federal Highway Administration (FHWA) and the Federal Motor Carrier Safety Administration (FMCSA), to join forces for efficiency and mutual benefit in improving highway safety. Some of the initiatives in this plan involve significant coordination and communication with these agencies.

For example, efforts to reduce vehicle rollover and improve visibility are pursued by NHTSA and by FHWA, via its mission to improve the quality of the Nation's highway system and roads. FMCSA, established in 2000 and formerly a part of the FHWA, works to prevent commercial motor vehicle-related fatalities and injuries. FMCSA's mission includes improving commercial motor vehicle technologies and increasing safety awareness, and many of NHTSA's initiatives to improve large truck safety are coordinated with FMCSA.

The performance capabilities of motor vehicles play an important role in helping drivers to avoid collisions and in protecting occupants when vehicles crash. Substantial amounts of new technologies that enhance safety are being incorporated into modern vehicles. Some are in response to Federal requirements, such as air-bags/passive protection and uniform child safety seat installation. Over the years, despite more vehicles and more drivers on the roads, safety advances such as these have helped to reduce the annual number of traffic related deaths. For instance, the fatality rate per 100 million vehicle miles of travel dropped to 1.5 in 2001. This is significantly less than the 1966 rate of 5.5 deaths per 100 million vehicle miles of travel and, for comparison sake, the 1990 rate of 2.1 deaths per 100 million vehicle miles of travel. Although there now are more than double the number of vehicles in the United States than there were in 1966, the number of annual traffic deaths has dropped from 50,894 in 1966 to 44,599 deaths in 1990, and to 42,116 in 2001. Vehicle occupants comprised 86 percent of the 2001 fatality total, with the balance consisting primarily of pedestrians and pedalcyclists.

Agency priorities emanate from many sources, including: the size of the safety problem and likelihood of solutions, Executive initiatives, Congressional interest and mandates, petitions to the agency for rulemaking and other expressions of public interest, recommendations by the National Transportation Safety Board and other groups, interest in harmonizing safety standards with those of other nations, and changes needed as a result of new vehicle technologies.

The Transportation, Recall Enhancement, Accountability, and Documentation (TREAD) Act, enacted on November 1, 2000, required NHTSA to complete 21 actions relating to vehicle safety and the agency has completed 19 of those actions to date. NHTSA has completed Final Rules upgrading tire performance and labeling standards, requiring tire under-inflation warning systems, and strengthening child restraint labeling and performance requirements. Under this plan, the agency will write a new rule providing the first set of consumer information dynamic rollover ratings. TREAD-related regulatory activities are noted by a 4 in this report.

The development or introduction of advanced technologies is another potential source for rulemaking action. The Intelligent Vehicle Initiative (IVI), part of DOT's Intelligent Transportation Systems (ITS) Program and coordinated by the FHWA, has been investigating vehicle safety products and systems designed to enhance vehicles' crash avoidance capabilities and effectiveness. Some of the new technologies under development may be applied to existing standards, or they could be the basis for new standards. Those rulemaking priorities in the following plan that may emanate from the ITS/IVI program are indicated by a ρ. The most promising of these involve efforts on driver distraction, vision enhancement, collision avoidance, truck electronic braking and drowsy driver sensing systems. Funding for IVI research is not entirely within NHTSA's control, and changes in reauthorization levels could eliminate funding for some IVI-related milestones in this plan.

NHTSA also is striving to improve traffic safety throughout the world through the harmonization of global vehicle safety standards. The 1998 Global Agreement, with 22 contracting parties including the United States, entered into force on August 25, 2000. In addition to this agreement, the United States has renewed a bilateral agreement with Canada and signed new bilateral agreements with Japan and the European Union to partner on vehicle safety research and rulemaking programs. Harmonization can be a catalyst for national and international technology transfer and exchange programs. With each new rulemaking, NHTSA determines how U.S. standards and those of the European Community, the countries of the North American Free Trade Agreement, Japan, and other countries can be harmonized to enhance, or at least not diminish, safety effectiveness in the United States. Fully aware that its overriding mission is to increase safety, NHTSA will pursue harmonization of a standard only if the harmonized standard would not result in a diminished level of safety. In some instances, certain aspects of a standard, such as a test procedure, may be harmonized, but other standard parameters may differ to account for varying environmental and fleet situations. With successful harmonization, increased uniformity can ensure necessary safety protection for the public, while minimizing unnecessary economic burdens.

In February 2003, NHTSA published the schedule of meetings of the World Forum for the Harmonization of Vehicle Regulations (WP.29) and its working par-

ties of experts for calendar year 2003. In that same notice, NHTSA listed the 1998 Global Agreement program of work—which vehicle safety regulations will be considered for establishment under that Agreement in the near future as well as those areas in which exchange of information will begin. Among the subjects to be examined are: installation of lighting and signaling devices; motorcycle brakes; controls and displays; door locks and door retention components, and head restraints. Other activities involve tires, side-impact dummies and compatibility, and controls and displays. In this rulemaking priority plan, rulemaking actions that have harmonization elements (not necessarily the entire standard, research project or other regulatory activity) are noted by a v.

Attention also is given to addressing enforceability issues in the FMVSS. Rulemaking areas in this plan that will address enforceability elements are indicated by a □.

An additional source for rulemaking priorities is concern for special populations. Cognizant of the Nation's changing demographics, the plan discusses actions that are especially significant to children, people with disabilities, and an aging population.

Included in this document, in Appendix B, is a discussion of consumer information activities that NHTSA's Office of Rulemaking plans to pursue in the next few years, including the important New Car Assessment Program (NCAP) ratings programs. Such market-based consumer programs help to create consumer demand for safer vehicles and incentives to manufacturers to incorporate additional safety features and performance into their vehicles. They are an important complement to NHTSA's mandatory Federal standards, and provide a broader perspective on the range of vehicle safety improvements being pursued.

We have included several potential rulemaking projects in this report. These are projects that require additional research to determine whether rulemaking action is needed, but are priorities based on their potential for significantly sizeable death and injury prevention benefits. Many of these are currently being investigated under the IVI program. These projects are noted in italics in the document, with milestones indicating when NHTSA plans to decide whether and how to proceed. Appendix A discusses several additional regulatory activities, particularly regulation-related research activities that may extend beyond the four-year horizon of this document. Although important regulatory (and potential regulatory) goals, these projects do not rise to the same level of immediate high priority as the activities included in the main body of this report.

It is important to keep in mind that this document discusses only a portion of all rulemaking actions and associated research the agency plans to undertake in the coming four-plus years. To put this plan in perspective, as of May 2003 there were 143 active rulemakings. Some of the other rulemakings the agency currently is working on that do not appear in this plan involve fog lamps, windshield wipers, carbon monoxide, accelerator controls, radiator caps, LEDs, power-operated windows, side marker lamps, automatic door locks, wheelchair ramps, buses manufactured in more than one stage, and van conversions. Some standards are amended to keep up with technology changes or to achieve international harmonization of a standard. Still other amendments are minor changes, perhaps in response to petitions. The absence of a particular regulatory activity from this document does not necessarily mean that the agency will not pursue it.

NHTSA is committed to reviewing and upgrading those motor vehicle safety standards that, while having served to advance safety, have been overtaken by technological change. The agency has instituted a new Regulatory Review Plan to systematically review the FMVSS on a regularly scheduled basis. The majority of the FMVSS were put in place by the early 1970s. Many of them have had significant upgrades since that time, although some have not. The Regulatory Review Plan establishes an assessment tool that will be used to review each FMVSS at least once in every seven-year period, to determine the need to update and/or upgrade a standard. Two of the most important components of the assessment are an analysis of the current status of the target safety problem and a technology assessment. The technology assessment will determine if there have been changes that have significantly altered the vehicle systems affected by the standard, thereby requiring changes to the standard. The results can be used to "modernize" standards so that they allow for innovations that could have beneficial effects on safety. These would be addressed on a priority basis subject to limited available resources. Another important function of regulatory reviews is to examine international standards that address the same safety problem as the FMVSS under review. Our review will analyze the foreign approach to the problem for ideas and approaches that would produce benefits in the U.S. A description of Regulatory Review Plan assessments is included in Appendix C.

Notes of explanation about the milestones and the milestone dates in this report are necessary. Milestones listed as “Decision on how to proceed . . .” refer to internal NHTSA decisions whether or not to initiate formal rulemaking activity, *i.e.*, publish a Notice of Proposed Rulemaking (NPRM), and perhaps the recommended next steps the Agency plans to take. Milestones listed as “Final Regulatory Action” refer to determinations, further along in the regulatory process after the publication of the NPRM, to proceed toward publication of a Final Rule or a rulemaking termination, either of which would be published in the Federal Register. A milestone indicating “regulatory activity” does not necessarily imply the issuance or revision of a regulation, but may only involve research or other activity short of a rulemaking. All milestone date references to years are *calendar, not fiscal*. We have provided milestone due date ranges for research or testing that may stretch over an extended period. A hyphen placed before a date indicates that the research program or other activity began prior to 2003. Also, please note that the placement of the priorities in this plan are for organizational clarity but do not reflect any specific ordering in terms of importance or emphasis.

Table 1: Priority Rulemaking and Potential Rulemaking Areas by Crash Modes and Special Issues

	Related FMVSS	CRASH MODE					SPECIAL ISSUES			RULEMAKING SOURCE N-NHTSA C-Congress P-Petition O-Public, Industry
		Frontal	Offset Frontal	Side	Rear-end	Rollover	Children	Older People	People with Disabilities	
RULEMAKING AREAS										
Prevent Crashes:										
Crash Avoidance Data	All CA	X	X	X	X	X		X		N, O
Driver Distraction †	101	X	X	X	X	X		X		N
Lamp Glare	108	X	X					X		O, P
Rear End Collision/Stopped Vehicle Signal Systems †	101, 105, 108, 135, New				X			X	X	N
Roadway Departure Collision Avoidance System †	101, New	X	X	X		X		X		N
Upgrade Tire Standards	109, 110, 119, 120, New (112, 139)	X	X	X	X	X				C, N
Dynamic Stability Control for Light Vehicles †	Rollover NCAP, New	X	X	X		X				C
Occupant Protection:										
Advanced Dummies	202, 207, 208, 213, 214, Part 572	X	X	X	X	X	X	X		Emanates from requirements of other standards
Advanced Air Bags	208	X	X				X	X		C, N
Offset Frontal Protection	208		X					X		C
Upgrade Side Impact Requirements	214			X		X	X	X		N
Reduce Occupant Ejections	205, 206, 212	X	X	X	X	X				N
Upgrade Roof Crush Resistance	216					X				P
Improve Rear Impact Occupant Protection	202, 207	X		X	X	X				N (202) P (207)
Improve Fuel System Integrity and Fire Risk	301				X					N
Aggressivity and Incompatibility †	208, 214	X	X	X	X			X		N

† = Potential rulemaking

Table 1: Priority Rulemaking and Potential Rulemaking Areas by Crash Modes and Special Issues (continued)

	Related FMVSS	CRASH MODE					SPECIAL ISSUES			RULEMAKING SOURCE N-NHTSA C-Congress P-Petition O-Public, Industry
		Frontal	Offset Frontal	Side	Rear-end	Rollover	Children	Older People	People with Disabilities	
Large Trucks:										
Shorten Stopping Distances & Improve Braking	121	X	X	X	X					N, O
Reduce Tire Failures †	119, 120, New	X	X		X	X				N
Drowsy Driver Sensing System †	101	X	X	X	X	X		X		N
Special Populations:										
Upgrade Child Restraints	213, 225	X	X	X	X	X	X			C
Improve School Bus Safety [incl. Pedestrian Protection] †	217, 222	X	X	X	X	X	X			C
CONSUMER INFORMATION										
Child Restraint Systems (including ease-of-use)	213, 225	X	X	X	X	X	X			C
Light Vehicle Rollover	New					X				C
Braking Performance	105, 135	X	X	X	X	X		X		N
Headlighting Performance	108	X	X	X	X	X		X		N
Frontal Impact Protection	208	X								N
Side Impact Protection	214			X						N

† = Potential rulemaking

I. Prevent Crashes

NHTSA's crash avoidance vehicle safety standards mandate improvements in the crash-avoidance capabilities of vehicles to reduce the likelihood of collisions. The improvements may enhance the interaction of the driver with the vehicle; deliver more effective warnings to drivers about impending crashes; improve the driver's ability to avoid crashes and maintain control of the vehicle; or enhance driver vision through improvements in current systems or advanced technologies. The agency focuses its crash avoidance rulemaking activities on reducing the number of collisions through improvements in direct and indirect visibility, tires, braking, directional and rollover stability, vehicle lighting, signaling, and marking.

A substantial effort has been made over the past several years to lay the foundation for continuing research and the development of collision avoidance systems. Under the Intelligent Vehicle Initiative (IVI), NHTSA is conducting research to develop systems that will use advanced sensors, computers and communications to reduce the likelihood of crashes. Some of the new technologies that may allow upgraded or new requirements derive from ITS research. The new National Advanced Driving Simulator (NADS) makes it possible to carry out research that has not previously been practicable. In the next few years, NHTSA will continue research on the potential effectiveness of several collision avoidance products and systems. However, there is a need to develop more reliable estimates of the problem size and potential benefits offered by these and more conventional crash avoidance technologies. This plan recognizes this need by placing Crash Avoidance Data near the top of the crash avoidance agenda.

A. Data for Crash Avoidance Countermeasures

The NHTSA crash avoidance rulemaking program initiates actions based on assessments of crash causation factors and the potential for vehicle-related solutions. Crash avoidance problems are identified through research, petitions, and other information received from the public. In order to develop effectiveness and benefits data and to develop solutions, it is essential to estimate with some degree of certainty problem size and crash or injury savings as a result of changes in vehicle performance.

While in-depth crash investigation has indicated that driver error is involved with the largest share of crashes, other factors, such as vehicle characteristics (*e.g.*, handling, instrumentation, visibility) and the environment (*e.g.*, weather, roadway conditions) are often associated with driver error in precipitating crashes. For many years, NHTSA has used data from the Indiana University “Tri-Level Study of the Causes of Traffic Accidents,” May 1979 (DOT HS 805 099) for information on pre-crash causation factors and the number of crashes and injuries caused by specific vehicle factors, driver/vehicle interactions, and/or the environment. However, since this study was published, there have been significant changes in vehicles, the on-road vehicle mix, and in-vehicle technologies. In addition, driving behaviors and crash reporting levels have changed significantly. Consequently, the collection of accurate, up-to-date crash avoidance data has become increasingly crucial.

While pre-crash data elements have been added to NHTSA’s ongoing data collection systems, these systems are still lacking in the crash avoidance area. In some key areas, a lack of data on the size and characteristics of safety problems hampers the development of effective remedies. Building on the methodology developed for the FMCSA-sponsored Large Truck Crash Causation Study (LTCCS), a new program is planned to collect crash causation data on all vehicles. While this new system will borrow from the experience of the LTCCS, it will be designed to gather the most information possible on all crashes. This work is aimed at uncovering the events that led up to the crash via on-scene investigation and interviews. In recognition of the need for more information on crash causation factors, Congress provided resources in FY 2003 to begin developmental work on a new crash causation data base. Future support hinges on Congressional action. Other research on crash causation and vehicle factors includes naturalistic driving projects. These projects involve in-vehicle cameras with volunteers driving vehicles with and without driver assistance systems.

NHTSA also has developed a System for Assessing the Vehicles Motion Environment (SAVME), a roadside camera system to provide additional baseline non-crash driver performance data. In addition, the availability of the NADS will allow the study of issues related to driver, vehicle and environment interactions under highly controlled and safe conditions. Since this facility allows drivers to reach crash limit conditions, factors leading to crashes can be studied in great detail. Information collected by crash data recorders, which are being introduced by some manufacturers, also may provide the agency with useful information for crash and crash causation analysis.

The Office of Rulemaking has begun compiling a database containing cleansed death certificate information from states to analyze fatalities in certain off-road incidents (driveway incidents, trunk entrapment, *e.g.*) and other issues. Other non-crash data collection includes a national survey by the Bureau of Transportation Statistics on adapted vehicle modifications and injuries associated with these modifications.

Milestones:

- Conduct Large Truck Crash Causation (LTCCS) study -2003
- Undertake development work for the new Light Vehicle Crash Causation database applying the LTCCS methodology 2003–2004
- Analysis of pilot crash and critical incident data in an IVI-sponsored study of driver behavior to support development of crash avoidance countermeasures 2003–2004
- Analysis of large scale crash and critical incident data in an IVI-sponsored study of driver behavior to support development of crash avoidance countermeasures 2005
- Support the Rulemaking non-crash database 2003–2006

B. Prevent Crashes by Reducing Driver Distractions p v

The number of in-vehicle technologies and their potential for distractions is expected to increase as more electronic devices appear in cars. NHTSA estimates that driver distraction and inattention contribute to 20 to 30 percent of police reported crashes—about 1.5 million crashes a year. Cell phones have become ubiquitous, and newer advanced technologies, such as heads-up and navigational displays have begun to appear in some vehicles. Rulemaking may be necessary to limit the availability of certain functions of these technologies that have the potential to distract drivers while a vehicle is in motion. In some cases, standardized design parameters may also be needed to reduce driver confusion and associated distraction. Development of protocols for evaluating the demands of specific devices will help educate drivers about their distraction potential. Driver distraction is an area of concern within the IVI program, and several research projects are underway and planned. The research will attempt to define and measure the demands by devices and how

their use can distract drivers. Some of the research will be conducted using the National Advanced Driving Simulator (NADS), test track experiments, and on-the-road testing, which will allow researchers to safely apply a wide range of driving conditions and situations during which drivers are carrying out both technology and non-technology based tasks. In addition, the World Forum for the Harmonization of Vehicle Regulations (WP.29) has formed an informal working group under the 1998 Agreement to begin the exchange of information on intelligent vehicle technologies and the positive and negative impacts they may pose on safety (*i.e.*, driver distraction).

Milestones:

- UN/ECE/WP.29 Roundtable discussion on ITS 2004
- IVI research voice-based interfaces, hands-free issues and effects on driver distraction -2005
- Pilot study of driver distraction & red light violations -2005
- Assess cognitive aspects of driver distraction from wireless phones with emphasis on hand held versus hands free -2005
- Research on Adaptive Interface Technology (SAVE-IT) -2006
- Rulemaking decision on whether standards should address distraction 2006

C. Prevent Crashes by Improving Vehicle Visibility Factors

1. Reduce Glare from Headlamps and Auxiliary Lamps v

Thousands of public complaints target headlamp glare as being responsible for discomfort and disability glare. The three primary sources are (1) high-mounted headlamps on light trucks, (2) headlamps with high intensity discharge (HID) bulbs, and (3) fog lamps and other auxiliary lamps on the front of vehicles.

NHTSA published a Notice of Request for Comments on headlamp and auxiliary lamp glare in September 2001. Beam intensity, aim, and electrical connections are all of concern in reducing this problem of discomfort and disability glare. (For additional discussion on glare reduction see section V.C.)

Many manufacturers are developing various types of adaptive forward lighting (AFL) systems that seek to improve drivers' visibility at night by changing beam pattern and intensity in response to traffic, roadway, and ambient lighting. Some of these systems may not provide sufficient limits on glare to other drivers. NHTSA is participating in the WP.29 Lighting and Light Signaling (GRE) expert working group discussing HID and adaptive forward lighting system (AFS) related issues and their effects on disability glare. This working group is examining the potential for a Global Technical Regulation (GTR) on the installation of lighting and light signaling.

Milestones:

- Assessment of real world effects of glare on driving behavior 2003–2004
- Evaluation of visibility and glare from Adaptive Forward Lighting 2003–2004
- NPRM on headlighting glare reduction related to auxiliary lamps 2004
- NPRM on headlighting glare reduction related to headlamp mounting height 2004
- Final rulemaking actions on glare reduction 2005

2. Improvements in Rear View Mirrors

Many lane change crashes may be prevented by improved rear visibility through mirrors. In addition, rear end collisions can occur when drivers take too long to assess rear view information, either by turning their head or taking too long to view mirror information. In consideration of updating FMVSS 111, "Rearview mirrors," NHTSA is assessing aspheric mirrors, which increase the field of view, for consideration to be allowed under the standard. These mirrors are allowed in Europe. However, investigation of the impact on older drivers and other driver interactions with these mirrors is needed. NHTSA published a Request for Comments on this potential standard update in February 2003.

Milestones:

- Additional research on individual differences affecting usability and safety of aspheric rear view mirrors 2004
- Decision on whether and how to proceed on FMVSS 111 amendment 2004

3. Vision Enhancement ρ

The future of indirect vision equipment—aids to help drivers sense the presence of nearby vehicles, pedestrians or objects—includes everything from basic mirrors to advanced technology devices that use non-vision sensing systems (sonar, radar, *e.g.*) or real-time video cameras and screens. They play useful roles when traveling forward, backward, and changing lanes—on roadways and off (parking lots, garages, driveways, and commercial yards, *e.g.*). Side view mirrors can be flat, convex or a combination, and although they can provide an excellent extension of a driver's visibility, a disturbingly large percentage of light vehicle drivers do not use them because they do not like the way they reproduce images. Both industry and the public have strong interest in expanded choices for mirror designs and performance. The technology that emerges as the future choice for indirect vision will have to prove itself to be sufficiently user friendly and effective, and agency efforts with indirect vision will focus on human factors research and failsafe issues to find the best choice. Agency efforts in electronically enhanced vision will emphasize a systems-approach.

Milestones:

- Conduct research regarding problem definition, safety issues, and potential solutions 2004–2006
- Initiate rulemaking to implement these solutions 2004–2006

D. Prevent Crashes by Warning Drivers of Impending Crash Situations

NHTSA and industry are working to develop system algorithms and performance requirements for vehicle electronic aids that can sense imminent crashes and warn drivers in time to take appropriate avoidance actions. The agency has a long term research program on intelligent systems under the Department of Transportation Intelligent Vehicle Initiative.

1. Rear End Collision Avoidance System/Stopped Vehicle Signal System ρ

These systems for light vehicles would sense imminent crashes and warn drivers of slower moving or stopped vehicles ahead, thereby giving them time to take appropriate avoidance actions. NHTSA hopes to make drivers more aware of and to improve their car-following behavior. Driver diligence is a factor in the prevention of rear end collisions, and is affected by inattention, distraction, following too closely, and the use of cruise control systems. In 2001, an impact to the rear was the initial point of impact in 20 percent of passenger car and 24 percent of light trucks involved in fatal crashes. These crashes frequently cause relatively less serious whip-lash injuries, but the huge number of injuries to light vehicle occupants—673,000—in addition to 1,619 fatalities—account for a huge cost to society. From 50 to 70 percent of rear-end crashes are into vehicles stopped for more than one or two seconds. NHTSA has developed and validated objective test procedures for these collision avoidance systems, and has worked with industry to evaluate and refine state-of-the-art systems.

In addition to a warning system that warns oncoming drivers to avoid imminent crashes, other systems may actively control a vehicle to avoid a crash. Radar headway detection systems can be used to provide low-level deceleration to maintain proper headway or to warn drivers of potential rear end collision situations. New systems may incorporate automatic braking with adaptive cruise control and/or a warning of an impending crash. Systems may use warnings, actual braking, or a combination of the two. A successful remedy to the problem of vehicles crashing into the rear of slowed or stopped vehicles has the potential to prevent large numbers of crashes with significant reductions in deaths and injuries. The agency is considering a National Transportation Safety Board recommendation to initiate rule-making on this topic.

Milestones:

- Research on human performance issues associated with adaptive cruise control and forward collision warning systems -2004
- Field operational test of rear-end crash warning system/adaptive cruise control underway with General Motors and related supporting research (funded by IVI) -2004
- Research on enhanced rear lighting and signaling systems 2003–2005
- Decision on how to proceed/next steps 2006

2. Roadway Departure Collision Avoidance Systems ρ

Single vehicle road departure crashes represent the most serious crash problem based upon national highway accident data analysis. There were almost 900,000 crashes categorized as single vehicle off-roadway crashes in 2001; 11,711 of these were fatal crashes. There are many different causes of these types of crashes, including weather/vision problems, driver impairment, and other improper driving behaviors.

Single vehicle roadway departure systems and lane keeping systems alert inattentive drivers when they are drifting off the roadway or out of their lane. Rulemaking may be needed to specify test protocols for assessing minimum safe levels of system performance and for specifying driver interface characteristics.

Milestones:

- NADS simulation of Lateral Road Departure Algorithm and Warning system 2003
- Field operational test of road departure crash warning system underway with the University of Michigan Transportation Research Institute and related supporting research projects (funded by IVI) -2004
- Decision on how to proceed/next steps 2005

E. Prevent Crashes by Improving Vehicle Control and Handling

1. Reduce Light Vehicle Tire Failures ν 4

Tire failure can cause loss-of-control of a vehicle that can result in a rollover or other crash. Tire failure also can be a hazard to motorists changing the tire on the side of the road. The highly publicized Firestone/Ford SUV tire recalls were prompted by tire failures associated with rollover and other crashes. More than 270 deaths and 800 injuries have occurred in these crashes.

Between July 1999 and March 2002, NHTSA was engaged in a program of global harmonization for light vehicle tire standards and was investigating tire bead unseating as a result of some cases of SUV tires coming off their rims in the agency's 1998-99 and 2001 dynamic rollover test programs. The Fiscal Year 2001-2002 tire research programs included testing to support the rulemaking called for in TREAD to revise and update the light vehicle tire standards. The agency issued the NPRM in March 2002, and the Final Rule in June 2003. NHTSA will continue research on tire strength for development and refinement of the test procedure, and it has initiated research on tire aging. Under the Program of Work under the WP.29 1998 Agreement, NHTSA continues to exchange information with its international partners on tire performance issues, including a potential aging test.

TREAD also mandated improvements in tire labeling to assist consumers in identifying tires that may be the subject of a recall. NHTSA published an NPRM to upgrade tire labeling in December 2001 and a Final Rule in November 2002. NHTSA also developed and launched a tire consumer information program to help ensure the public is aware of the importance of observing tire load limits and maintaining proper tire inflation levels.

One contributor to tire failure is tire under-inflation. A NHTSA survey released in August 2001 found that more than one out of four passenger cars, and one out of three light trucks, are driven with one or more significantly under-inflated tires. Per TREAD requirements, NHTSA published a rule in June 2002 requiring tire pressure monitoring systems (TPMS) for significantly under inflated tires. A second part of the TPMS Final Rule will be issued by March 1, 2005, and will establish performance requirements for the long-term, *i.e.*, for the period beginning on November 1, 2006. The docket remains open until 2005 for the submission of new data and analyses concerning the performance of TPMS. The agency also is conducting a study comparing the tire pressures of vehicles without any TPMS to the pressures of vehicles with TPMS, especially TPMS that do not comply with the four-tire, 25 percent compliance option.

Milestones:

- Research for accelerated tire aging test procedure development 2003-2004
- Research on tire aging 2003-2005
- Decision on next steps for tire aging 2005

2. Light Vehicle Braking

The growing number and fleet share of LTVs has raised concerns about stopping distance disparities between passenger cars and LTVs. While the higher weight and

mass of LTVs pose some challenges in the realm of stopping distance compared to passenger cars, braking technology advances could make a difference.

In addition, while the passenger vehicle brake regulations are substantially harmonized worldwide, additional work will need to be done to establish a GTR under the 1998 Agreement. NHTSA will continue to work with the Contracting Parties under the 1998 Agreement in order to complete harmonization in this area.

- Evaluation of decreasing stopping distance for LTVs under 10,000 pounds 2005–2006
- Decision on how to proceed/next steps for possible changes to FMVSS 135 2006

3. Vehicle Handling/Rollover Prevention

Vehicle handling is an important part of crash avoidance. For example, in cornering maneuvers, drivers may tend to steer insufficiently or too sharply, which can result in loss-of-control crashes.

Electronic Stability Control

Rollover crashes are one of the most significant light vehicle safety problems, especially for pickup trucks, sport utility vehicles, and vans. A small portion of rollover crashes occur on paved surfaces, but a much larger number occur when a vehicle runs off the road and strikes a tripping mechanism such as a soft soil, a curb or guard rail (FHWA is conducting related research on these physical attributes). Various types of electronic stability control systems are being marketed by several manufacturers. Some will have a direct effect on susceptibility to on-road untripped rollovers as measured by the dynamic tests being incorporated into the NCAP program.

A greater potential safety benefit of Electronic Stability Control (ESC) is its effectiveness in reducing single vehicle crashes that involve driver error and loss of control. In this way, it can prevent the exposure of vehicles to off-road tripping mechanisms by helping the driver keep the vehicle on the road. This potential benefit is not “rollover resistance” and will not be measured by the NCAP rollover resistance rating. It should be viewed as single vehicle crash reduction. It can affect both crashes that would have resulted in rollover because of poor rollover resistance and crashes where rollover would not have occurred but are nevertheless very harmful. A Mercedes study reported a single vehicle crash reduction for Mercedes vehicles of 30 percent in Germany as a result of electronic stability control.

Milestones:

- Research different types of electronic stability control systems 2004–2005
- Evaluate effectiveness of different ESC systems in preventing single vehicle crashes based on U.S. crash data 2005
- Perform benefit cost analysis of ESC and decision on how to proceed/next steps 2005

II. Improve the Protection of Occupants

If a crash does occur, the agency strives to reduce the severity and increase the survivability of the event. This is known as crashworthiness. Eighty percent of light vehicle occupant fatalities in 2001 were the result of collisions in which the *initial* crash event was an impact to the front or side of the vehicle. These types of collisions can be severe enough to threaten the integrity of vehicle structures, in turn compromising the vehicle’s ability to protect occupants from fatal and serious injuries. Vehicle structure must be able to manage crash energy to prevent occupant compartment intrusion, ejection of passengers, and vehicle restraint systems must be able to prevent injuries from occupant impact with interior surfaces. Structural crash performance also must be compatible with occupant restraint systems.

NHTSA pursues the goals of crash survivability by encouraging safety belt use; supporting crashworthiness research; conducting compliance testing and defects investigations; conducting research for potential harmonization of similar standards or elements of standards around the world; providing information to consumers through the New Car Assessment Program (NCAP) on how different makes and models compare in safety performance during crash and performance tests; and as outlined below, establishing and keeping up-to-date vehicle safety standards for impact protection. NHTSA also is pursuing compatibility strategies to improve occupant protection (see Section III).

In order to ensure that the occupant protection standards protect drivers and passengers in all types of crashes, NHTSA has developed and continues to improve anthropomorphic dummies that represent the widest possible range of vehicle occupant sizes. Milestones for the development of improved dummies for specific types

of crashes are reflected in their respective sections. The following section provides additional information on NHTSA's dummy development program.

Improved Dummies

A new generation of air bags and further occupant safety advances require improvements in and a broader range of crash test dummies to accurately measure various crash forces imparted to a range of occupant sizes in different crash situations. As we expand occupant protection requirements for men, women and children of varying sizes, we need appropriately sized and instrumented dummies to provide estimates of the severity and extent of injury. Also, in the future, we will use dummies that measure crash forces to several body parts or locations on particular body parts (head, neck, chest, arm, leg)—not just one or two parts or locations.

Dummy improvements require considerable research and development prior to incorporation into Part 572 or a safety standard. Most agency work on particular crash dummies focuses on a particular type of crash—frontal, side, rollover, rear.

Among NHTSA's most prominent dummy rulemaking priority projects are the SID-IIIs, ES-2, and World-SID side impact dummies, and several new and more biofidelic child dummies, including those representing larger children (Hybrid III 10-year-old and upweighted Hybrid III 6-year-old). For the specifics on these and other dummies, please see the particular section of this plan for further particulars about dummy work in that area (*e.g.*, "Improve the Protection of Occupants—Frontal Crashes" or "Protect Special Populations—Children.")

A. Improve the Protection of Occupants in Frontal Crashes

This is one of the most active areas of research and rulemaking activity by the agency, involving active (safety belts) and passive (air bags) driver and passenger restraints. The mandated restraints are designed to protect vehicle occupants from violent frontal crash forces. Studies confirm the significant safety benefits of safety belts and air bags—thousands of deaths and injuries prevented annually, including and estimated 12,144 lives saved by belts alone in 2001. Lap and shoulder safety belts have advanced to react to crashes faster and better protect occupants, and two technologies that have improved their effectiveness are pretensioners and load limiters. Air bag technology is developing to protect people while minimizing the hazard air bags pose to small or out of position occupants. The agency recently completed a major upgrade to its air bag standard, FMVSS No. 208. The May 2000 rule improves the protection afforded both belted and unbelted occupants.

NHTSA is looking at integrated seats, in which the safety belt anchorages are built into the seat instead of attached to the vehicle interior. They provide improved belt fit and effectiveness and offer promising potential safety benefits (see Appendix A). The agency also is looking at different ways to increase the use of safety belts, which are by far the most important vehicle safety features in the event of a crash. In 2002 and again in 2003, NHTSA sent letters to all the major vehicle manufacturers encouraging the installation of enhanced safety belt reminder systems. NHTSA also requested information on whether the manufacturers intended to install safety belt reminder systems, what type of technologies they intended to use, the appropriate time frame for installation and any customer feedback on their systems that they would be willing to share with the agency. The NHTSA applied research program is conducting studies of these systems in 2003–5 to obtain information for possible legislative or rulemaking initiatives.

1. Frontal Crashworthiness Research:

- Develop a test procedure to evaluate the performance of integrated seats in crash tests 2003–2004
- Rulemaking decision/next steps on how to modify/upgrade relevant FMVSS regarding integrated seats 2003
- Study effectiveness of different safety belt reminders and other technologies for increasing belt use 2003–2005
- Rulemaking decision on safety belt reminder systems/other vehicle technologies for increasing use 2005

2. Offset Frontal Protection v

Real world crash statistics indicate that 79 percent of injuries in frontal crashes are from offset frontal crashes. Many of the resultant injuries are severe leg injuries, which are the result of the different forces offset crashes impart to vehicle occupants than those from full frontal crashes. Approximately 85,000 front seat occupants receive serious hip, leg and foot skeletal and joint injuries each year. More attention is being paid to reducing serious injuries, especially those that lead to life-

long disabilities—such as foot/ankle and hip injuries. Depending on the assumptions used, a requirement for a frontal offset test requirement could prevent approximately 1,000 to 3,000 moderate to serious injuries annually.

Congress directed NHTSA to consider the European Union frontal offset test requirements (for harmonization). NHTSA's evaluation of the European frontal offset deformable barrier test demonstrates potential benefits with regard to lower leg injuries which would complement our current full frontal test requirements by addressing frontal crash modes and injuries and fatalities not addressed by current frontal requirements. NHTSA is conducting further testing to assess potential disbenefits in addition to these benefits. A summary of these findings will be published in Summer 2003 with a Request for Comments.

Milestones:

- Request for Comments on offset frontal crash test requirements 2003
- Complete testing to assess disbenefits of offset frontal crash test requirements 2003
- Decision on how to proceed/next steps for offset frontal crash test requirements 2003
- Regulatory proposal for offset frontal crash test requirements or termination 2004

3. Advanced Air Bags

Older designs of air bags have saved thousands of lives—NHTSA estimates 12,776 through June 2003. Unfortunately, over the same time span, air bags also have been linked with the deaths of 229 people, most of whom were children. NHTSA must ensure that future air bag designs continue to offer the life-saving benefits, while eliminating the possibility of death in low speed crashes. To achieve these goals, the next generations of air bags will include technology to control when and how they inflate, depending on factors such as the size of occupants and whether they are out of position for safe air bag deployment.

In May 2000, NHTSA upgraded the requirements in FMVSS No. 208 for air bags in passenger cars and light trucks, to be phased in beginning in the 2004 model year. The upgrade was designed to meet the goals of improving protection for occupants of all sizes, belted and unbelted, in moderate to high speed crashes, and of minimizing the risks posed by air bags to infants, children, and other occupants, especially in low speed crashes.

The rule also included a requirement that, beginning in 2007, the 50th percentile adult dummy must meet the injury criteria when subjected to a 35 mph belted rigid barrier crash. The agency stated that there was insufficient data to incorporate the 5th percentile female dummy into the 35 mph crash, but that additional testing would be conducted to determine the feasibility of including it. That testing has now been completed, and preliminary results indicate that it is feasible for vehicles with the belted 5th percentile female dummy to pass the injury criteria when subjected to a 35 mph rigid barrier crash. NHTSA incorporated its resolution to initial FMVSS No. 208 petitions for reconsideration in Final Rules in December 2001 and January 2003, and anticipates responding to additional petitions in the Summer and Fall of 2003.

Milestones:

- Issue NPRM to incorporate 5th percentile dummy into 35 mph belted test 2003
- Response to petitions for reconsideration on advanced air bag rule 2003
- Advanced air bag research (monitor advanced air bag performance) 2003+

B. Improve the Protection of Occupants in Side Crashes

Another way to reduce crash deaths and injuries is to improve the ability of vehicles to protect occupants from side crashes, which killed 9,048 light vehicle occupants and injured 773,000 in 2001. The dynamic side impact protection requirements for passenger cars (FMVSS No. 214) were established in 1990, with compliance phased in between 1994 and 1998, and was extended to light trucks and vans in 1995, with full compliance by 1999. The agency granted a petition in November 1998 to upgrade the standard to accommodate side air bags.

To improve occupant protection in side crashes for passenger cars and light trucks and vans in both vehicle-to-vehicle and fixed object impacts, NHTSA plans a full upgrade of FMVSS No. 214. The proposal would consider addressing the growing number of light trucks in the U.S. fleet and to include protection against collisions with narrow objects, such as poles. The potential changes also would address upgraded and harmonized injury criteria and more precise biomechanical knowledge provided

by second generation side impact dummies. For example, the existing standard does not address side impact head protection, since the SID dummy only measures chest and pelvic responses. The proposal will consider performance requirements for head protection in side crashes because our data show that head injuries are a significant safety concern in these crashes. The agency is evaluating any possible harmful effects by inflatable side air bags devices on in-position and, possibly, on out-of-position child occupants. In addition, NHTSA is continuing to monitor the safety performance of side air bags and to conduct research on the test barrier.

1. Upgrade Side Impact Requirements v □

Current activity includes further research and evaluation of thoracic and head protection air bag systems and efforts to extend protection against death and injury from side impact with narrow objects, such as poles. Although narrow object impacts involve eight percent of the occupants involved in side crashes, they account for 19 percent of the fatalities and 16 percent of those seriously injured. Data over the time frame of 1988–1996 show that when the relative outcome severity is considered, a vehicle occupant has about three times the likelihood of being seriously injured when involved in a narrow object crash versus a vehicle-to-vehicle crash. NHTSA will consider the addition of a pole test in its proposed FMVSS No. 214 upgrade.

Real world crash statistics indicate that injuries to vehicle occupants vary with the size of occupant. In its upgrade proposal, NHTSA will consider the feasibility of incorporating second generation side dummies—the ES–2 (the update of Eurosid-1) dummy and the SID–HIII dummy. The upgraded standard may incorporate a 50th percentile male dummy (either ES–2 or SID–HIII) and possibly, an additional dummy, the 5th percentile female side impact dummy, SID–IIs, which is specially designed and equipped for testing side air bag systems. Concurrent with ES–2 testing, the agency is conducting a test program to establish that the SID–IIs is repeatable and durable in side testing, and is reasonably representative of human responses. The new types of dummies are being subjected to a series of sled tests and vehicle crash tests to determine their structural and functional adequacy as assessment tools for the measurement of risk of occupant injury in side crashes. The agency is also closely monitoring the development of the WorldSID, a next generation side impact dummy, and is working with Contracting Parties of the 1998 Agreement on an exchange of information (test data and research) related to the development of this dummy. (Please see Section V.A. for information on side impact protection for children.)

Milestones:

- Research to support FMVSS No. 214 NPRM and benefits assessment 2003–2004
- NPRM to upgrade FMVSS No. 214 2004
- Support work for ES–2 and SID–IIs NPRMs and Final Rules 2003–2005
- SID–IIs and/or ES–2 Part 572 NPRM 2004
- Final regulatory action to upgrade FMVSS No. 214 2005
- Evaluation and testing of child Q series side impact dummies 2004–2006+
- Research on advanced side impact dummy (World SID) 2005–2006+

C. *Improve the Protection of Occupants in Rollover Crashes*

There were 276,000 light vehicles (cars, sport utility vehicles [SUVs], light trucks and vans) involved in rollover crashes in 2001. Rollover crashes are especially lethal; although they comprise only four percent of crashes, they account for almost one-third of light vehicle occupant fatalities, and more than 60 percent of SUV fatalities. The proportion of vehicles that rolled over in fatal crashes (19.5 percent) was nearly four times as high as the proportion in injury crashes and nearly 14 times as high as the proportion in property-damage-only crashes. Nearly two-thirds of all rollover deaths were caused by full or partial ejections. Rollover crashes cause approximately 10,000 fatalities and 21,000 serious injuries each year. NHTSA's crashworthiness efforts to reduce rollover fatalities and injuries have focused on reducing occupant ejections through doors and windows, and on providing improved roof crush protection and interior padding for occupants.

In 2002, NHTSA identified rollover and vehicle compatibility as two of its highest safety priorities. The agency formed Integrated Project Teams (IPT) specifically to examine these issues and make recommendations as to how it could most effectively improve safety in these areas. The IPT Reports on Rollover and Compatibility were just published in the Federal Register. The Rollover IPT made wide ranging rec-

ommendations on ways to mitigate the rollover problem, including vehicle strategies covering both the crash avoidance and crashworthiness perspectives.

To prevent rollover crashes, NHTSA envisions improving vehicle handling and stability via Electronic Stability Control and roadway departure warning systems. The Rollover IPT Team noted that NHTSA recognizes that regulating fuel economy, through its Corporate Average Fuel Economy (CAFE) Program, can have substantial effects on vehicle safety in addition to economic and other consequences. The current structure of CAFE can provide an incentive to manufacturers to downweight vehicles, increase production of vehicle classes that are more susceptible to rollover crashes, and produce a less homogenous fleet mix. NHTSA intends to examine possible reforms to the CAFE Program, and it is committed to ensuring that CAFE facilitates improvements in fuel economy without compromising motor vehicle safety. For improving the crashworthiness of vehicles that roll over, the Rollover IPT Team focused on ejection mitigation and roof crush protection. In addition, the team discussed roadway and behavioral strategies, that are outside the scope of this plan.

Subsequent to NHTSA's formation of the IPT teams, the vehicle manufacturers asked the Insurance Institute for Highway Safety (IIHS) to chair groups of experts to make suggestions for ways the industry could voluntarily improve safety in the areas of compatibility and rollover. NHTSA welcomes the automotive industry's acknowledgement that rollover and compatibility are significant safety problems and their commitment to develop what they believe are effective approaches to addressing these problems.

1. Reduce Occupant Ejections v

According to agency data, ejection is a major cause of death and injury in rollover crashes. In 2001, 9,062 people were killed and 21,000 were injured when they were ejected from light vehicles, and two-thirds of these ejections occurred during rollovers. Occupants stand a much better chance of surviving a crash if they are not ejected from their vehicles. From 1994–1999 data, we estimate that almost 1,700 people were killed and 2,000 seriously injured each year when they were ejected out the doors (mostly side-hinged doors) of light passenger vehicles.

Among the promising technological innovations to prevent occupant ejections are the use of side or curtain air bags and improved glazing. NHTSA submitted a report to Congress on ejection mitigation using advanced glazing materials in November 2001. The National Academy of Sciences (NAS) is working on an evaluation of safety belt reminders. Increased safety belt use would immediately reduce ejections. NHTSA will review the NAS evaluation and take appropriate action to encourage safety belt reminders. A recent NHTSA study researched the potential benefits of safety belt pretensioning devices, which pull safety belts snug as a crash begins.

NHTSA will update its current door latch requirements. The standard has not changed over 30 years. In many cases, it does not address failure mechanisms of current door and door retention components designs. In addition, the current standard does not specify a test procedure for evaluating the safety of sliding doors. To address this, NHTSA is upgrading its door lock standard, FMVSS No. 206. Believing this to be an excellent opportunity for the international community concurrently to develop a global technical regulation (GTR), NHTSA submitted a proposal for a GTR on door locks and door retention components to the 1998 Agreement executive committee in 2003. NHTSA is leading this effort working with other countries to have a GTR in place in time for its upgrade of FMVSS No. 206.

Milestones:

- Research toward Agency decision on whether to adopt requirements for ejection mitigation through side windows, and if so, what performance levels and tests to adopt 2003–2004
- Component testing for the development of performance requirements for publishing an ejection mitigation notice 2003–2004
- Ejection mitigation notice 2004
- Testing at Transport Canada of inertia and other test procedures in support of FMVSS No. 206 Final Rule 2003–2004
- NPRM to upgrade door systems 2004
- Final regulatory action to upgrade door systems 2005

2. Upgrade Roof Crush Resistance

FMVSS No. 216 establishes strength requirements/intrusion limits for passenger car and light truck roofs for protection in rollover crashes. Impact with the roof causes severe head and neck injuries to vehicle occupants during rollover crashes. NHTSA, based on analysis of its data, estimates that roof crush intrusion causes

1,339 serious or fatal occupant injuries among belted, unejected occupants each year. Unbelted occupants in rollover crashes are primarily injured by ejection from the vehicle, which is fatal in about half the cases. The agency cannot determine whether belted occupants in rollover crashes receive their most severe injuries by contacting the roof structure or due to belt slack and stretch when the roof is in contact with the ground, by the roof crushing in, or by both of these potential injury mechanisms. Therefore, even though safety belts are 73 percent effective in reducing fatalities in rollovers, their performance might be improved by holding the occupant down in his/her seat during a rollover. NHTSA will research the potential safety benefits of pretensioners, inflatable tubular belts, integrated belts, and other belt systems when activated with a rollover sensor. NHTSA will also research the potential benefits of increasing roof strength. The agency published a Request for Comments on roof crush in October 2001.

Milestones:

- Conduct tests to evaluate potential new test procedures and performance requirements and evaluate the roof crush performance of recent vehicles 2003
- NPRM to upgrade FMVSS No. 216 test procedure 2004
- Testing in support of FMVSS No. 216 Final Rule test procedure and requirements 2004–2005
- Final regulatory action to upgrade FMVSS No. 216 2005

D. Improve the Protection of Occupants in Rear Crashes

Crashes in which one vehicle collides into the rear of a vehicle in front of it accounted for almost 30 percent of crashes in 2001. NHTSA plans several rulemaking actions over the next five years to attack this problem on three fronts: to help drivers avoid such crashes (see Section I.D.1.), to protect vehicle occupants from the effects of crash forces if a crash does occur, and to enhance fuel systems to reduce the additional hazard of fire from such crashes.

1. Improve Rear Impact Occupant Protection v

NHTSA estimates that each year 272,088 occupants of vehicles struck in the rear by another vehicle receive whiplash injuries. Although whiplash injuries may be of a relatively minor severity, they entail large societal costs, estimated at \$1.76 billion for rear impact whiplash. To reduce the frequency and severity of neck injuries in rear-end and other collisions, the agency plans to strengthen the requirements in the standards for head restraints and for seats and their attachment and installation. It is important to protect occupants in the rear seats from those in the front seats without increasing the injury risk to those in the front. NHTSA believes that with adequate head restraints and energy management, both goals can be met. The agency published in January 2001 an NPRM to upgrade the head restraint standard, FMVSS No. 202, Head Restraints. Once the Final Rule is published, NHTSA will lead the harmonization efforts under the Program of Work of the 1998 Agreement in order to establish a GTR that would better address neck injuries.

Milestones:

- Final regulatory action to upgrade FMVSS No. 202 2003
- NPRM for FMVSS No. 207, "Seating Systems," upgrade 2004
- Comparative evaluation of advanced rear impact dummies (BioRID II, RID-2, THOR) for their ability to replicate neck kinematics and seat/head rest interaction in FMVSS No. 202/207 testing 2003–2005
- Testing to develop test procedures for merging FMVSS No. 202 and 207—creating a combined head restraint/seatback strength standard 2003–2005
- Decision on how to proceed/next steps for advanced rear impact dummy 2006
- Final regulatory action for FMVSS No. 207 upgrade 2006

2. Improve Fuel System Integrity and Reduce Fire Risk v

Fire in a crash is often associated with a breach in the integrity of a vehicle's fuel system. Although relatively infrequent, vehicle fires can have devastating consequences on fatalities and injuries. Although fire occurred in only 0.1 percent of the vehicles involved in traffic crashes in 2001, the occurrence of fire in fatal crashes rose to 3 percent. In 2001, fire occurred in an estimated 12,000 light motor vehicle crashes, including 1,348 light vehicle fatal crashes and an estimated 5,000 light vehicle nonfatal injury crashes.

NHTSA has several standards to address post-crash fire hazards. One standard specifies requirements for vehicle fuel system integrity to prevent fires by limiting gasoline spillage, and also has provisions to prevent ingestion of fuel during siphon-

ing. Two standards (FMVSS Nos. 303 and 304) specify requirements for the integrity of compressed natural gas fuel systems and containers. Another rule (FMVSS No. 302) specifies the burn resistance requirements for materials used in vehicle occupant compartments to reduce the incidence of fires from sources such as matches and cigarettes. A new standard, FMVSS No. 305, regulating electric vehicle crash safety, was published in September 2000. NHTSA published an NPRM in November 2000 proposing to upgrade FMVSS No. 301, "Fuel System Integrity," including changing the standard's side impact test procedure. The proposed upgrade would replace the current 30 mph rear crash test with a moving deformable barrier crash test at 50 mph, and would replace the current 20 mph side impact test with the current FMVSS No. 214 dynamic test with a moving deformable barrier at 33.5 mph. This would reduce the risk of fire to occupants who survive crashes, and also allow NHTSA to conduct a single compliance test for the side impact and fuel system integrity standards.

In addition to traditional gas fuel systems, NHTSA is also investigating issues concerning the storage of hydrogen fuel in hydrogen vehicles. NHTSA has been working with its international counterparts, including standards-setting organizations in order to develop international standards and global technical regulations for hydrogen vehicles. The agency will evaluate European and Japanese standards and regulations for liquid and gaseous hydrogen and assess the level of safety protection these regulations would provide.

Milestones:

- Final Rule to upgrade FMVSS No. 301 by improving fuel tank integrity 2003
- Regulatory review of FMVSS No. 302 2004
- Assess risks associated with the operation of fuel cell (hydrogen) vehicles and perform related testing 2003–2006+

III. Address Incompatibility Between Passenger Cars and Light Trucks v

For decades, the light vehicle category consisted primarily of automobiles. The growing popularity over the past 10 years of light trucks, vans, and utility vehicles (LTVs), all weighing 10,000 pounds GVWR or less, has changed the marketplace as well as the safety picture. LTV sales have soared to almost eight million units sold in 2002—49 percent of new passenger vehicle sales. In 2002, the number of registered LTVs in the United States exceeded 76 million units or approximately 36 percent of registered motor vehicles in the U.S. The majority of LTVs are used as private passenger vehicles and the number of miles logged in them increased 26 percent between 1995 and 2000, and 70 percent between 1990 and 2000. Beyond the growth in sheer numbers of vehicles, LTVs also have grown larger, gaining about 700 pounds from 1984 to 1999, whereas passenger cars gained only 300 pounds during that span.

In the last decade, for the first time, more vehicle occupants are being killed in crashes between passenger cars and light trucks than in crashes involving only passenger cars. From 1980 to 2001, fatalities in car-to-car crashes decreased from 6,488 to 3,152, while LTV-to-car crashes increased from 3,718 to 5,233. An analysis of 2001 FARS data indicates that passenger car drivers are three and one-half times more likely to die than LTV drivers in front to front crashes between the two vehicle types, and the fatality rate for drivers of passenger cars struck in the side by LTVs is approximately three and one-half times greater than the fatality rate for drivers of LTVs struck in the side by passenger cars. The larger mass and size of LTVs, along with significant disparities in stiffness, compared to passenger automobiles, and recent studies of crash data, have raised a number of issues of concern. In the crash avoidance area, there are the problems of blocked vision of passenger car and motorcycle drivers due to the higher profile of LTVs and glare due to higher mounted headlamps on LTVs. In the crashworthiness area, there is concern that the protection of occupants in smaller vehicles is being compromised when their vehicles collide with the larger and heavier LTVs. As the trend toward greater private passenger use of light trucks continues, the agency has continued to extend pertinent passenger car standard requirements to LTVs, and it expects to continue to apply passenger car standards to LTVs.

Reducing the hazards associated with vehicle incompatibility is one of the agency's uppermost objectives. NHTSA is attacking these problems through targeted research aimed at understanding the effects of incompatible designs, through implementing appropriate regulatory strategies, through developing consumer information to allow the marketplace to work, and through using the agency's position to encourage vehicle manufacturers and the purchasing public to do all they can to minimize the effects of vehicle disparity.

1. Learn the Extent of the Aggressivity and Compatibility Problem and Potential Solutions

As referenced in the rollover section, in 2002 NHTSA identified rollover and vehicle compatibility as two of its highest safety priorities, and formed Integrated Project Teams (IPT) to conduct in-depth reviews of these and two other areas (safety belt use and impaired driving). The IPT Report on Vehicle Compatibility was recently published in the Federal Register (68 FR36534). The Compatibility IPT Team made wide ranging recommendations on ways to mitigate the compatibility problem, including several vehicle strategies, behavioral strategies, and roadway strategies (on which the FHWA has the lead). Vehicle strategies include partner protection, self protection, lighting/glare efforts, and the reform of the Corporate Average Fuel Economy (CAFE) program.

The desired end results of NHTSA's efforts are vehicle designs that protect their occupants more and harm the occupants of struck vehicles less. NHTSA's analysis of 20 years worth of its NCAP crash test data reveals that a good measure of a vehicle's Aggressivity is Average Height of Force (AHOF). The AHOF is a single height measurement that represents the average height at which a vehicle transfers force to the rigid barrier. Initial vehicle stiffness is among other parameters that correspond well with real world data. NHTSA is pursuing a comprehensive crash test program to demonstrate the feasibility of prospectively measuring these characteristics in crash tests and quantifying compatibility levels. Initial fixed rigid barrier tests comparing vehicles of similar mass but different characteristics (*i.e.*, AHOF) will attempt to quantify injury measurement differences attributable to the characteristics. Vehicle-to-vehicle crash tests will then be run to investigate the characteristics' injury effects on occupants of struck vehicles. NHTSA is pursuing refinement of its data through development of a higher resolution load cell barrier that the IHRA working group has evaluated, and is investigating the use of a deformable face on the rigid barrier. NHTSA and FHWA also are engaged in cooperative research that is investigating vehicle-to-vehicle and vehicle-to-roadside hardware safety.

Another avenue the agency is pursuing is via upgrading side impact protection under FMVSS No. 214, which is expected to reduce serious injuries and deaths from head and chest impacts. In addition, if an AHOF compatibility requirement appears feasible, NHTSA will investigate the desirability of modifying the FMVSS No. 214 static side door crush resistance test procedure to reflect that requirement.

As discussed in more detail in the lighting section, glare from high-mounted headlamps on LTVs comprises a large proportion of the large number of complaints NHTSA has received in recent years. NHTSA anticipates proposing amendments to FMVSS No. 108 within a year to address headlight mounting height and auxiliary lamps. Furthermore, as described in the rollover section, NHTSA recognizes the effects on vehicle safety that regulation of fuel can have. The agency will examine possible reforms to the CAFE system—and their possible positive and negative effects—to ensure that future changes have positive impacts on vehicle safety.

Subsequent to NHTSA's formation of these teams, the vehicle manufacturers asked the Insurance Institute for Highway Safety (IIHS) to chair groups of experts to make suggestions for ways the industry could voluntarily improve safety in the areas of compatibility and rollover. NHTSA welcomes the automotive industry's acknowledgement that rollover and compatibility are significant safety problems and their commitment to develop what they believe are effective approaches to addressing these problems.

In addition to the above research, under the 1998 Global Agreement Program of Work as well as under bilateral agreements with Canada and Japan, NHTSA is also participating in an exchange of ideas on best regulatory approaches in the area of vehicle compatibility, including the possibility of conducting joint research and testing in support of potential solutions to vehicle incompatibility.

Milestones:

- Rigid barrier and vehicle-to-vehicle testing 2004
- Proposal to amend FMVSS No. 108, "Lamps, reflective devices, and associated headlamps" 2004
- Final rule to reduce glare 2005
- Decision on initiating vehicle crashworthiness compatibility rulemaking efforts 2004
- Final regulatory action to upgrade FMVSS No. 214, "Side impact protection" 2005

IV. Make Large Trucks Safer

In 2001, 429,000 large trucks (gross vehicle weight rating more than 10,000 pounds) were involved in traffic crashes. One out of 12 vehicles involved in fatal crashes was a large truck, and they accounted for one out of eight traffic fatalities. These crashes resulted in 5,082 fatalities and 131,000 injuries: 86 percent of those killed and 77 percent of those injured were the occupants of other (light) vehicles, pedestrians or bicyclists. Both vehicle performance and driver/vehicle interaction can be significant factors in these crashes. Among these factors are insufficient braking capability, loss of control, driver fatigue and poor visibility. The involvement rate of large trucks in fatal crashes per 100 million miles of truck travel has declined from 3.3 in 1990 to 2.3 in 2001.

1. Shorten Stopping Distances and Improve Braking

Large trucks have longer stopping distances than light vehicles, increasing the chance of collisions in panic stopping situations. Truck brake performance has been identified as a major factor contributing to crashes involving large trucks.

The major issue facing NHTSA is identifying what performance requirements should be established in FMVSS No. 121 to ensure a minimum requirement for stopping capabilities and fail-safe performance. As part of this effort, the agency is conducting test track evaluations and operational (fleet test) evaluations on ECBS-equipped vehicles. One promising method to shorten truck stopping distances may be through disc air brakes with electronic control. Stopping distances could be reduced by as much as 30 percent through the use of disc brakes and more powerful front axle brakes. Rulemaking revisions to FMVSS No. 121 published in 2003 identified performance requirements for ABS on straight trucks/buses.

Electronically controlled braking systems (ECBS) offer many potential benefits to the trucking industry in the areas of safety, reliability, enhanced driver feedback, and maintainability for heavy air-braked vehicles. ECBS are being tested by the Department and a number of manufacturers under the IVI program. These systems are intended to replace the current pneumatic brake application signal with an electronic actuation signal.

NHTSA also will look at increasing foundation brake capacity and improving tractor-trailer brake compatibility. NHTSA also hopes to pursue rulemaking to improve heavy truck tire performance, including upgrading the requirements for FMVSS No. 119 and requiring the use of TPMS on commercial vehicles over 10,000 GVWR. The National Transportation Safety Board (NTSB) recommended that NHTSA assess the safety benefits of adding traction control to antilock brake systems. NHTSA is conducting related research on this recommendation.

Milestones:

- Research ABS braking-in-a-curve performance requirements for trailers -2003
- NPRM for braking-in-a-curve performance requirements for trailers 2004
- Final regulatory action on braking-in-a-curve performance trailers test requirements for 2006
- ANPRM on truck tractor stopping distance 2003
- ECBS field operational tests 2003–2006
- NPRM on truck tractor stopping distance 2004
- Final rule on truck tractor stopping distance 2005
- Research on braking (reducing stopping distance) for straight trucks/buses 2004–2005
- Decision on how to proceed for reducing stopping distance for straight trucks/buses 2006

2. Reduce Heavy Vehicle Tire Failures

Heat buildup is the primary cause of tire failure. Heat buildup in tires may result from under-inflation, overloading, high speed operation, sub-par tire design, or a combination of these factors. Also, vehicles operating with low tire air pressure have reduced handling capability and fuel economy. Computer chip technology now exists that can monitor tire inflation and warn the driver of impending tire failure (TPMS—see Section I.E.1). Some of the advances in reducing tire failures on heavy trucks have begun and will continue to appear in passenger car tires.

Milestones:

- Testing for FMVSS 119 upgrade 2003
- NPRM to upgrade requirements for new heavy truck tires 2004
- Final Rule to upgrade requirements for new heavy truck tires 2005

- Research on performance requirements for retreaded tires 2003
- Decision on whether to develop new standard for retread tires 2004–2005
- Final rule for a new standard (tentative) for retread tires 2006
- Research on heavy truck TPMS 2004
- Decision on how to proceed on heavy truck TPMS 2005

3. Drowsy Driver Sensing System v

NHTSA has been conducting advanced engineering development to develop a sensor for a warning system to alert drivers before they fall asleep. The purpose of this system is to reduce the more than 100,000 injuries and deaths associated with drowsiness involving both commercial and passenger vehicles. NHTSA data suggests that approximately 100,000 crashes per year, including 1,357 fatal crashes and approximately 71,000 injury crashes, involved drowsiness. Drivers are often unaware of their deteriorating condition or, even when they are aware, are often motivated to keep driving. A drowsiness detection and warning system can help reduce alertness-related crashes by helping to maintain alertness until it is safe to stop and rest.

Drowsiness is named as the top driving problem at trucking summit meetings. The role of drowsiness in crashes may be largely underestimated due to unreported off-roadway crashes, police inability to verify drowsiness, and driver reporting error. The Federal Motor Carrier Safety Administration, in a Final Rule published in April 2003 on Hours of Service for Commercial Drivers, discussed its potential interest in drowsy driver sensing systems.

Milestones:

- Drowsy driver sensing system field operational test 2003–5
- Decision on how to proceed/performance specification requirements for heavy trucks 2006

V. Protect Special Populations

A. Children

Four hundred and ninety-seven children under the age of five died and 60,000 were injured as occupants in light vehicle crashes in 2001. (Another 428 children from the age of five to nine were killed and 73,000 were injured in light vehicle crashes.) Research shows that child safety seats, when used correctly, can reduce fatalities among children less than five years old by 71 percent. That makes child safety seats one of the most effective safety innovations ever developed. As more new vehicles with dual air bags enter the market, there are increased concerns about children who are riding unrestrained, incorrectly restrained, or in rear-facing child seats in front of an air bag. Use of child restraints is now required in all 50 states and the District of Columbia. Data indicate that the combination of high-quality child restraints and the increased use of these restraints as a result of mandatory usage laws has significantly reduced the risk of child fatality in motor vehicle crashes. In 2001, an estimated 269 children under age five were saved as a result of child restraint use.

NHTSA published a new rule in 1999 that requires motor vehicles and add-on child restraints be equipped with a means independent of vehicle safety belts for securing the child restraints to vehicle seats. These universal child restraint anchorage systems, Lower Anchors and Tethers for Children (LATCH), for attaching child seats to the vehicle are expected to significantly reduce deaths and injuries to infants and toddlers from improperly installed child safety seats. The agency issued a Final Rule in 2003 responding to petitions for reconsideration to FMVSS No. 225, “Child Restraint Anchorage Systems.” Dynamic side impact test research is continuing for requirements for child restraint systems to protect children during side impacts.

1. Upgrade Child Restraint Requirements v □ 4

To improve the protection of children in crashes, NHTSA has recently upgraded FMVSS No. 213, “Child Restraint Systems.” The changes address a number of areas, including use of improved test devices with upgraded biofidelity and the development of a bench seat fixture that is more representative of the seat geometry for the current vehicle fleet. NHTSA drafted a Child Restraint Plan, consolidating many of the agency’s objectives for child restraints, but the 2000 TREAD Act overtook that plan and mandates many of the activities discussed in the plan. Under TREAD, NHTSA was directed to consider minimizing head injuries from side impact collisions, and whether to require improved protection in side and rear crashes.

TREAD also mandated a child restraint rating program and a determination whether to add child restraint systems (CRS) to NCAP testing.

NHTSA issued an NPRM for upgrading FMVSS No. 213 in May 2002, and the Final Rule in June 2003. The rule made a number of revisions to the Federal safety standard for child restraint systems, including incorporating improved test dummies (Hybrid III 3- and 6-year-old and CRABI 12-month-old) and updated procedures used to test child restraints, new or revised injury criteria to assess the dynamic performance of child restraints, and extension of the standard's requirements to apply it to child restraints recommended for use by children up to 65 pounds. Previously, the standard applied to child restraint systems for children weighing up to 50 pounds, but children must weigh approximately 80 pounds to fit properly in a safety belt without a booster seat. Part of NHTSA's efforts, therefore, was to extend FMVSS No. 213 to cover child restraint seats certified for children weighing between 50 and 80 pounds. Initially, NHTSA has developed a weighted six-year-old dummy, eventually to be replaced by a ten-year-old dummy. The action is intended to make child restraints even more effective in protecting children from the risk of death or serious injury in motor vehicle crashes. NHTSA issued the standard upgrade Final Rule in June 2003. The development of new standards requirements per TREAD for child restraint systems to protect children during side impacts will proceed once the agency has completed its research and testing and gathered sufficient information for rulemaking.

NHTSA published a Final Rule to improve child restraint labels and instructions in October 2002 and a Final Rule announcing the final child restraint ratings program in November 2002. In August 2002, NHTSA completed a five-year strategic plan and budget for a booster seat education plan, and later in 2002 it completed a booster seat study and sent its report to Congress.

NHTSA is conducting additional studies and rulemaking activities for child restraints under another legislative mandate, Anton's Law, which was signed into law in December 2002. Anton's Law aims to raise the level of protection for larger children, those over 50 pounds (approximately ages 4 to 8 or 10). The law requires NHTSA to: Establish performance requirements for child restraints, including booster seats, for children weighing over 50 pounds; develop and evaluate a 10-year-old child dummy; require lap and shoulder belts for all seating positions (notably the center rear seat) for vehicles with a GVWR of 10,000 pounds or less; and evaluate integrated child restraints and booster seats and report its findings to Congress. NHTSA also is working with Contracting Parties of the 1998 Agreement on the development of a GTR that would address the safe use of child restraints worldwide.

Milestones:

Upgrade FMVSS No. 213

- Report to Congress on FMVSS No. 213 issues not incorporated in the 2003 final regulatory action 2003
- Testing to support making CRS more effective in protecting children in frontal crashes and to support agency work in support of Anton's Law 2003–2004
- Research on new three-year-old dummy (Q3S) for side impact 2003–2004
- Support for HIII–10C NPRM and Final Rule 2003–2004
- NPRM establishing performance requirements for CRS for larger children, per Anton's Law 2004
- NPRM on HIII 10-year-old dummy 2004
- Research on pediatric thorax, head and neck injuries to better understand such injuries and contribute to the development of next generation child dummies 2004
- Child injury tolerance investigation through case reconstruction to provide improved injury assessment reference values (IARVs) for use with child dummies 2004
- Decision on how to proceed/next steps for three-year-old dummy (Q3S) for side impact 2004–2005
- Testing to support making CRS more effective in protecting children in side crashes, including determining the most common side crash injury causes and developing a representative sled test procedure -2006
- Decision on whether to propose side impact requirements for CRS 2006
- Final regulatory action on HIII 10-year-old dummy 2005
- Final Rule establishing performance requirements for CRS for larger children, per Anton's Law 2005

- Testing, evaluation and harmonization of side impact dummies (new child Q series and child HIII series) -2006+

FMVSS No. 208

- NPRM proposing the requirement of rear center lap/shoulder belts in vehicles with a GVWR less than 10,000 pounds 2003
- Final regulatory action on rear center lap/shoulder belt requirement 2004

2. Improve School Bus Safety

The safety record for school bus transportation exceeds that of all other modes of travel. Students are nearly eight times safer riding in a school bus than in cars. Each school day, 440,000 public school buses transport 23.5 million children. On average, about seven passengers die in school bus crashes each year. In 2001, 12 school bus passengers and 6 school bus drivers died and 7,000 were injured, and another 22 pedestrians and 4 bicyclists were killed when struck by a school bus. NHTSA has several standards relating to school bus safety. NHTSA's requirements for compartmentalization on large and small school buses, plus safety belts on small buses contribute to the safe environment.

NHTSA continues to search for effective ways to prevent these tragedies and to make school bus travel even safer. Amendments to the school bus standards have improved traffic control warning devices and emergency exits. To increase protection for disabled school bus passengers, the agency developed rules for occupant restraint systems and anchorages and wheelchair securement and anchorages that became effective in 1994. School buses are unique as the only class of vehicles with requirements for securing wheelchairs, and these requirements apply to all school buses regardless of size.

The NTSB has recommended that NHTSA evaluate occupant restraint systems, including those presently required for small school buses, and add requirements based on its evaluation. In 1998, NHTSA developed a test plan for the next generation of school bus occupant protection, including testing various school bus child restraints so it could finalize its proposed guidelines on how to transport preschool-aged children on buses.

NHTSA provided a report to Congress in May 2002 assessing occupant protection in school buses. In that report, NHTSA concluded that lap belts have little, if any, benefit in reducing serious or fatal injuries in severe frontal crashes, and could increase the incidence of serious neck injuries and possibly abdominal injury among young passengers in severe frontal crashes. Any increased risks associated with their use in small school buses is more than offset by preventing ejections. Small school buses weigh less, have different crash dynamics, and are more prone to roll-over than large school buses. Combination lap/shoulder belts, if used properly, could save one life a year, but improper use could cause serious neck injury or abdominal injury. Lap/shoulder belts could reduce bus capacity and add more than \$100 million in annual costs. Since school buses are the safest way to and from school, even the smallest reduction in the number of bus riders could result in more children being killed or injured when using alternative methods of transportation.

NHTSA's research program is focusing on side impact protection. Other school bus safety improvements the agency is considering include: increasing seat back height to reduce the potential for passenger override in crashes; requiring lap/shoulder restraints on smaller buses (lap belts are now required); considering seat redesign for better restraint fit for passengers aged six and above; evaluating the efficacy of roof crush protection; and developing test procedures for voluntarily installed lap/shoulder belts.

Milestones:

- Conduct regulatory review of FMVSS 222 2003
- NPRM for FMVSS No. 222 for improved passenger protection 2004
- Testing in support of Final Rule and cost assessment 2003–2004
- Final regulatory action on FMVSS No. 222 occupant protection upgrades 2005
- Decisions on how to proceed/next steps relating to the sidewall padding requirements under FMVSS No. 222 2004

B. People with Disabilities

NHTSA works to assure motor vehicle safety for the small but vulnerable population of persons with disabilities—without hindering their access to personal transportation.

A Final Rule exempting businesses that modify vehicles to accommodate people with disabilities from the agency's "make inoperative" prohibitions was published in

February 2001. Also, we have produced and distributed a consumer brochure, *Adapting Motor Vehicles for Persons with Disabilities*, about adaptive equipment and modified vehicles. As described in the previous section of this report (V.A.2), the agency has adopted requirements for securing wheelchairs and their occupants traveling in school buses to afford increased protection for disabled passengers.

The original draft of this plan had milestones for rulemakings for vehicle platform lifts. Since then, in December 2002, NHTSA published a Final Rule that established two new safety standards: an equipment standard, FMVSS No. 403, Platform Lift Systems for Accessible Motor Vehicles; and a vehicle standard, FMVSS No. 404, Platform Lift Installation. The equipment standard establishes performance requirements for platform lifts, and the vehicle standard requires manufacturers who install lifts to use lifts that meet the equipment standard, to install them according to the lift manufacturer's instructions, and to provide certain information to lift users. Based on incomplete information, we estimate that at least 1,366 people were injured in lift-related incidents in 1991–1995. The regulation, applicable to all motor vehicles, should prevent deaths and injuries associated with the use of platform lifts for people with disabilities.

Milestones:

- Continue assessment of adaptive equipment safety issues -2006+

C. Older Population v

The nation's population of older adults—those more than 65 years old—will grow by more than 50 percent between now and 2020. The population age 70 and over grew nearly twice as fast as the total population from 1990 to 2000. By 2030, we will have more than twice the number of older drivers that we now have. Studies have predicted substantial problems if we fail to take adequate steps to meet the transportation needs of our changing population. At current crash rates, the number of fatalities involving older drivers in 2030 could be three to four times the 1995 rate. A portent of the future is that older drivers, though involved in relatively few crashes (due to factors such as driving fewer miles), have a statistically high risk of crashes when they do drive—and older drivers are driving more each year. Although societal fatality rates have been declining for several years, older drivers and vehicle occupants are dying at alarmingly increasing rates. Light vehicle occupants age 65 and up suffered 5,396 fatalities and 218,000 non-fatal injuries in 2001.

Older drivers frequently have slowed reaction times, greater sensitivity to glare, a narrowed field of view, and difficulty noticing all the critical objects in their visual field. Also, physical frailty contributes to older persons' over-representation in fatal and severe occupant injury rates. Crash statistics show that older drivers have a higher percentage of their crashes in intersections than drivers of other ages. A new agency study found two noticeable differences that help explain injury risk differences by age: 1) Older people are more likely to travel in passenger cars than younger people who frequently use light trucks; and 2) seriously injured older occupants are more likely to be involved in side impact crashes than their younger counterparts. This last finding may make a case for increased attention to vehicle engagement in side impact crashes and to vehicle technologies that can help drivers avoid side collisions. NHTSA's efforts to address compatibility problems between SUVs and passenger cars also could provide significant benefits in this area.

In general, all rulemaking activities will consider the special needs of older drivers and occupants. NHTSA is conducting and evaluating research (in addition to behavioral research) on several fronts to use advanced in-vehicle technologies to help older drivers meet their driving needs while preserving their transportation mobility, freedom and convenience. Some of the new technologies are being developed under the Department of Transportation's Intelligent Transportation Systems program. These technologies include collision warnings, near-object detection systems while backing and changing lanes, night vision enhancement, and route guidance. Later possible advances include intelligent cruise control and forward collision avoidance systems. The success and practicality of these systems will depend in large measure on designing them to help drivers with special needs without distracting or confusing them, and NHTSA will carefully evaluate and weigh the benefits and liabilities to older drivers for safe vehicle operation. Also, FHWA is working to adapt roadway design to the older population.

In addition, efforts have been and will continue to be made to make automobiles safer for fragile occupants, and their needs increasingly will be a factor to consider in assessments of vehicle crashworthiness standards. Older persons are generally less able to withstand and recover from the trauma of crashes, and they face a much higher likelihood that a crash will prove fatal. FMVSS No. 208, "Occupant Crash Protection," has required the installation of driver and passenger frontal air bags in passenger cars and light trucks and vans (LTVs) since model years 1998 and

1999 respectively. To improve safety for older and small occupants, NHTSA allowed depowered air bags in 1997 and amended the standard again to require vehicles to be equipped with advanced air bags starting in model year 2004. In addition, some manufacturers have installed force limiting and pretensioning devices in their safety belt systems that can help mitigate serious injuries to older occupants.

The crash dummies the agency uses are sufficiently precisely instrumented to account for the frailer skeletal structures of older people, and the agency has and will continue to adjust the injury criteria it uses to better represent older people. Crash dummy enhancements and/or revised injury tolerance criteria for existing dummies that replicate the features of older motorists could be used to design and test improved air bag systems, inflatable safety belts, force limiting safety belts, side air bags, knee bolsters and other occupant protection systems to maximize protection for older users.

A cross-agency working group was formed in 1999 to focus on older drivers and passengers. In addition to surveys already conducted, NHTSA will conduct surveys and research to identify additional problems specific to older drivers and occupants of motor vehicles. Candidate issues to be explored include: nighttime lighting and glare, controls and displays, vehicle features that create distractions to driving tasks, adequacy of mirrors, and comfort and convenience of safety belts. Based upon these activities, rulemaking plans can be developed, and the Office of Rulemaking will track technological developments in the auto industry that are designed for and marketed to the older driver. In addition, a data analysis study will be conducted once enough cars are on the road that have these features to see if they are producing lower crash or injury rates. One trend that may warrant study is that there has been a decline over that past five years in fatalities and incapacitating injuries to people between the ages of 65 and 74.

Older pedestrians have the highest fatality rates among different age groups, and NHTSA may consider the need for new requirements for exterior vehicle designs less injurious to pedestrians. The agency will conduct research over the next few years to gather information on pedestrian safety issues and injury mechanisms. Such efforts could lead to the development of internationally harmonized head and leg component test procedures.

Milestones:

- Data analysis to identify risk factors in fatalities and injuries for the oldest occupants 2003
- Targeted research to study the dynamic response of older people to particular impact and consider age adjusting existing age criteria 2004–2006+

VI. Appendix A: Other Active Areas, 2003–2006

This appendix discusses several additional regulatory activities, particularly regulatory-related research activities, that may extend beyond the four-year horizon of this document. Although important regulatory (and potential regulatory) goals, these projects do not rise to the same level of immediate high priority as the activities included in the main body of this report.

Integrated Seats □

Advanced seating and belt designs and systems present significant safety benefits in frontal and other crashes as well as in rear crashes. Some newer safety belts have adjustable upper belts that let occupants change the position of the shoulder strap to accommodate their size. Safety belt pretensioners retract the safety belt to remove excess slack, almost instantly, in a crash. Energy management features allow safety belts to yield during a severe crash to prevent forces on the shoulder belt from concentrating too much on the chest. These features include load limiters built into the shoulder belt retractor and/or tear stitching in the webbing that causes the safety belt to extend gradually.

Integrated safety belt systems mount the entire safety belt system directly to the seat, rather than to the floor or pillar. This allows the safety belt to move with the occupant when they move the seat. Integrated systems provide a more consistent and comfortable fit and are intended to more effectively hold occupants in their seats during a crash. NHTSA has been petitioned to modify the current regulations to incorporate a more realistic test procedure for integrated seats. The agency is conducting research to develop a test procedure to evaluate integrated seats. After conducting research on integrated seats, we plan to decide in 2003–2004 on the next steps for FMVSS No. 207, Seating Systems, and FMVSS No. 210, Safety belt Assembly Anchorages, to accommodate improved seat designs such as integrated seats, as well as to address a related enforceability issue. In 2004 the agency will decide on how to proceed and next steps for amending FMVSS No. 207, Seating Systems and

FMVSS No. 210, Safety belt Assembly Anchorages to address integrated seats, with final regulatory action in 2005–2006.

Improve Motorcycle Safety v

The most common danger associated with motorcycles is head injury (and associated death). In 2001, 3,181 motorcycle drivers and passengers died and 60,000 were injured. These fatalities comprise eight percent of all traffic fatalities, although motorcycles represent approximately two percent of the total vehicle fleet. Motorcycle crashes are highly dangerous to their occupants, and these deaths and injuries, after many years of decline, have been increasing since the late 1990s. In 2001, 39 percent of all motorcycle drivers involved in fatal crashes were speeding, a figure twice that for passenger car and light truck drivers, and the percentage of alcohol involvement was 37 percent higher for motorcyclists. Approximately half of those killed were not wearing helmets. Motorcycle helmet use has been the most effective countermeasure in the effort to reduce these injuries and deaths. NHTSA estimates that helmets saved the lives of 674 motorcyclists in 2001, and could have saved an additional 444 lives if all motorcyclists had worn helmets. While other programs within NHTSA aim to increase helmet use, the agency's regulation, FMVSS No. 218, makes sure that helmets are as safe and effective as possible. The last update to the motorcycle helmet standard in 1988 extended its test requirements to all helmet sizes and established improved helmet test procedures. NHTSA is exploring the need to upgrade the standard, including addressing comfort and labeling requirements.

The agency is considering undertaking a crash data collection effort that is jointly funded by the Offices of Traffic Injury Control, Applied Research, and Rulemaking. Various issues are being brought to the agency by means of petitions for rulemaking, interpretations and letters requesting action regarding motorcycle designs and associated injuries. To respond to these requests (and to contribute to the international effort to further the state of knowledge of motorcycle safety), we need research to assess literature to determine injury types and severity and to relate them to motorcycle design and operation. To evaluate motorcycle braking standards, NHTSA will research and collect crash data and literature. Then, the agency will initiate rulemaking to update the standards. NHTSA is undertaking conspicuity research, and it published a Final Rule to reduce the minimum hand lever and foot pedal force for fade and water recovery tests in August 2001.

Address Motorcoach Safety Issues

The crash of a motorcoach in Canada that killed four U.S. school children has raised Congressional interest in motorcoach safety. On average, motorcoach crashes cause 10 deaths annually. In the 1990s, 20 of 46 motorcoach crashes involved rollover, and occupant ejection was a significant cause of death. NHTSA has met with the motorcoach industry and held a public meeting in April 2002 with Transport Canada to explore motorcoach safety. It also is examining safety recommendations made by the NTSB. Among the potential issues explored at the public meeting were emergency evacuation and window glazing, improved braking and rollover stability control, occupant protection, roof crush improvements and advanced restraint systems. The Department of Transportation plans research on motorcoach safety issues in 2004–2005. After conducting research, NHTSA will consider rulemaking to upgrade motorcoach passenger crash protection. The agency also plans to conduct research on motorcoach stability control to prevent crashes.

Pedestrian Protection v

In 2001, 4,882 pedestrians died and 78,000 were injured in traffic crashes, representing two percent of all traffic crash injuries and 11 percent of traffic fatalities. The problem is even larger in developing countries around the world, and the international community, through the United Nations, is working on the development of a global technical regulation on pedestrian safety. The International Harmonization Research Activity (IHRA) pedestrian working group is developing test procedures for adult and child head impact and adult leg injury. The U.N. WP29 GRSP Committee has initiated an effort to develop a Global Technical Regulation under the 1998 U.N. agreement, and NHTSA is actively participating in this effort.

Underride Protection for Single Unit Trucks

Many heavy truck crashes involve car-into-truck rear underride crashes, especially at night, which occur due to the car driver's inability to see the truck ahead until immediately prior to impact. Because of the truck's mass and geometry, the occupant compartment of a passenger car can be penetrated and severely damaged by the truck frame. Aside from crash avoidance improvements in vehicle braking, steering characteristics, conspicuity, and efforts to reduce alcohol and sleep related

crashes, NHTSA also has enacted crashworthiness rules to improve underride protection. NHTSA has two standards that require and regulate rear impact guards for truck trailers and semi-trailers, but single unit trucks are exempted from these requirements. The agency conducts ongoing efforts to collect reliable data to support a regulatory decision to end or not end the exemption. One potential way to address the problem of vehicle crashes into the rear of single unit trucks could be to prevent such crashes from occurring. The agency might find that increasing truck conspicuity is a cost-effective method of preventing rear crashes involving single unit trucks and therefore work to extend the requirements of reflective devices from trailer trucks to single unit trucks. Following problem identification and data analysis, feasibility study of alternative countermeasures, and testing and research on countermeasure effectiveness and development in 2004, a decision on how to proceed and next steps will be made in 2004–5.

Electronic Data Recorders (EDR)

Information collected by crash data recorders, which are being introduced by some manufacturers, can provide the agency with useful information for crash and crash causation analysis. EDRs allow investigators to gain direct pre-crash and crash information such as pre-impact vehicle acceleration and driver steering and braking, air bag deployment timing, and whether safety belts were buckled. EDRs can provide more specific information to crash investigators, which will lead to a more accurate account of the events leading up to and following a crash. This, in turn, can contribute to more effective safety rulemakings and other safety actions. NHTSA is looking at the future potential for EDRs in crashworthiness evaluations. The agency is conducting a research program in which it collects EDR data from real world crashes to analyze the data's accuracy and to compare it to traditional forensic crash investigation methods. The agency will provide feedback so EDR manufacturers can improve their systems. (For more information on EDRs, see NHTSA's website at <http://www-nrd.nhtsa.dot.gov/edr-site/index.html>.)

Accelerator Controls

Over the past several years, NHTSA has responded to interpretation letters from manufacturers by drawing analogies between traditional mechanical component and new electronic systems. Now that electronic accelerator controls are becoming increasingly commonplace, the agency determined that revisions to FMVSS No. 124, Accelerator control systems, were needed to accommodate electronic control systems. A NPRM was published in July 2002. The proposal neither increases nor decreases the scope of the standard, but makes the standard clear and adequate in its application to electronic accelerator controls. The NPRM proposed regulatory language that specifically addresses "throttle" in the context of electronic control systems to explain how the standard applies to electronic control systems.

Low Speed Vehicles

NHTSA published a final rule establishing a new FMVSS No. 500, "Low-speed vehicles (LSV)," in 1998. This new FMVSS and vehicle classification responded to the growing public interest in using golf cars and other similarly-sized small vehicles to make short trips for shopping, social and recreational purposes primarily within retirement or other planned, self-contained communities. These vehicles, many of which are electric-powered, offer comparatively low-cost, energy-efficient, low-emission, quiet transportation. Electric LSVs are also known as Neighborhood Electric Vehicles (NEVs). The original definition of a LSV excluded trucks—NHTSA is preparing a response, expected this summer, to petitions for rulemaking requesting the agency to remove that exclusion from the definition. The agency also will conduct research to develop performance requirements for safety belts, tires, braking and speed determination, leading to an NPRM later in 2003. NHTSA published an NPRM on LSV conspicuity in 2002 that proposes requiring lights on at all times, a slow moving vehicle symbol, warning label, and side marker lamps/retro reflectors, with the Final Rule expected in 2004.

VII. Appendix B: Vehicle Safety Information for Consumers

NHTSA's New Car Assessment Program (NCAP) provides the public with comparative vehicle safety information. This program and other vehicle safety public information and education activities are crucial components in NHTSA's efforts to improve safety on the Nation's highways. The agency also spends and distributes to partners considerable resources to educate the public about safe highway behavior, such as using restraints properly and not driving when impaired by alcohol or drugs.

An effective way to help consumers enhance the market for safety is to provide them with more comparative vehicle safety information, including crash test ratings

and available safety features. Increasingly, consumers are demanding such information and are basing their purchasing decisions on it. Their choices, in turn, affect the extent and speed with which manufacturers incorporate new safety features and improved safety performance into their vehicles. Through these means, market forces, in lieu of regulations, improve the safety characteristics of vehicles on the road. The average number of visits to the popular NCAP section of the NHTSA website has increased from 3,000 per week in 1997 to 40,000 per week in 2003.

The NHTSA carries out considerable outreach efforts to partner private sector organizations and companies to provide vehicle safety information to the public and to enhance the market for safety. The agency produces and distributes brochures including: *Buying a Safer Car*, which includes comparative (NCAP) ratings and safety features by vehicle make/model; *Buying a Safer Car for Child Passengers*; *Adapting Motor Vehicles for Persons with Disabilities*; *Tire Safety Information*, and *child safety seat Ease-of-Use Ratings*. On an on-going basis, the NCAP program considers additional vehicle safety information that will help consumers make informed decisions. A recent example is the planned inclusion of information on enhanced safety belt reminder systems in NCAP new car safety features.

NCAP frontal and side impact ratings programs provide crucial information to consumers about the relative crashworthiness of light vehicles. In FY 2003 testing of about 81 passenger vehicles will cover 85 percent of new vehicles for these crash modes. The vehicles will be split almost evenly between the front and the side. In addition, the agency will consider potential changes to its frontal crash NCAP parameters to coincide with more stringent requirements under FMVSS No. 208, which in 2008 will increase the speeds at which vehicles are crash tested for compliance with the standard. In MY 2008, the belted 50th percentile male test procedure in FMVSS No. 208 will increase from 30 mph to 35 mph for 26 percent of the vehicle fleet, essentially becoming the frontal NCAP test procedure. Traditionally, the frontal NCAP testing program has been a more severe test than the standard. NHTSA is currently evaluating several test procedure options and is exploring ways to revise the frontal NCAP test program. The agency expects to publish a Request for Comments in the fall of 2003.

As with the frontal crash test environment, NHTSA recognizes that the U.S. side impact environment has changed significantly in recent years. NHTSA plans to issue an NPRM in early 2004 to upgrade FMVSS No. 214, to address emerging issues in the field such as head injuries in side crashes and small occupant protection in side crashes. The NCAP side impact testing program is modeled after FMVSS No. 214. As such, any changes to FMVSS No. 214 would be evaluated and explored for their merit in a consumer information test program. Additionally, NHTSA is currently exploring ways to incorporate the head injury data recorded during its side impact test into the side impact star rating.

A demonstration of the dynamic rollover program will evaluate Model Year 2003 vehicles, followed by publication of the final test methods in the Federal Register. Implementation of the dynamic test program is slated for the Model Year 2004 NCAP. Plans are to rate approximately 70 vehicles for rollover resistance which will provide rollover information for approximately 70 percent of the vehicle fleet.

There are other potential candidates for handling-related NCAP information. Many crashes could be prevented if vehicles had greater capabilities to maneuver safely around dangerous situations. NHTSA is looking at the possibility of providing this additional information on vehicle handling after the time frame covered by this plan. The agency will develop handling and stability tests for dynamic driving maneuvers that could provide more complete NCAP consumer information on handling. NHTSA will conduct research in the 2006 to 2007 time frame, to be followed by a decision on how to proceed based on the research.

NHTSA is developing a brake performance program to evaluate stopping distances for light vehicles 10,000 pounds and under. A demonstration program includes tests for 36 Model Year 2003 vehicles.

Headlamp performance is a longer-term effort. Following the development program for a rating system, the next step is to demonstrate a potential rating scheme for NHTSA evaluation of whether an NCAP program should be considered.

Finally, NHTSA implemented ratings of child restraint system (CRS) ease-of-use in 2003, and it is pilot testing CRS sled-testing and in-vehicle programs for future implementation.

A. Consumer Information on Child Restraints 4

NHTSA's strategy to protect children includes encouraging the use of child restraint systems (CRS), ensuring restraints provide optimal protection, and providing consumers with useful information on restraining their children. Approximately 80 percent of child restraints are used incorrectly. The TREAD Act contained several

provisions that dealt with child restraints. Another provision mandates a review of CRS labels and instructions. In response to a provision on upgrading the labeling requirements for child restraints, in October 2002, NHTSA published a Final Rule to improve child restraint labels and instructions. Other provisions require the agency to consider placing child restraints in vehicles NHTSA crash tests for NCAP and to establish a child restraint safety rating consumer information program. In November 2002, the agency issued a Final Rule that includes a child restraint ease of use safety rating program, the intent to explore a dynamic test based on FMVSS No. 213, "Child Restraint Systems" and the intent to place CRS in the frontal NCAP vehicle test. NHTSA posted its first ease-of-use ratings on its NCAP website in June 2003, and it expects to provide ease-of-use rating for approximately 95 percent of the child restraints on the market in its first year of ratings. In 2003 and 2004 NHTSA will continue to evaluate the CRS dynamic and vehicle child protection pilot programs. Should the results of these two pilot programs prove to contain beneficial consumer information, NHTSA will issue a notice for a proposed safety rating program.

Milestones:

- Conduct frontal crash tests and sled tests with CRS 2003–4
- Final agency decision on crash and sled tests for consumer information 2004
- Possible implementation of CRS dynamic and vehicle child protection 2005

B. Consumer Information on Light Vehicle Rollover 4

In December 1998, NHTSA decided to develop consumer information on rollover resistance as an addition to the existing NCAP. Based on driving maneuver (dynamic) tests conducted in 1997–98 and published in 1999, NHTSA decided to use the static stability factor (SSF) measure (the relationship between a vehicle's center of gravity height and the width of its wheel track) as the measure of rollover resistance. This decision was made for a number of reasons: the SSF is a good measure for both tripped and untripped rollover; the SSF is highly correlated with actual crash statistics; the SSF has the least potential for unintended consequences; and the SSF can be measured accurately and explained to consumers.

NHTSA published a Request for Comments in June 2000 on the SSF as the basis for a 5-star rating program on the rollover resistance of light vehicles. Subsequently, at the request of Congress, we engaged the National Academy of Sciences (NAS) to do a study of the SSF rating and the use of 5-star ratings for rollover resistance. The NAS study, which NHTSA received on February 20, 2002, concluded that the SSF was a valid measure but recommended dynamic rollover ratings as a valuable supplement to the SSF.

In an additional development, the TREAD Act directs NHTSA to develop a dynamic test to rate light vehicle rollover resistance, and to carry out such tests by November 2002 and disseminate the results to the public. The agency began extensive research in April 2001 in support of TREAD, and completed research in December 2002. An NPRM was published in October 2002 announcing the proposal for the dynamic test.

Milestones:

- Begin dynamic rollover resistance demonstration test program 2003
- Final Rule, Dynamic Rollover Rating Program for NCAP 2003
- Publish combined SSF/dynamic rollover ratings 2004

C. Consumer Information on Braking Performance

NHTSA has been conducting vehicle braking and consumer focus group testing to identify a test protocol for providing consumers with comparative brake performance information for light vehicles. The program, which includes measurements for stopping distance and ABS performance at speeds of 60 mph on different road surfaces, has the potential to improve vehicle brake performance through market forces. A Request for Comments on the braking NCAP test procedure was published July 17, 2001.

If successful tests can be developed, program vehicles from the NCAP static and dynamic rollover tests would be evaluated for braking performance. A compilation of test results would provide comparison information for similar models of vehicles within a vehicle category and also highlight differences between major categories of light vehicles.

Milestones:

- Brake performance demonstration program 2003
- Final agency decision on brake performance ratings information 2004

D. Consumer Information on Light Vehicle Headlighting Performance

NHTSA hopes to establish a headlighting NCAP-type system to provide consumers with information that will influence a safer vehicle purchase. NHTSA believes that the roadway illumination and glare performance of the lower and upper beams should be rated relative to their compliance robustness and the consumer pleasing aspects of the resultant illumination. If the agency proceeds with this program, it hopes to progress in time to collect and publish MY 2005 data.

Milestones:

- Protocol development, testing, and test data analysis 2003
- Decision on whether to provide headlighting ratings, pending results of testing 2004

E. Summary Safety Score

In response to the National Academy of Sciences *Shopping for Safety* report, and in the interest of providing the most comprehensive vehicle safety information to consumers, NHTSA embarked on the development of a summary safety score using NCAP frontal, side, and static stability factor ratings (when the SSF ratings became available in 2001). Subsequent to the initial investigation of the methodology and analysis using NCAP results and real world data, it was determined to wait for final development of the measure until the dynamic rollover ratings were available and a feasible measure of vehicle aggressivity is developed. NHTSA will finalize the combined rating following completion of these elements. NHTSA will revise the summary safety score as necessitated by future (beyond the time frame for this plan) changes to FMVSS Nos. 208 and 214 crash tests, and new ratings programs, if any, added to NCAP.

Milestones:

- Publish latest version of *Vehicle Size and Safety* report 2003
- Publish final notice on the dynamic rollover rating program 2003
- Conduct development work incorporating dynamic rollover ratings 2004
- Final decision whether to incorporate a Summary Safety Score into the consumer information program 2005–2006

VIII. Appendix C: Regulatory Review Plan Description

The Regulatory Review Plan was developed in 2002. On a seven year cycle, each FMVSS is subjected to the following assessment components to determine the need to update and/or upgrade the standard.

A. *Safety Problem Assessment*—NHTSA databases and other data are explored to identify safety problems that could be addressed through revised performance requirements for vehicle systems. Sources may include FARS, NASS, GES, Office of Vehicle Safety Compliance, and Office of Defects Investigation data, and other sources such as manufacturer data and technical reports.

B. *Other Societal Factors*—A listing is included of other societal factors that might influence the need to amend a FMVSS or develop a new FMVSS. Factors may include: demographics (*e.g.*, growth in certain population groups such as older drivers and passengers), societal values (*e.g.*, protection of children), or vehicle safety problems in certain areas of the country (*e.g.*, low speed vehicles)

C. *Technology, Enforceability and Other Standards Review*—The technology review focuses on developments in the system(s) affected by the subject standard in the past 10 years, prospects for the immediate future (5 years out) and prospects for the longer term future (5+ years). Enforceability problems and issues of current standards are reviewed. A listing and brief description also is included of other standards related to the vehicle systems addressed by the FMVSS. These may include national and international standards (ECE, Canada, etc) or voluntary industry consensus standards (ISO, SAE, ASTM). Information sources may include manufacturers, suppliers, industry organizations, published sources, the Internet, and site visits.

D. *Summary Regulatory Review Report*—The results of Sections A., B. and C. are combined into a summary report. The report includes an additional section, *Recommendations*, which also provides the reasoning and underlying bases for the recommendations on the need for (and recommended time frames) for updating and/or upgrading the standard.

Endnotes

- ρ ITS/IVI Initiatives
- v Harmonization issues
- Office of Vehicle Safety Compliance enforceability issues
- 4 TREAD issues

Senator SMITH. Thank you, Doctor. I think you're obviously showing you're making lots of progress and that there's more work to be done.

Are you familiar with some of the testimony that will be submitted in the next panel, and if so, are you familiar with this color-coded tire and do you have an opinion about that?

Dr. RUNGE. Well, I've not seen the testimony, but I did meet with the manufacturers of that technology earlier this year, and it certainly seems like it shows great promise toward showing evidence of tread wear. I did speak with the company at that time and told them that it looked like a wonderful opportunity to let the market work, that I might even be interested as a consumer instead of kneeling down looking for the bridge or putting a penny in the tire, actually to have a color change that will tell me when it's time to change tires.

So I did see that this—I did not think this was right for regulation, however, but it certainly looked promising in the marketplace.

Senator SMITH. ARTEMIS has received criticism from consumer groups as well as DOT's Office of Inspector General for not having the analytical tools necessary to track motor vehicle defect trends. Is this criticism warranted in your view?

Dr. RUNGE. No, sir, I don't believe that it is. I don't know how much history you want me to tell you about this, but when ARTEMIS was initially envisioned, it was proposed that there would be a brain inside the software that would automatically detect outliers in the data. NHTSA was under a tremendous amount of time pressure to come up with a system de novo, and so not having any experts in database design or development, we contracted with a contractor that we already had on contract who began to work on this on a cost-plus basis.

It became apparent after about a year that this was not going to work, that cost-plus was simply not the way to go here, and when we—in the process of our reorganizing the agency, I was able to hire a CIO. In addition, we had a consultant come on board to give us some advice as a third party on this, and it became apparent that off-the-shelf software could do the job of surveillance as well as an embedded part of ARTEMIS that would require maintenance by the contractor on an ongoing basis and be much more expensive.

So we have actually had an employment action in place now to find a math statistician, someone who understands SAS programming and analysis. We have collaborated with the CDC, with the Consumer Product Safety Commission, and currently with the FAA on developing a tool that will do this data mining for us.

The first part of this was simply to get all of this new early warning data into a data system where we could readily find the information that we needed, and we've done so, not without a bit of pain and a bit of cost overrun, but it is turned around, it's right side up now, and I just don't agree with the assertion that we can't do data analysis and surveillance using off-the-shelf software. I think that's wrong.

Senator SMITH. One of the only rulemakings yet to be implemented by NHTSA under the TREAD Act is the tire pressure monitor requirement, and can you give us a status report on that?

Dr. RUNGE. Mr. Chairman, we issued a final rule on tire pressure monitoring and the—most of the people in this room are very familiar with the saga of that rule. There were basically two ways we could go, and the Administration chose to go the way of a system that would satisfy the statutory requirement, but was not the more expensive system. The agency was successfully sued, and a judge, a Federal court judge, told us that we needed to put a system in our regulation that would detect one, two, three, or four tires that was deflated by 25 percent or more.

We are now in the process of redoing that rule. The analysis is a couple of years old. The new final rule would be significantly different from the old final rule, and therefore, requires us to issue a new NPRM, notice of proposed rulemaking. We have redone the analysis and that should be ready in a couple of months.

Senator SMITH. My only other question relates to the criticism that your rulemaking is precluding third parties from seeking defect information under Freedom of Information Act as it relates to ARTEMIS. How do you respond to the criticism you're putting the automobile industry ahead of consumers?

Dr. RUNGE. Well, it's interesting, you can ask the automobile industry when they get up there. I don't think they feel that way. We walked a very fine line between protecting information that would cause competitive harm if it were made public and putting data together that is already public into a format that would be readily available to the public.

Ultimately, we are working now through some petitions for reconsideration, and therefore, the information that we said would be public is not yet public. This will probably ultimately be decided by the courts. This is a—not a matter of policy so much as it is a matter of law, and that is what the statute actually says, and that's sort of out of my area of expertise. My Chief Counsel is working on it diligently.

Senator SMITH. Doctor, thank you very much for your time. We apologize again for the Senate voting schedule. We appreciate the work that you do.

Dr. RUNGE. Thank you very much.

Senator SMITH. We'll call forward our second panel: the Honorable Bruce Starr, Oregon State Senator; Mr. Robert Strassburger, Vice President of Safety and Harmonization, Alliance of Automobile Manufacturers; Mr. Donald B. Shea, President and CEO of Rubber Manufacturers Association; and Ms. Joan Claybrook, President of Public Citizen.

Thank you all for being here, and again, I sincerely apologize to you for having to wait, and I would ask your indulgence if you can state the essence of your testimony. We want to hear from all of you, it's very important, and your full testimony will be included in the record. And we'll start with Senator Starr.

**STATEMENT OF HON. BRUCE STARR,
OREGON STATE SENATOR, SMART TREAD, LLC**

Mr. STARR. Thank you, Senator Smith, for inviting Smart Tread to testify today on this critically important public safety matter. Your interest in tire safety is greatly appreciated in Oregon and

throughout the country. I'd like to ask that my written testimony be entered into the record.

Senator SMITH. Without objection.

Mr. STARR. Thank you. Smart Tread, LLC, is a small company in Portland, Oregon, founded in May 2003. Smart Tread's vision is to develop technology and promote ideas that save lives and prevent injuries by improving traffic safety on public roads and highways. Smart Tread's mission is to improve traffic safety by helping to remove dangerously worn tires from our public roads and highways. The best method to achieve this goal is the implementation of a system that everyone can easily identify and leaves no ambiguity for the driver or other highway users.

One such option would be to use colored rubber within the tire tread to automatically alert the owner when their tires are unsafe. With this system in place, enforcement officials and consumers alike are given the tools to identify and remove from service dangerously worn tires.

As you've heard from Dr. Runge, with the passage of the TREAD Act in 2000, Congress paved the way for improved road and tire safety. Since the TREAD Act was enacted, the National Highway Traffic Safety Administration has undertaken a series of rule-making activities. As you've heard, NHTSA has completed 11 of those 12 final rules. Work on the tire pressure warning system rule is ongoing. Overall, 41 out of the 43 requirements laid out in the TREAD Act have been completed, an enormous success traced back to the efforts of the Administration, safety advocates, and tire and auto manufacturers.

Even with all of these improvements, and despite the additional educational outreach efforts by the government and industry, over 43,000 people lose their lives on America's roads and highways every year, and nearly 3 million people are injured. The pain and suffering of these families is tremendous and cannot adequately be expressed in words or calculations.

Additionally, the economic cost of this problem is enormous. These injury and deaths cost over \$230 billion or 2.3 percent of GDP. Moreover, bald tires are 1½ to 1.8 times more likely to be underinflated. The cost of underinflated tires and lost fuel efficiency is in the billions, and we are acutely aware of the need for fuel efficiency as the price of gasoline has soared in recent months throughout the country.

Tires play a critical role in the safety of drivers and passengers. Tire tread channels water in wet or slushy conditions, enhances traction in snowy conditions, and protects the casing from puncture and potential tire blowout. Low tire tread is a primary cause of hydroplaning. The tread depth on a typical new tire that's sold today is $\frac{19}{32}$ of an inch. According to a recent *Consumer Reports* study, a tire with only $\frac{5}{32}$ of an inch, or half its tread remaining, has a measurable decrease in function when driven in snow or rain.

Industry and government efforts to educate the public on tire safety, including monthly checks of tire pressure and tire tread, are extensive, yet over half of all drivers cannot identify a wear bar, two out of three drivers do not know how to judge when a tire is bald, and 9 percent of the vehicles on the road today have at least

one bald tire. This failure does not rest with the tire or auto industry or government. Rather, the problem is human nature. We all lead busy, hectic lives, and unfortunately, too many of us and our loved ones do not perform the simple steps it takes to make sure our tires are safe. Government and industry should seek out practical ways to empower consumers and to take responsibility for the maintenance of their tires.

Smart Tread's solution is simple and will be effective. The Smart Tread solution builds a safety message into every tire. If I can turn your attention to the photograph here, by utilizing existing technology, we propose to embed a two-color system directly into the tire tread. When the first warning color appears, a driver knows to slow down and allow more time for stopping in wet road conditions. Some drivers may even decide to replace their tires at this point. Following the warning, the yellow warning color, a red ply would be inserted at $\frac{2}{32}$ of an inch, the point at which the tire is bald, no longer safe, or legal to be on the road.

Smart Tread's ultimate goal is the same as others here today, to save lives and reduce injuries on our Nation's roadways. This hearing moves us toward that goal and we are thankful to be here today with this group of transportation professionals and have the opportunity to share our vision with you. Thank you.

[The prepared statement of Mr. Starr follows:]

PREPARED STATEMENT OF BRUCE STARR, OREGON STATE SENATOR,
SMART TREAD, LLC

Thank you, Senator Smith, for inviting Smart Tread to testify today on this critically important public safety matter. Your interest in tire safety is greatly appreciated in Oregon and throughout the country.

I would like to ask at this time that my written testimony be submitted into the record.

Smart Tread, LLC is a small company in Portland, Oregon founded in May 2003. Smart Tread's vision is to develop technology and promote ideas that save lives and prevent injuries by improving traffic safety on public roads and highways. The company is held by the five founding members, the Safe and Sound Trust, and a group of individual, like-minded investors.

Smart Tread has undertaken a mission to improve traffic safety by helping to remove dangerously worn tires from our public roads and highways. The best method to achieve this goal is the implementation of a system that everyone can easily identify and that leaves no ambiguity for the driver or other highway users. One way to accomplish this is to standardize a system of tread wear identification that everyone can understand. One such option would be to utilize colorized rubber at levels within the tire tread to automatically alert the owner when their tires are unsafe. With such a system in place, dangerously worn tires can be easily identified, and can be removed from service before they cause injuries or fatalities on the highways.

Over 50 percent of the company's profits will go to the Safe and Sound Trust, a non-profit organization, which has dedicated itself to child safety and children's issues. Smart Tread's founders have decided to reinvest over half of any of the company's profits back into the community, specifically focusing on improving the lives of children and their families in the following areas:

- Vehicle safety;
- Safety in the home;
- Education;
- Health; and
- Poverty.

With the passage of the TREAD Act in 2000, Congress paved the way to improved road and tire safety. Your dedication to securing America's highways through this critical piece of legislation has resulted in a number of accomplishments. Thank you, again, Mr. Chairman for holding this very important hearing today as you examine

those accomplishments and look to the future on important transportation safety issues and the role that technology can play in enhancing highway safety.

Since TREAD Act was passed in November 2000, the National Highway Traffic Safety Administration (NHTSA) has undertaken a series of rulemaking activities. According to NHTSA,¹ the agency has promulgated 11 final rules including rules dealing with:

1. Reporting of defects in foreign countries;
2. Early warning reporting requirements;
3. Sale or lease of defective or noncompliant tire;
4. Civil penalties;
5. Criminal penalties;
6. Acceleration of manufacturer remedy program;
7. Sales of replaced equipment;
8. Endurance and resistance standards for tires;
9. Improved tire information; and
10. Two rules dealing with improving the safety of child restraints

The rulemaking process for a tire pressure warning system was completed, but has since been struck down in the courts. A new rulemaking process is now underway.

In addition, NHTSA has provided a number of reports to Congress that address important traffic safety topics including child restraint rating systems and rollover crash tests. Overall, 41 out of the 43 requirements laid out by the TREAD Act have been completed, an enormous success traced back to efforts by the Administration and tire and auto manufacturers. Tire and auto manufacturers have also spent a great deal of time, resources and energy implementing the new standards developed as a result of the TREAD Act.

Even with all of these improvements, and despite additional educational outreach efforts by the government and industry, over 43,000 people lose their lives and more than three million people are injured on our Nation's highways each year.² NHTSA reports that approximately 215 deaths each year result from tire failure.³ Many more people are injured.

We all understand the critical role a tire plays in the safety of drivers and passengers on the road. Tire tread channels water in wet or slush conditions, enhances traction in snowy conditions, and protects the casing from puncture and a potential tire blow out.

The number of hydroplaning accidents caused by low tire tread is not presently reported. Nonetheless, it is clear that low tire tread is the primary cause of hydroplaning.⁴ A typical new tire sold now has $\frac{19}{32}$ of an inch of tread depth. According to a recent *Consumer Reports* study, a tire with only $\frac{5}{32}$ of an inch of remaining tread has a significant decrease in function if driven in rain or snow.⁵ As the TREAD Act is fully implemented, reporting to the Fatality Analysis Reporting System (FARS) is enhanced, and the accuracy of accident reconstruction and reporting improves, we can only expect the reported number of tire-related deaths to increase.

Americans continue to be encouraged to do a regular monthly check of their tire pressure and tire tread. The industry's efforts to educate the public on tire safety are extensive and Smart Tread commends the Administration and the industry for their efforts. Yet, research demonstrates that consumers are not diligent in this regard. Nine percent of vehicles on the road today have at least one bald tire,⁶ two out of three drivers do not know how to judge when a tire is bald,⁷ and over half cannot identify a wear bar.⁸ Simply put, 23 million cars are on the road with dangerous tread wear, and most of those drivers have no idea that their tires are unsafe. This failure does not rest with the tire or auto industry or the government.

¹TREAD Milestones, NHTSA website, May 18, 2004.

²NHTSA, Feb. 2003 testimony before the Senate Commerce Committee.

³NHTSA reports that .5 percent of all fatal vehicle accidents are due to tire blowouts. Final Economic Assessment: Tire Pressure Monitoring System. FMV SS#138, Office of Regulatory Analysis and Evaluation Plans and Policies, March 2002.

⁴*Consumer Reports*, March 2003.

⁵*Consumer Reports*, March 2003.

⁶DOT HS 809 359, October 2001.

⁷RMA Tire Safety Fact Sheet 2004.

⁸RMA Survey, February 2002 (FrederickPolls).

Rather, the problem is human nature. Americans have busy, hectic lives and are unwilling to take the time to get out of their cars and check the tire pressure with the tire pressure gauge, which they typically do not have on hand. Even if consumers understood the penny test, they seem unwilling to put it to use on a regular basis or visually search for the wear bar in a routine way.

In this world of ever-changing technology, we have seen a number of very successful safety features incorporated into automobiles that have saved tens of thousands of lives. The most highly recognized and effective of these have been the seat belt and air bags.

Statistics from the U.S. Department of Transportation, Bureau of Transportation Statistics report that from 1975 to 2001 the use of seat belts saved 147,246 lives.⁹ It is estimated by the Click It Or Ticket/Operation ABC (America Buckles Up Children) campaign that the use of seat belts now saves 14,000 lives each year and about \$50 billion in medical care, lost productivity and other injury related costs.¹⁰ Clearly, the use of seat belts has had a tremendous impact on vehicle safety, but the effort to get people to buckle up continues. In a presentation given March 5, 2004 as part of the Distinguished Lecture Series at Ford Motor Company, the director of the National Center for Statistics and Analysis revealed that seat belt use increased from 75 percent in 2002 to 79 percent in 2003. This was the largest increase in seat belt use seen since the DOT began to track such use. This increase in seat belt use is largely attributed to the Click It Or Ticket/Operation ABC campaign sponsored by NHTSA, the National Transportation Safety Board, Mothers Against Drunk Driving and the Airbag & Seat Belt Safety Campaign. More than 12,000 law enforcement agencies are participating in this campaign today as the 2004 public outreach effort runs from May 24 through June 6.

Air bags are credited with saving 8,369 lives between 1990 and 2001.¹¹ The technology used for air bags continues to improve as side air bags are now becoming standard on more vehicles and air bag inflation levels can adjust automatically based on different crash forces, occupant seat position and occupant restraint use.

New technologies focus on all aspects of the vehicle. For example, side crash bars have become an added safety feature in the construction of automobiles. The use of computerized technology in automobiles has dramatically changed the way vehicles operate. Auto mechanics now run diagnostic reports to check our engine function and emission controls. We can get real-time fuel efficiency information as we travel down the road. On-board GPS systems make navigation easier. Everything from interior climate control to back-up warning systems are all controlled by computer.

Technological advances in automobiles have been tremendous, and will continue as new and better ideas are advanced. The automotive industry has worked diligently with NHTSA and other private sector actors to develop new technologies and adopt new safety standards for automobile. The innovation found in the private sector has no bounds and should continue to be encouraged by this body and others.

An integral part of every vehicle, tires are highly engineered, manufacturing marvels specifically designed for superior handling, traction on wet and dry surfaces, and a smooth and quiet ride. Tire manufacturers work continually to develop newer and improved safety features. The tread life of a tire has increased dramatically over the years, and the run-flat system is one of the newest safety features developed for tires.

Michelin and Goodyear have both introduced Radio Frequency Tire Identification (RFID). The Michelin system utilizes a tiny transponder cured directly into the tire. The transponder can store vital tire identification information such as when the tire was made, the maximum inflation pressure, tire size, and the vehicle identification number of the vehicle on which it is mounted. Goodyear's TireIQ system relays specific tire information to drivers through the computer chip and sensor built into the tire. This system will warn the driver when improper inflation is detected. Goodyear is also looking at using the RFID system in its supply-chain operations by being able to track exactly where each tire is at all times. To insure consumer privacy, the RFID would be disabled at the point of sale.

Nokian Tyres of Finland has developed an all-weather tire that incorporates what they call their "driving safety indicator." This indicator is a series of numbers that are siped down the center of the tread. The numbers indicate the depth of remaining tread. For example, when the tire is new you will see the numbers eight, six and four on the tire. As the tread wears, the number eight will disappear, followed by the six and so on.

⁹National Transportation Statistics 2003, Bureau of Transportation Statistics, Table 2-30.

¹⁰Click It or Ticket/Operation ABC Press Release, May 2004.

¹¹National Transportation Statistics 2003, Bureau of Transportation Statistics, Table 2-30.

A 2004 survey, conducted by the Rubber Manufacturers Association, shows that two out of three drivers still do not know how to tell if their tires are bald.¹² A bald tire is defined as a tire with only 2/32 of an inch of remaining tread depth.¹³ According to NHTSA, nearly one in 10 vehicles on the road have at least one bald tire.¹⁴ NHTSA projects that in 2003 there were 230,199,000 registered vehicles.¹⁵ That translates into nearly 23 million vehicles with at least one bald tire—a tire that is unable to function well in wet road conditions, a tire that is susceptible to puncture and blow out, and a tire that has a higher chance of being under-inflated. This is a dangerous situation that must not be ignored.

Smart Tread's solution is very simple and it will be extremely effective. Utilizing existing technology, we propose to embed color directly into the tire tread. This can be done at any depth, but we recommend placing a yellow strip at 4/32 of an inch. This "warning" color will visually appear when the tread reaches that particular depth. The driver does not need to measure tread depth, because the color will automatically appear. At this point the driver knows to slow down and allow more time for stopping in wet road conditions. When the warning color emerges, some drivers may decide to go ahead and replace their tires depending on the time of year and their anticipated driving needs. Following this yellow warning, a red ply would be inserted at 2/32 of an inch—the point at which the tire is bald and no longer safe to be on the road.

This simple warning system will go a long way toward making our roads safer from tire blowouts and hydroplaning accidents.

As I mentioned earlier, the technology already exists to utilize this color scheme. Michelin currently makes a tire for use on F5 and F16 Fighter jets. A red ply is inserted in various layers of this tire—which layers receive the red ply depend on the model of aircraft and the function of the tire (nose tire or main tire). When the color is visible, the ground crew knows to replace the tire.

BF Goodrich produces a tire they call the "Scorcher." This boutique tire has tread available in black, yellow, red or blue. BF Goodrich has also developed prototype tires for General Motor Corporation's Hummer vehicle that incorporates the use of color in the tread. The H3T prototype tire features a red line down the center that is designed for improved traction.

In October 2001, JK Tyre of India launched an "eco-friendly" silica radial tire. The tire is called "eco-friendly" because silica lowers rolling resistance, which results in higher fuel efficiency. As part of its branding effort for this tire, JK Tyre uses green colored tread blocks in the tread. JK Tyre also attributes longer durability to the use of hyper bonding silica technology. These tires are currently on the market in India.

Clearly, the technology is available to implement this simple safety feature for visually identifying tread wear. Smart Tread has been working with the Akron Rubber Development Lab (ARDL) to build sample tires for visual demonstration and testing. As you have seen in our presentation, tires with embedded color have been produced and initial testing results have demonstrated that tires with the universal tread wear identification system we propose perform as well as current black carbon tires. Of course, more study is needed and Smart Tread will work closely with NHTSA and the industry to ensure that the highest standards are met.

When someone dies in a vehicle accident, no matter the cause, it is devastating to those left behind. Mr. Chairman, just recently in Oregon, five members of a family were tragically killed when the right rear tire on their car blew out. The out-of-control car careened into the path of an oncoming pickup truck. All five were pronounced dead at the scene. The family had been on an outing to pick up Easter supplies for their church. Killed in the accident were a 60-year-old woman, her 25-year-old daughter, two granddaughters who were 18 and two, and a three-year-old great-granddaughter.¹⁶

Last September, on Oregon State Highway 38 near Roseburg, a tanker containing more than 11,000 gallons of gasoline blew a tire, igniting a fire and stopping traffic for over two hours. Thankfully, there were no injuries.¹⁷

Could these tire blowouts have been avoided? Possibly.

These tragic stories are not limited to Oregon, but indeed can be found throughout the country. The tragedies described below highlight the danger related to blowouts and hydroplaning—which in many cases are attributed to insufficient tread.

¹²RMA Tire Safety Fact Sheet 2004.

¹³DOT HS 809 359, October, 2001.

¹⁴DOT HS 809 359, October 2001.

¹⁵NHTSA 2003 Early Assessment Estimates of Motor Vehicle Crashes.

¹⁶*The Columbian*, pg. C2, April 13, 2004.

¹⁷Associated Press Newswires, September 9, 2003.

- In February, the *Topeka Capital Journal* described the testimony of Ron Alexander in front of the State Senate Transportation Committee. Alexander's 15-year-old daughter was killed in 1998 when the church van in which she was riding blew a tire and rolled three times on Interstate 70 near Junction City.¹⁸
- The *Chicago Daily Herald* reported that an Aurora woman was killed and a Batavia woman was hospitalized when one of the cars hydroplaned on a wet road, spun out of control and crashed into the other car.¹⁹
- A 19-year-old was killed and two 18-year-olds were injured recently in Schaumburg, Illinois when their car hydroplaned on the wet street and crashed into a traffic light pole.²⁰
- Last September, the *Las Vegas Sun* described how a truck carrying fertilizer and diesel fuel spilled its potentially explosive cargo along Interstate 15 in Nevada, forcing officials to close the highway for six hours. The truck crashed after the driver's side front tire blew out.²¹ Although there were no injuries in this accident, the potential for a catastrophic disaster from the explosive nature of the spilled cargo became appallingly clear.
- Nearly a year ago a Las Vegas woman lost control of her van north of Barstow, California when a tire blew out. Her 8-year-old passenger was killed in the rollover accident. Traffic on Interstate 15 was backed up four to six miles in each direction.²²
- A May 7, 2004 article, from *The Press Enterprise*, describes the death of a 56-year-old businessman less than one mile from his home. A rear tire blew out causing the car to roll.²³ He was pronounced dead at the scene.
- Last month, The *Los Angeles Daily News* described an accident that left a 14-year-old boy dead. The boy was in a minivan bound for Magic Mountain when a tire blew causing the van to roll. Also injured in the accident were three teenage girls.²⁴
- Two weeks ago, a Florida newspaper chronicled the lives of two high school students who, a year ago, were involved in a rollover crash as a result of a blown tire. The SUV they were riding in rolled six to eight times. The driver, one of their friends, was killed in the accident and both boys suffered extensive injuries.²⁵
- A Washington state jury issued a multi-million dollar award to a family whose minivan tire blew out, causing the van to roll in an accident eight years ago near Chehalis. The jury decided that the maker of the tire, Michelin, was not at fault for the tire blow out. Instead, the jury found against the father, who was "negligent in failing to maintain the tire in proper working order." The man's Canadian insurance company is liable for the judgment. The blown out tire resulted in extensive injuries to the five children and two parents in the van.²⁶
- A Port Townsend woman was killed on Interstate 5 near Mayton, Washington when her station wagon veered across the median into oncoming traffic. A tractor-trailer smashed into her car and split the vehicle in two. State Patrol investigators suspect the woman lost control of her car when it hydroplaned on the wet road. Three others were injured in the accident.²⁷
- In Lebanon Township, New Jersey an 18-wheeler crossed the I-78 median into oncoming traffic where it struck a car and knocked another tractor-trailer into the woods. The November 2002 accident was caused by a tire blowout and the truck driver was killed.²⁸
- In Arizona, a tire blowout accident on Interstate 19 left a 10-year-old girl dead, and her father with internal injuries. The left rear tire of the family's Ford SUV blew out causing the SUV to roll.²⁹

¹⁸ *IHTopeka Capital Journal*, pg. C3, February 25, 2004.

¹⁹ *Chicago Daily Herald*, pg. F3, March 27, 2004.

²⁰ *Chicago Daily Herald*, Cook, Lake, pg. 3, March 6, 2004.

²¹ *Las Vegas Sun*, pg. 2, September 17, 2003.

²² *The Press Enterprise*, pg. B6, August 3, 2003.

²³ *The Press Enterprise*, pg. B3, May 7, 2004.

²⁴ *Los Angeles Daily News*, pg. AV1, April 26, 2004.

²⁵ *Sarasota Herald-Tribune*, pg. C1, May 18, 2004.

²⁶ *Vancouver Sun*, pg. B1, April 24, 2004.

²⁷ *The Olympian*, pg. B1, November 20, 2003.

²⁸ *Courier News*, pg. B2, April 14, 2004.

²⁹ *The Arizona Daily Star*, pg. B4, April 16, 2004.

- In February a 19-year-old Army Reservist was killed after a tire on the Humvee in which she was riding blew out causing the vehicle roll on Interstate 10 in Tucson, Arizona. The vehicle then burst into flames.³⁰
- In 2000, eight people died on Interstate 26 near Chapin, South Carolina when a delivery truck blew a tire and veered across the median into a sport utility vehicle packed with people headed for vacation.³¹

These are the tragedies that must compel us toward a standardized visual tread wear identification system—a system that is uniform and easy for all to understand.

Over the course of the past nine months we have shared our vision with a number of businesses, associations and elected and appointed officials. We have spoken to Secretary of Transportation Norman Mineta, NHTSA Administrator Dr. Jeffrey Runge, key leaders in the tire and auto industry and a number of other organizations. We shared our unique idea with these groups and discussed ways in which we can make even more progress in eliminating highway deaths and injuries. We look forward to a continued relationship with the tire and auto industry as we jointly strive to enhance the safety of America's roads.

Smart Tread's ultimate goal is the same as so many others here today—to save lives and reduce injuries on our nation's roadways. This hearing moves us toward that goal and we are incredibly thankful to share our vision with you.

We thank you, again, for this opportunity to present our idea to you today.

Senator SMITH. Bruce, the yellow knobs are the top of the tread, right?

Mr. STARR. That's correct. This tire is one, it's a prototype that we had built, and it's worn down to show the yellow color, much like it would be if our technology was adopted. It's pretty clear when you look at it.

[Yellow color on tire is shown here.]

Senator SMITH. It really is. Can a consumer figure out that the tire's not inflated right by that, or out of alignment, and what does that mean for mileage?

Mr. STARR. Absolutely. This is another benefit of this idea is as a tire wears, you can see certain things about your car, whether the car is out of alignment, whether your tires are overinflated or underinflated just based on the way that the tire wears, and this would be another positive benefit of having this kind of innovation in tires.

Senator SMITH. I don't know a lot about rubber, but is there a different type of rubber color, and is there any splitting or any safety issue using different colors?

Mr. STARR. That's an outstanding question, Senator, and what we have is we have examples today of tire manufacturers that have used color in tires today. Mostly they used colored silica-based rubber, and because we have the examples of what tire manufacturers are already doing, we know that this kind of process can work. The tires that our manufacturers have out there today obviously meet Department of Transportation standards.

We're suggesting that they use the technology in a way that would benefit the driving public so that everyone would know when their tires aren't safe. Two examples quickly. Michelin has a tire that they've manufactured for aircraft, and what that is, is they have a layer of red rubber when the tire wears. They know that they see the red, the tire's ready to be replaced. B.F. Goodrich as well has a tire called the "Scorcher" that has colored rubber run-

³⁰*The Tucson Citizen*, pg. 1A, February 9, 2004.

³¹*Sun-News*, TSN, pg. 4, July 24, 2003.

ning vertically through the tire. These are just two examples of tire manufacturers that are using colored rubber in their tires.

Senator SMITH. Very good. Thank you, Bruce.

Mr. STARR. Thank you.

Senator SMITH. Mr. Strassburger.

**STATEMENT OF ROBERT STRASSBURGER, VICE PRESIDENT,
SAFETY AND HARMONIZATION, ALLIANCE OF AUTOMOBILE
MANUFACTURERS (ALLIANCE)**

Mr. STRASSBURGER. Thank you, Mr. Chairman. I'll try to be brief with my statement.

Senator SMITH. You don't need to be anymore. I have been spared presiding at 4. I mean, I don't think you want to be here all afternoon, but you don't need to be in as big a rush, so it's still probably advisable to say what you need to without going too long.

Mr. STRASSBURGER. OK, thank you. Today we can be proud that consumers are benefiting from the greatest array of vehicle safety features in history. In stark contrast to 40 years ago when the Safety Act was first passed, consumers care more about safety and there now exists a tremendous demand for ever safer vehicles. Today, safety sells.

According to J.D. Power and Associates, 9 out of the top 10 feature most desired by consumers in their next new vehicle are designed to enhance safety. Manufacturers are responding to this increased demand across their entire product lines. Each new model year brings safety improvements in vehicles of all sizes and types. In fact, in 2003, the fatality rate was at an all-time low.

Advancing motor vehicle safety remains a significant public health challenge, one that auto makers are addressing daily. Alliance members make huge investments in safer vehicle design and technology. Last year, before this committee I testified that the Administrator of NHTSA had challenged us to address the issue of crash compatibility quickly, and we did. Alliance members are already implementing a multi-phase program for enhancing the crash compatibility of passenger cars and light trucks. This program, developed by an international group of safety experts, will lead to significant improvements in vehicle occupant protection. It will be fully implemented by 2009.

Now let me turn to the matter at hand, the status and the effectiveness of the TREAD Act. The core element of the TREAD Act is Section 3, which includes early warning reporting requirements. NHTSA's early warning rule requires manufacturers to submit certain information and documentation to help identify defects related to motor vehicle safety. Auto makers have invested tens of millions of dollars each in specially designed computer systems to implement the early warning rule.

In addition, teams of employees within each company are now assigned to gather, process, and review substantial quantities of data to prepare the required reports. Estimates are that thousands of companies must comply with the data reporting requirements. On a quarterly basis, auto makers must submit the required information to NHTSA covering each vehicle sold. The data must be sorted and filed in the manner specified by the agency. The data to be recorded include: deaths and injuries, warranty claims and

goodwill adjustments, customer complaints, field reports, and property damage claims.

The information to be reported is not limited to U.S. data. Manufacturers are also required to report information about foreign fatality claims involving vehicles that are identical or substantially similar to vehicles sold in the United States. To date, manufacturers have submitted three-quarters of data covering the period July 2003 through March 2004.

In addition, this past January, automakers submitted a one-time historical report consisting of 12 quarterly reports covering the period of July 2000 through June 2003. Thus, NHTSA's early warning system now contains 15 consecutive quarters of data, nearly 4 years' worth.

However, the usefulness of this data to help determine the existence of a safety defect must be put into perspective. Studies have shown that vehicle factors contribute far less often to crashes than do human or roadway environmental factors. Thus, the early warning data only addresses a small portion of crashes. Providing data is only one step to improving vehicle safety. Analysis of the data and further investigation is necessary to determine if a safety defect exists.

The Alliance understands that substantial quantities of data, including information on fatalities and injuries, will be available to the public through the NHTSA website. Automakers are also submitting some proprietary and competitive information.

The Alliance agrees with NHTSA that the TREAD Act did not create a categorical exemption under the Freedom of Information Act preventing the disclosure of early warning data. Should the agency decide to open a defect investigation as a result of its review of early warning data, we understand NHTSA will make the relevant portion of the early warning data available as part of its public file.

Finally, NHTSA has announced that it will review the early warning program in 2005 after it has been operational for 2 years. We support this plan and we will cooperate with the agency's review to identify opportunities for improvement.

Mr. Chairman, that concludes my statement.

[The prepared statement of Mr. Strassburger follows:]

PREPARED STATEMENT OF ROBERT STRASSBURGER, VICE PRESIDENT OF SAFETY,
ALLIANCE OF AUTOMOBILE MANUFACTURERS (ALLIANCE)

Thank you Mr. Chairman. My name is Robert Strassburger and I am Vice President of Safety at the Alliance of Automobile Manufacturers (Alliance). I am pleased to be afforded the opportunity to offer the views of the Alliance at this hearing. The Alliance is a trade association of nine car and light truck manufacturers including BMW Group, DaimlerChrysler, Ford Motor Company, General Motors, Mazda, Mitsubishi Motors, Porsche, Toyota and Volkswagen. One out of every 10 jobs in the U.S. is dependent on the automotive industry.

Significant Progress Has Been Made to Reduce Fatalities and Injuries from Motor Vehicle Crashes, but Challenges Remain

Over the past 20 years, significant progress has been made in reducing the traffic fatality rate. In 1981, the number of fatalities per 100 million vehicle miles traveled stood at 3.17. By 2003, this rate had been driven down by 53 percent to 1.50 fatalities per 100 million vehicle miles traveled. The level of competitiveness among automakers, which key industry observers have described as "brutal," has helped to ac-

celerate the introduction of safety features ahead of regulation further aiding in the progress made.

Product safety is now an area in which manufacturers compete and seek competitive advantage. Safety “sells” and manufacturers are leveraging their safety performance in an effort to distinguish their products from competitors. According to the J.D. Power and Associates 2002 U.S. Automotive Emerging Technologies study, nine of the top 10 features most desired by consumers in their next new vehicle are designed to enhance vehicle or occupant safety and manufacturers are responding to this increased consumer demand for safety across their entire product line.

Despite the progress made, however, data show that 43,220 people lost their lives on U.S. highways in 2003 and almost 2.9 million were injured. Tragically, 58 percent of vehicle occupants killed in crashes were not restrained by safety belts or child safety seats. Alcohol was a factor in 40 percent of all fatalities. This is unacceptable. As a nation, we simply must do better.

The Alliance and our members are constantly striving to enhance motor vehicle safety. And, we continue to make progress. Each new model year brings safety improvements in vehicles of all sizes and types. But, vehicle factors contribute less often to crashes and their subsequent injuries than do human or roadway environmental factors. We will never fully realize the potential benefits of vehicle safety technologies until we get vehicle occupants properly restrained and impaired drivers off the road.

Alliance Members Are Vigorously Pursuing Safety Advancements, Collectively and Individually

Advancing motor vehicle safety remains a significant public health challenge—one that automakers are addressing daily, both individually and collectively. Alliance members make huge investments in safer vehicle design and technology. And they not only meet, but exceed motor vehicle safety standards in every global market in which vehicles are sold. Many safety features currently available on motor vehicles in the U.S. were implemented ahead of regulation. A partial list of voluntarily installed advanced safety devices, without or prior to regulation, is attached. *See Attachment 1.*

The Alliance is pursuing a number of initiatives to enhance safety. We have redoubled our activities to collectively address light truck-to-car crash compatibility. On February 11–12, 2003, the Alliance and the Insurance Institute for Highway Safety (IIHS) sponsored an international meeting on enhancing vehicle-to-vehicle crash compatibility. Immediately thereafter, the Alliance and IIHS sent NHTSA Administrator Runge a letter summarizing the results of this meeting, and indicating the industry planned to develop recommendations that auto companies could take to enhance crash compatibility.

Ten months later, on December 2, 2003, we delivered to NHTSA a multi-phase program for enhancing the crash compatibility of passenger cars and light trucks. This program was developed by an international group of safety experts. At the same time, we also delivered to NHTSA a commitment made on behalf of the world’s automakers to design cars and trucks according to the performance criteria specified in the group of experts’ program. This commitment will lead to significant improvements in the protection afforded to occupants in crashes. It is the most comprehensive voluntary safety initiative ever undertaken by automakers.

For the North American market, front-to-side crashes, where the striking vehicle is a light truck or sport utility vehicle (SUV), represent a significant compatibility challenge. We are placing a high priority on enhancing head protection and our efforts have led to head protection air bags that auto manufacturers are incorporating in their vehicles. We are now working on evaluation criteria to drive improvements in car side structures to reduce side impact intrusion.

For front-to-front crashes, the program sets criteria to enhance the alignment of front-end energy absorbing structures of vehicles. Manufacturers are improving compatibility by modifying light truck frames. The voluntary program governs structural alignment for the entire light-duty vehicle fleet and provides an industry-wide approach to frontal crash compatibility. The next phase of this program covers the development of a crash test procedure for assessing the crash forces that light trucks may impose on cars in frontal crashes. This procedure is expected to result in a comprehensive approach to measuring and controlling these frontal crash forces. We will also develop state-of-the-art test procedures for measuring and controlling the frontal stiffness characteristics of passenger cars and light trucks.

These efforts to develop voluntary standards for crash compatibility and the commitment to design vehicles in accordance with them, are a model for voluntary industry action. These programs have proven to be a very effective way to bring significant safety improvements into the fleet faster than has been historically possible

through regulation. The voluntary standards process also has the flexibility to produce rapid modifications should the need arise.

The benefits of this voluntary approach is validated by the report, *Recommended Procedures for Evaluating Occupant Injury Risk From Deploying Side Airbags*, finalized by the industry in August 2000. In response to concerns about potential injury to out-of-position (OOP) women and children from deploying side airbags, the Alliance, the Association of International Automobile Manufacturers (AIAM), the Automotive Occupant Restraints Council (AORC), and IIHS formed a joint working group that developed test procedures with injury criteria to ensure that the risk of injury to OOP occupants from deploying side airbags would be minimized. Now, just 3 model years later, 60 percent of Alliance member company side airbags have been designed in accordance with the agreement.

These *Procedures* were also used by Transport Canada as the basis for a Memorandum of Understanding (MOU) between automobile manufacturers and the Canadian government.

Another Alliance initiative is examining how to further reduce the frequency and consequences of rollover. Rollovers represent a significant safety challenge that warrants attention and action. Alliance efforts to reduce the frequency and consequences of rollover involve passenger cars as well as SUVs, vans, and pickup trucks. Our efforts include developing a handling test procedure or recommended practice that will focus on an assessment of the performance of electronic stability control systems and other advanced handling enhancement devices. A typical rollover is one in which the driver becomes inattentive or distracted, loses control of the vehicle, and then strikes something that trips the vehicle, causing it to roll. Electronic stability control systems are designed to help drivers avoid trouble in the first place. However, these systems will not eliminate rollovers. For this reason, the Alliance is also examining ways to enhance rollover occupant protection in the event a rollover occurs. We are examining how injuries occur in rollover crashes and are assessing the feasibility of test procedures designed to further reduce the risk of occupant ejection in rollover crashes.

Alliance members are also individually pursuing initiatives to enhance motor vehicle safety. One such initiative that has received widespread support is the installation of vehicle based technologies to encourage safety belt usage. Preliminary research on one system deployed in the United States by one Alliance member found a statistically significant 7 percent increase in safety belt use for drivers of vehicles equipped with that system compared with drivers of unequipped vehicles. NHTSA estimates that a single percentage point increase in safety belt use would result in 250 lives saved per year. Beginning in model year 2004, all members of the Alliance began deploying various vehicle-based technologies to increase safety belt use. The rollout of these technologies will continue over the next few model years. These actions—in addition to saving lives—will provide valuable field experience concerning effectiveness and acceptability of a range of safety belt use inducing systems. The experience gained will ultimately lead to future systems with enhanced effectiveness.

Implementation of the Transportation Recall Enhancement, Accountability, and Documentation Act

The Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, Pub. L. 106-414, November 1, 2000, required the Secretary of Transportation to conduct a number of rulemaking actions, as well as several studies and reports, to address concerns that were raised in the fall of 2000 on the safety of Firestone tires. Implementing the Early Warning reporting requirements, Section 3(b), Pub. L. 106-414, is widely perceived as the core element of the TREAD Act. All Alliance members have cooperated with NHTSA on this rulemaking and have worked diligently to meet the requirements of the resulting Early Warning rule. Automakers have invested tens of millions of dollars each in specially designed computer hardware and software to implement the Early Warning system. In addition, teams of employees within each company have been assigned to gather, process and review substantial quantities of data to prepare the required reports covering the past three years. Estimates are that more than 1,000 companies must comply with the extensive data-reporting requirements that apply to auto, truck and bus manufacturers, and another 23,000 auto suppliers must comply with limited reporting requirements. NHTSA's Early Warning system is a massive database, larger than the IRS and is exceeded only by the U.S. military database. For example, automakers handle more than 100 million warranty claims alone in each year, and most of these must be categorized, counted and reported according to NHTSA's rule.

On a quarterly basis, automakers and parts suppliers must submit certain data to NHTSA. The data that automakers are required to gather during a reporting

quarter include the counts of (a) warranty claims and goodwill adjustments; (b) customer complaints; (c) field reports; and (d) property damage claims. For each make, model and model year of motor vehicle manufactured for sale, for the current and past nine model years, the data must be sorted and filed in the manner specified by NHTSA. Quarterly reports must also include production counts for each make, model and model year, as well as information about injury and fatality claims and notices received during the quarter. The data is not limited to U.S. data. Manufacturers are required to report information about foreign fatality claims involving vehicles that are identical or substantially similar to the vehicles offered for sale or lease in the U.S.

To date, manufacturers have submitted three quarters of data to NHTSA covering the period July 2003 through March 2004. In addition, in January 2004, automakers submitted to NHTSA a one-time historical report consisting of 12 quarterly reports covering April 2000 through June 2003.

Early Warning Data Indicate Areas for Additional Research and Investigation

Providing data is only one step to improve vehicle safety. Analysis and investigation of the data is critical to identifying possible problems. To put crash causation factors in perspective the United States General Accounting Office (GAO) found that, *“human factors were definite or probable causes in about 93 percent of crashes, while environmental and vehicle factors contributed to about 33 and 13 percent respectively.”* Further the GAO says, *“. . . it is generally shown by data and studies and believed by experts that vehicle factors contribute less often to crashes than do human or roadway environmental factors.”* Therefore, the Early Warning data addresses only a very small portion of crashes. The massive amount of Early Warning data must be analyzed to determine if a safety defect exists.

For example, a large number of claims related to a particular TREAD reporting category does not necessarily indicate a safety concern. For instance, a large number of complaints may be logged against the brake system for a particular vehicle, but if 95 percent are related to brake dust (dirty tire rims), the raw number of complaints does not indicate a potential safety concern.

Another reason for careful examination of the data is that it does not lend itself to inter company comparisons, since different manufacturers record and maintain data differently. For example, Manufacturer A may account for warranty repairs at the labor operation code level, so that multiple warranty claims are paid for a single repair based on the individual service operations performed. Meanwhile, Manufacturer B may pay warranty claims submitted by dealers based on the parts that are repaired or replaced. In this example, Manufacturer A may well “count” far more warranty claims than Manufacturer B, since more individual operations would generally be performed than the number of parts replaced for a single repair. That could make it appear as though Manufacturer A’s products exhibit lower quality, when, in fact, Manufacturer B true warranty repair count could be as high or even higher than Manufacturer A.

Even within a single manufacturer’s reports, different operations may record and maintain data differently. For example, a vehicle with a longer manufacturer’s limited warranty period may have more warranty claims reflected over its life than a vehicle with a shorter warranty. Therefore, the ability to compare between different vehicles even within a single manufacturer’s report will be somewhat limited.

NHTSA Will Release Early Warning Data to the Public as Appropriate

The Alliance understands that substantial quantities of data, including information on fatalities and injuries, will be available to the public through NHTSA’s website. Automakers are submitting some proprietary and competitive information to NHTSA for its review and if necessary for further investigation. This compendium of data should receive confidential treatment for several reasons.

According to a study by Auto Pacific, the harmful effects of not treating the compendium of Early Warning data as confidential follows:

- It is well known that auto manufacturers and component manufacturers closely guard their warranty data for competitive product design and pricing reasons. Public availability of this data, used correctly or incorrectly, could seriously affect, either positively or negatively, the market for specific vehicles, and for both OEM and aftermarket components.
- Actual working experience at various automotive companies confirms that comparative component warranty experience, reliability experience, and durability experience strongly influences component pricing and sourcing decisions. Relatively favorable reported comparative data could be expected to positively af-

fect sourcing decisions and pricing negotiations, while relatively unfavorable reported data could result in loss of business or reduced component pricing, for example. In addition, if one original equipment manufacturer purchases a component and obtains field experience with that component, it can be expected to use that information to make decisions about future purchases and the price it will pay. Providing that field experience to other manufacturers effectively gives them a “free ride” at the expense of the first manufacturer.

- The availability of vehicle manufacturers’ experience with warranty claims at the component level could be of significant value to component manufacturers as they prepare their bids for new business, plan their new business marketing strategies, and estimate the likely costs and pricing positions of the vehicle manufacturers, with whom the component manufacturers may compete for aftermarket parts sales. Knowing the vehicle manufacturers’ warranty claims experience at the component level could be very useful in helping to identify component markets worth targeting, to the competitive detriment of the vehicle manufacturers.

The Alliance agrees with NHTSA that if the agency decides to open a defect investigation as a result of its review of Early Warning data, that NHTSA will ordinarily make the relevant portion of the Early Warning data available as part of the public file on the investigation.

For the same reasons that NHTSA is granting confidentiality to some of the Early Warning data it would not be beneficial to the public to allow access to all of the Early Warning data. When NHTSA decided to protect some of the Early Warning data from public disclosure, NHTSA recognized that the simple comparisons of data from different companies could be misleading to consumers and competitively harmful to submitting manufacturers, for the reasons described above.

NHTSA has recognized that there is not sufficient detail in the Early Warning reports to allow meaningful conclusions to be drawn simply from the data. The Early Warning data is a starting point, not an ending point for an investigation. NHTSA will review the Early Warning reports and, in some cases, the underlying data, and then decide whether a formal defect investigation would be appropriate. Given its resources and expertise, NHTSA is uniquely positioned to understand the data and provide a robust analysis.

One last point, the TREAD Act provided additional funding for NHTSA. NHTSA’s Office of Defects Investigation (ODI) has hired 18 additional staff—a 39 percent increase—to help carry out its mission. The NHTSA Administrator has testified before the Subcommittee on Commerce, Trade and Consumer Protection of the House Energy and Commerce Committee that the agency has adequate resources in this area. We agree.

NHTSA has announced an intention to review the Early Warning program in 2005 after it has been functioning for two years. We support this plan, and intend to cooperate with the agency’s review to identify opportunities for improvement.

ATTACHMENT 1

“VOLUNTARILY INSTALLED SAFETY DEVICES”

A partial list of voluntarily installed advanced safety devices (w/o or prior to regulation)

Crash Avoidance Advances

Tire/suspension optimization
 Automatic brake assist
 Electronic stability controls to help drivers maintain vehicle control in emergency maneuvers
 Anti-lock brakes
 Traction control
 Obstacle warning indicators Active body control Intelligent cruise control
 Convenience controls on steering wheel to minimize driver distraction
 Automatic obstacle detection for sliding doors on minivans
 Head-up displays
 Child-proof door locks
 Automatic speed-sensitive door locks

Vision

Automatic dimming inside mirrors to reduce headlamp glare
 Heated exterior mirrors for quick deicing

Rear defrost systems, wipers
 Headlamp wiper/washers
 Automatic-on headlamps
 Automatic-on headlamps when wipers are used
 Infinitely variable wiper (only 2 req'd by regulation)
 Night vision enhancements
 Advanced lighting systems
 Right side mirrors

Crashworthiness Advances

Side air bags for chest protection
 Side air bags for head protection that reduce ejection
 Rollover triggered side/curtain air bags
 Advanced air bags (*e.g.*, dual stage inflators) several years in advance of regulatory requirements)
 Safety belt pre-tensioners
 Rear center seat lap/shoulder belts
 Load-limiting safety belts to reduce chest injuries
 Improved belt warning indicators
 Rear seat head restraints
 Integrated child seats
 Anti-whiplash seats
 Breakaway mirrors for pedestrian protection

Post Crash

Automatic notification to emergency providers during air bag deployment

Senator SMITH. You indicate pretty strongly you don't share the accusations of the consumer groups as to how you're treated in terms of ARTEMIS.

Mr. STRASSBURGER. That's correct. We don't.

Senator SMITH. Can you explain again your view of the tire pressure monitor issue? What's the appropriate outcome of a new NHTSA rulemaking?

Mr. STRASSBURGER. Sure. It was our position that when the TPMS requirements were first passed under the TREAD Act that essentially the Act was ratifying already actions that vehicle manufacturers were already taking to introduce TPMS systems. There are two types: indirect systems and direct systems. Our own analysis shows that both systems are able to provide comparable safety benefits, and on that basis we thought both systems should be allowed as compliance options.

Senator SMITH. As an Alliance, do you do any work with state legislatures to promote seatbelt usage or law?

Mr. STRASSBURGER. Yes, we do.

Senator SMITH. And with the issue of technology being key at this hearing, I know that the automobile manufacturers are perpetually focusing on new, innovative technologies to increase the safety of their vehicles. Can you tell us about some of the innovation that's currently being pursued and how it may help us build upon the TREAD Act?

Mr. STRASSBURGER. Sure. There are a number of—in fact, the vast majority of safety advancements over the years are actions that have been voluntarily taken by manufacturers without regulation, and in my written statement I include a list of those technologies.

A number of technologies that are emerging now that you're seeing that show great promise, for example, are such things as electronic stability control to help people maintain control of their vehicles so they don't get into situations that might actually lead to

rollovers. But if indeed there is a rollover, manufacturers are now also introducing enhanced head protection, air bags, and rollover curtains to help protect occupants in rollover crashes.

The list could go on and on in terms of including enhanced vision systems, other enhanced occupant protection systems, et cetera.

Senator SMITH. Thank you very much, Mr. Strassburger. Mr. Shea.

**STATEMENT OF DONALD B. SHEA, PRESIDENT AND CEO,
RUBBER MANUFACTURERS ASSOCIATION**

Mr. SHEA. Good afternoon, Mr. Chairman, and thank you. My name is Donald Shea and I serve as President of the Rubber Manufacturers Association. I've submitted written testimony to the Committee and I ask that it be included in the record.

Senator SMITH. We will include it.

Mr. SHEA. Thank you. Mr. Chairman, as you know, implementation of the TREAD Act is well underway. This historic and far-reaching legislation has had a profound impact on the tire industry. RMA and its members supported enactment of the TREAD Act and have provided extensive input to NHTSA throughout several rulemaking processes. I should note that NHTSA has expended enormous efforts in promulgating the rules called for under this legislation.

As we near the end of this process, the tire industry wishes to bring to your attention issues that will help ensure that this important safety measure will be fully and fairly implemented. A complete enforcement, compliance, and auditing program is necessary to ensure that the TREAD Act works as intended.

RMA members have invested significant resources to comply with new rules. Those who comply will be at a stark disadvantage if other companies escape these requirements. The early warning reporting system is a first-of-its-kind program designed to help regulators and industry spot potential performance issues. Each year, tire manufacturers alone will report over 1 million pieces of data to NHTSA about our products. Any company failing to comply with this rule not only escapes the cost of compliance, but puts lives at risk by denying regulators information that may signal an emerging safety problem.

Tire testing standards also will require a compliance program. RMA members alone will spend \$1.6 billion to comply with this rule in the first year alone. Tire manufacturers who avoid compliance would have a significant cost advantage over companies that adhere to the rule. More importantly, new tires that do not conform to the revised testing standards will not give consumers the benefit of more robust performance these new standards demand.

RMA urges Congress to set aside adequate funding for compliance and auditing work on early warning reporting and tire testing, and we'd welcome the opportunity to work with this committee and NHTSA to establish an appropriate, cost-effective program of enforcement.

In addition to compliance issues, the tire industry is faced with other matters. This industry has expended considerable resources to meet the new standards which are the most stringent anywhere in the world. New tire-related measures have been included in a

NHTSA reauthorization bill. While we support fully the intent to address tire safety, RMA does not believe that these provisions are necessary at this time. Why? One provision calls for an accelerated aging test requirement. NHTSA is already addressing this issue. RMA and the auto industry are working to design a science-based accelerated aging test for tires. NHTSA should consider this work and thereafter on its own develop the appropriate test method and time line, thereby precluding the need for a new mandate.

Other provisions for new strength and bead unseating tests will not assist the agency in assessing radial tire performance. NHTSA postponed consideration of these tests because the agency concluded that more research is necessary before adopting new or revised standards.

I should also note that some TREAD Act issues have not been fully resolved. RMA filed timely petitions for reconsideration for several TREAD Act rules. We continue to await a response to our petition on tire testing and we hope that NHTSA will respond soon and accept our recommendations.

Finally, in July 2002, RMA petitioned NHTSA to establish a tire pressure reserve based on the minimum pressure required to carry the vehicle maximum load. RMA's proposal would require that tires have a sufficient reserve inflation pressure so that a tire pressure monitoring system will warn motorists before tires are operated at inflation pressures below tire industry load pressure specifications. RMA urges NHTSA to accept this petition so that all interested parties can formally register their views with the agency.

Mr. Chairman, I wish to thank you for the opportunity to provide these comments, and I'll be pleased to respond to any questions.

[The prepared statement of Mr. Shea follows:]

PREPARED STATEMENT OF DONALD B. SHEA, PRESIDENT AND CEO,
RUBBER MANUFACTURERS ASSOCIATION

Executive Summary

The Rubber Manufacturers Association (RMA) represents every major domestic tire manufacturer including Bridgestone Americas Holding, Inc., Continental Tire North America, Inc., Cooper Tire & Rubber Company, The Goodyear Tire and Rubber Company, Michelin North America, Inc., Pirelli Tire North America Inc., and Yokohama Tire Corporation. RMA and its members share NHTSA's goal of safer highways for the traveling public. RMA and its members have worked extensively with NHTSA on issues of tire safety, tire performance reporting, and consumer information. While rulemakings have been completed on all of the issues mandated by the TREAD Act except tire pressure monitoring and testing for commercial truck tires, RMA believes that there are significant challenges facing the agency and the industry.

- It is important for NHTSA to make clear its position on a number of issues associated with final TREAD Act rulemakings. These include new regulations dealing with Tire Labeling and Tire Testing.
- RMA recommends that Congress set aside sufficient funding for enforcement, compliance, and auditing systems for early warning reporting and tire testing. RMA would welcome the opportunity to work with this Committee and NHTSA to establish an appropriate and cost-effective program of enforcement and auditing.
- RMA does not favor the tire related provisions in the Senate NHTSA Reauthorization bill. We will be happy to work with Congress on any provisions to enhance tire safety that are based on sound science and are cost effective.

Written Statement

The Rubber Manufacturers Association (RMA) is the national trade association for the tire and rubber products manufacturing industry. RMA represents more than 120 companies that manufacture various rubber products. These member companies include every major domestic tire manufacturer including Bridgestone Americas Holding, Inc., Continental Tire North America, Inc., Cooper Tire & Rubber Company, The Goodyear Tire and Rubber Company, Michelin North America, Inc., Pirelli Tire North America Inc., and Yokohama Tire Corporation. RMA is pleased to submit these comments on the status of Transportation Recall Enhancement, Accountability and Documentation (TREAD) Act.

The tire industry is an integral part of the Nation's economy and transportation system. In 2003, RMA members manufactured over 230 million tires in the United States. In this country, RMA tire manufacturing members operate 36 manufacturing facilities and employ almost 50,000 workers.

Over 98 percent of all tires on passenger cars in the U.S. are radial tires. A radial tire is a highly engineered structure consisting of six major components, each with separate functions. These components include: the inner liner, the beads, the body plies, the steel belts, the tread, and the rubber sidewalls.

Tire design and production involves sophisticated engineering in product design, testing, manufacturing, and analysis. Designing and building today's complex tires is no simple task. Producing a tire involves a combination of chemistry, physics, and engineering plus more than 200 raw materials including natural and synthetic rubbers, metals, fabrics, oils, pigments, and other chemicals.

Tires and cars operate as an integrated system. Tires are designed and tested in accordance with the performance specifications of the original equipment manufacturer on a certain class of vehicle and type of service. For tires to perform properly, a delicate balance must be maintained with all characteristics such as wet and dry traction, handling, smooth ride, and noise.

RMA's tire manufacturer members invest time, effort and resources to produce safe tires. Nearly 1 billion tires are on U.S. passenger vehicles today. By any measurement, tires today perform in a superior fashion, even when they are operated under-inflated, overloaded, in high-speed conditions, and in a variety of adverse road and environmental conditions.

Despite the superior performance of these products, RMA has long sought to help consumers understand the importance of tire maintenance. RMA's tire care and safety education efforts were reinvigorated in 2000 with the launching of the *Be Tire Smart—Play Your PART* program to help drivers learn the simple steps they can take to ensure that their tires are in good working condition. The term "PART" is an acronym that stands for Pressure, Alignment, Rotation and Tread—the four key elements of tire care. RMA's website, www.betiresmart.org, offers valuable tire safety information for consumers and includes a downloadable brochure in both English and Spanish. In the past three years, RMA has distributed over 6 million printed copies of the industry's *Be Tire Smart* brochure. This year, RMA's brochures have been made available to more than 8,000 tire retail outlets.

In 2002, RMA launched National Tire Safety Week to give the tire industry an opportunity to focus on tire safety education. This year, National Tire Safety Week took place April 25–May 1. Since the launch of the program, RMA has held Tire Safety Days in over 20 cities in which RMA coordinated with industry partners like AAA and local tire dealers to help educate motorists about tire safety.

RMA's *Be Tire Smart* program both complements and reinforces other tire care and maintenance efforts by RMA member companies and NHTSA's *Tire Safety: Everything Rides On It* program. RMA also is encouraging its members to promote seatbelt use by employing such messaging in the *Be Tire Smart* brochures and supporting passage of primary seatbelt enforcement legislation.

RMA and its members have worked extensively with NHTSA on issues of tire safety, tire performance reporting, and consumer information. While work on most of the issues mandated by the TREAD Act has been completed, RMA believes that there are significant challenges facing the agency and the industry. However, NHTSA's program of work should be guided by three principles:

- Motorist safety;
- Sound science and data; and
- Cost effectiveness.

Implementation of the TREAD Act

RMA worked with Congress and supported passage of the Transportation, Recall, Enhancement, Accountability and Documentation (TREAD) Act that was signed into law on November 1, 2000. The TREAD Act required twelve separate rulemakings.

To date, all of the rulemakings impacting tires have been completed except tire pressure monitoring and new testing requirements for commercial truck tires. New programs have been instituted and performance requirements for tires have been increased.

Tire Labeling for Light Vehicle Tires—FMVSS 139

The final rule for labeling of light vehicle tires was announced November 18, 2002. This rule has a phased-in compliance schedule requiring forty percent of the tires manufactured on or after September 1, 2004 and before September 2005 to comply with the rule. Seventy percent of the tires manufactured on or after September 1, 2005 and before September 1, 2006 must comply and all tires manufactured after September 2006 must comply.

NHTSA's final rule requires the full tire identification number (TIN) to be on the intended outboard sidewall, if there is one, with a partial TIN on the opposite sidewall. RMA supports the new requirement to add a partial TIN to the opposite side from the full TIN. However, the new mandate to place the full TIN on the intended outboard side will not only force huge compliance costs on the industry, but will also expose tire industry employees to workplace safety hazards and significant risks of injury.

The final rule would require workers to change the date code of the TIN on a weekly basis in a hot (300°+) mold in mass production. Since the intended outboard sidewall is usually in the top half of the tire mold this change requires workers to climb or lean into the mold. The only way to comply with the rule and still eliminate the worker safety issue is either (a) to flip the molds over in the press or (b) to replace an existing mold with a new mold with the intended outboard sidewall in the bottom of the mold rather than the top. RMA member companies work with approximately 100,000 molds. The complexity of flipping a mold over in the press varies according to the type of mold and its configuration. It is not as simple as removing the mold from the press and reinstalling it upside down. In many, if not most cases, flipping the mold over is not possible, and consequently the mold would have to be replaced. RMA estimates that the compliance costs for these alternatives exceeds \$220 million.

RMA filed a timely petition for reconsideration on tire labeling on January 2, 2003. The agency has not responded to that petition. In that petition for reconsideration, RMA recommended that the full TIN be placed on one side of the tire with the partial TIN on the other tire sidewall. Using NHTSA's own estimates the RMA recommendation would allow a consumer to identify the family of tires that might be subject to a recall 87 percent of the time. The RMA recommendation has the added value of minimizing the adverse economic impact and eliminating the worker safety concerns.

Tire Testing for Light Vehicle Tires—FMVSS 139

Existing tire testing regulations (FMVSS 109) were promulgated in 1968. At that time, nearly all of the passenger car tires in the world were of bias or bias-ply construction. Tires have vastly improved since the 1968 regulations were promulgated. In January 1999 RMA petitioned NHTSA to update those standards. With the passage of the TREAD Act, NHTSA was required to promulgate new tire testing standards (FMVSS 139).

The final rule for light vehicle tire testing was announced on June 26, 2003 and requires all tires to be in compliance by June 1, 2007. The new test standard applies to new radial tires used on powered motor vehicles with gross vehicle weight rating of 10,000 pounds or less. NHTSA did exempt certain specialty tires from the new requirements, including trailer tires, farm tires, temporary spares, and all bias light tires for highway use. Snow tires are required to meet the new standards.

The new and revised regulatory requirements include:

- Low pressure performance test—new
 - Tires run at approximately 40 percent below maximum inflation pressure.
- High speed test—upgraded
 - Maximum test speed raised from 85 mph to 99 mph
 - Light truck tires are now required to be tested for high speed and must meet the same minimum speed
- Endurance test—upgraded
 - Speed raised from 50 mph to 75 mph

RMA supported these revised testing standards, which are now the most stringent set of requirements in the world.

Two significant test method issues remain in the testing of light vehicle tires: testing tire pressure and chunking.

Testing Tire Pressure

In a petition for reconsideration filed with the agency, RMA recommended that tire pressure should be measured at least 15 minutes after completion of the tests. RMA also recommended that NHTSA allow a five percent pressure reduction at test completion. These modifications to the final rule are needed because when a tire's pressure is checked, the following occurs:

- Some small amount of air is required to activate the tire gauge;
- Some small amount of air may escape in the process of checking;
- Some differential because of inelastic growth due to heat during testing;
- Some differential because of diffusion; and
- Some variation caused by level of gauge repeatability.

Chunking

As promulgated, the final rule for FMVSS 139 will cause abnormal parasitic tread chunking for a significant number of existing light vehicle tires, particularly some deep tread, winter type snow tires and light truck (LT) tires. Tread chunking is the result of the cumulative effect of laboratory road-wheel curvature and test conditions, and is not indicative of real-world performance for these tire types. Tires on the road do not fail because of this type of tread chunking. Because of laboratory induced chunking some of the best performing snow tires and LT tires will have to be redesigned solely to pass the new endurance and low-pressure tests and may not perform as well for their primary function. Contrary to the intent of Congress and the TREAD Act, these design changes will not improve but rather will reduce snow traction as well as on-and off-road traction performance. RMA has recommended a series of alternatives to the agency to exempt laboratory dynamometer-induced thermal chunking as a failure mode for the new testing regime. RMA has urged the agency to accept one of these alternatives.

RMA believes NHTSA's adoption of these recommendations will enhance the effectiveness of the new tire testing standards.

Early Warning Reporting

The final rule for light vehicle tires, motor vehicles, child seats, and motor vehicles parts was announced on July 10, 2002. The rule requires the tire industry to report claims of injuries and fatalities, lawsuits, warranty adjustments, property damage claims, and consumer advisories and campaigns to NHTSA on a quarterly basis for all tires with an annual U.S. production exceeding 15,000. The first quarterly report was filed on December 1, 2003 for claims received during the third quarter of 2003, and a one-time historical report, covering claims received from April 1, 2000 to March 31, 2003, was filed on January 15, 2004. The quarterly report for the fourth quarter of 2003 was filed on March 1, 2004. This data is voluminous and contains a great deal of technical information. It should not, however, be misinterpreted or misrepresented as "defect data" or any other indicator of tire performance. Instead, this data must be recognized as preliminary data designed to provide an "early warning" to the government agency charged with overseeing tire safety issues.

Tire Pressure Reserve

NHTSA stated in the notice accompanying the final tire pressure monitoring rule, "[M]any vehicles have significantly under-inflated tires, primarily because drivers infrequently check their vehicle's tire pressure." 67 Fed. Reg. at 38713-38714. The agency also recognized, "[A] significant majority of drivers would be less concerned, to either a great extent or very great extent, with routinely maintaining the pressure of their tires if their vehicle were equipped with a TPMS." 67 Fed. Reg. at 38706.

The decision of the U.S. Court of Appeals for the 2nd Circuit in *Public Citizen v. Mineta* vacated and remanded the rule for further consideration. RMA has asserted repeatedly that tires will take an indeterminate, but not indefinite, amount of abuse. The agency has failed to be guided by this basic tire engineering principle. Under-inflation of tires and overloading of vehicles will have an adverse effect on tire performance and may cause a tire to fail. If tire pressure monitoring systems cannot be designed to alert the driver when a vehicle is overloaded—that is, when the tire has insufficient air pressure to handle the vehicle's load—NHTSA must ensure that tires are not under-inflated.

Consistent with this objective, RMA petitioned NHTSA on July 22, 2002 to establish a pressure reserve based on two factors: (1) the minimum pressure required to carry the vehicle maximum load and (2) the activation pressure of the selected TPMS. A survey sponsored by RMA and presented to NHTSA found that the frequency of U.S. motorists checking tire pressure will likely drop by nearly 25 percent in vehicles equipped with tire pressure monitoring systems. Even motorists who exhibit the most responsible tire pressure checking behavior—checking tire pressure at least once a month—would likely show a significant decline in tire maintenance.

The RMA proposed solution to assure all in-service light vehicle tires, including full-size matching spares when used in actual service, have sufficient pressure under all reasonable operating conditions, including at or near maximum load, is for NHTSA to require TPMS telltale activation before the tire load/pressure limits are exceeded. This can be accomplished in the following three ways, used either separately or in combination depending on individual vehicle circumstances: (1) raise the placard recommended tire inflation pressure, (2) increase the tire size, or (3) fit the vehicle with a more accurate TPMS device.

The agency has not responded to this petition. RMA has urged NHTSA to grant this petition and commence a rulemaking forthwith so that all interested parties can register their views with the agency.

Enforcement, Compliance, and Auditing

In the TREAD Act, Congress required NHTSA and the industry to work harder and faster to promote motor vehicle safety. These efforts will not be completely effective unless compliance can be insured. A complete enforcement, compliance, and auditing program are necessary to ensure that the TREAD Act will work. The 2003 Tire Guide indicates over 80 manufacturers of passenger car tires alone. Many of these are private brand labels of major manufacturers of tires already in compliance with NHTSA regulations. However, without a vigorous enforcement, compliance, and auditing program, NHTSA will not be able to ensure that all of the manufacturers comply with the Federal law.

RMA urges Congress to set aside sufficient funding for compliance and auditing work on early warning reporting and tire testing. The agency has begun compliance work on early warning reporting by sending out 8,000 letters to manufacturers that did not file early warning reports for the third quarter of 2003. However, NHTSA needs sufficient resources to follow up with non-filers. As more and more tires are manufactured overseas by manufacturers without a significant U.S. presence, and imported into the United States, this may require coordination with the U.S. Customs Service, the Department of Commerce, and other government agencies. These efforts will ensure a level marketplace and compliance with the TREAD requirements.

The highway tire test standards in the United States allow the tire manufacturer to certify compliance with the regulation by stamping DOT on the tire. This system works well. However, this system depends on a vigilant audit and testing system. Funding must be established for this effort. RMA would welcome the opportunity to work with this Committee and NHTSA to establish an appropriate and cost-effective program of enforcement and auditing.

New Initiatives: Non-TREAD Act Issues

During consideration of NHTSA reauthorization, the Senate included a number of mandated rulemakings pertaining to tire testing. Included are mandates for new safety performance criteria for strength and road hazard protection, bead unseating, and aging. In addition, the legislation would require the agency to reconsider the use of shearography analysis for regulatory compliance. RMA does not favor the tire related provisions in the Senate bill.

Tire manufacturers, automobile manufacturers, and NHTSA are currently working on a tire age endurance testing method. A regulation will follow and a Congressional mandate is not necessary.

Current light vehicle tire testing requirements contain strength and bead unseating tests. These requirements were designed for bias ply tires and do not provide any assistance in analyzing a radial tire's durability. Although NHTSA attempted to establish new testing regimes for strength and bead unseating in the new testing requirements, these proposed tests were not repeatable or cost effective, thereby making them inappropriate test requirements. In the final rule, NHTSA decided to postpone implementation of these proposals. The high speed, endurance, and low pressure tests required under FMVSS 139 provide sufficient and appropriate test requirements for today's radial tires. New strength or bead unseating tests will not assist the agency or the public in assessing radial tire performance.

Accelerated Tire Age Endurance

Congress explicitly stated the need for some type of aging test on light vehicle tires in the TREAD Act. RMA supports this requirement but does not believe a new Congressional mandate is necessary. An accelerated tire age test does not currently exist and there is no industry-wide recommended practice for accelerating the aging of tires. Under the Final Rule for Federal Motor Vehicle Safety Standard Part 139 ("FMVSS 139"), the National Highway Traffic Safety Administration ("NHTSA") decided to defer the development of an aging test for approximately two years. *Fed. Reg., Vol. 68 No. 123, at p. 38139*. In developing the test, the agency will consider recommendations pursuant to refining the static and dynamic components of the test. Concurrently, NHTSA will assess the performance of test tires and tires in the field to assure that the test and field data correlate.

The American Society for Testing and Materials ("ASTM") International Committee F09 on Tires has spent the past year developing an accelerated aging design of experiment ("DOE"). The task group is made up of various representatives from tire and automotive manufacturers and test laboratories. Also, NHTSA staff has attended task group meetings as observers. The ultimate objective of the ASTM task group is to develop a scientifically valid, short duration tire aging endurance test standard, which correlates to field behavior, for light vehicle tires. The test standard development is broken into two projects: 1) laboratory accelerated aging DOE and 2) validation of the DOE. Data from real-world aged tires will be used to establish correlation with laboratory aging characteristics. Care will be taken to avoid laboratory-induced failure characteristics, such as road-wheel induced thermal tread chunking, which does not occur in real-world driving conditions.

Ultimately this activity, which will include static and dynamic test components, will result in an industry-wide recommended test standard for evaluating tire age and can serve as a common means of evaluation by tire manufacturers, vehicle manufacturers and testing organizations. The ASTM F09 Committee also plans to formally submit the resulting test standard and pertinent data to NHTSA for consideration in defining an aged tire standard upgrade to FMVSS 139. NHTSA has indicated publicly that they are pleased with the cooperative effort between government and industry on developing this test method. The tire industry fully supports the efforts of the ASTM task group on aging. RMA has pledged considerable funding so that the first phase of the DOE project can commence very shortly. It is anticipated that the work of ASTM will be completed by August of 2005.

Tire Service Life for Light Vehicle Tires

Tires are composed of various types of material and rubber compounds, which have performance properties essential to the proper functionality of a tire as it relates to its specified application. The serviceability of a tire over time is a function of the storage and service conditions (load, speed, inflation pressure, road hazard injury, environmental exposure, etc.) to which a tire is subjected throughout its lifetime. Furthermore, there are several characteristics that, if present, are cause for service removal such as 2/32 of an inch or less tread depth, non-repairable road hazard injuries, signs of damage (cuts, cracks, bulges), or signs of abuse (underinflation, overloading, etc.) Since service conditions vary widely, accurately predicting the serviceable life of a tire in advance is not possible simply based on its calendar age. The same reasoning applies to predict the service life of an automobile that is subject to varying service conditions.

The tire industry has long supported the consumers' role in the regular care and maintenance of their tires. The monthly maintenance inspection for proper inflation pressure and tread wear is supplemented by recurring rotation, balancing and alignment services. Periodically, the condition of a tire should be assessed to determine if there are any tactile, or visual signs that replacement is necessary.

The industry is currently engaged in dialogue with our counterparts in Europe and Asia on the subject of tire service life for light vehicle tires. Our hope is to achieve a global tire industry advisory regarding tire service life within the next few months.

Rolling Resistance

The term "rolling resistance" refers to the force generated by tires that hinders the forward movement of a vehicle. The rolling resistance of a tire is influenced by many factors including tire inflation pressure, load and speed of the vehicle, tire condition, road conditions, and tire design. Lower rolling resistance is associated with higher fuel savings although any fuel saving is dependent on many factors.

According to the Federal Government, only about 15 percent of the energy in the fuel that goes into a car's gas tank is used to move a car down the road or for other components, like power steering. The largest cost to fuel energy, 62 percent, is lost

to engine friction, and other related engine losses. Just idling at stop lights or in heavy traffic, loses 17 percent. In contrast, just over four percent is lost to rolling resistance.

Not unlike many consumer products, tires cannot be all things to all people. Design trends illustrate that when a tire is optimized for rolling resistance, tread wear and traction performance can be reduced. Since tire manufacturers will not compromise tire safety. *i.e.*, traction, for improved rolling resistance, the design options available to achieve lower rolling resistance are limited. Typically, optimal rolling resistance is achieved at the expense of tread wear performance. Simply put, there is a fundamental relationship between rolling resistance, traction, and tread wear. One characteristic cannot be maximized without affecting the others.

Great strides have been made in rolling resistance. However, there is no one test to measure rolling resistance performance. Additionally, there is a lack of collective data regarding rolling resistance on replacement tires and its impact on vehicle fuel efficiency, since the focus of rolling resistance data collection has been on the original equipment (OE) market. This does not suggest that low rolling resistance does not exist in the tire replacement market—it only implies that the exact measurements have not been made representative of the diversity of the tire replacement market. The limited data available for the tire replacement market simply reveal that no industry-wide information exists.

As the National Academy of Sciences recognized in the 2003 report *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*, “Continued advances in tire and wheel technologies are directed toward reducing rolling resistance without compromising handling, comfort, or braking. Improvements of about 1 to 1.5 percent are considered possible. The impacts on performance, comfort, durability, and safety must be evaluated, however.” *NAS at p. 39.*

Congress required the Secretary of Transportation through the National Academy of Sciences to develop and perform a national tire fuel efficiency study and literature review to consider the relationship that low rolling resistance replacement tires designed for use on passenger cars and light trucks have with fuel consumption and tire wear. The tire industry is committed to providing NAS with relevant information and expertise as it embarks on this study. RMA will continue to participate in the NAS process as a stakeholder and is hopeful that the results of the study will clarify the complex relationship among rolling resistance, fuel economy, tire wear, and other tire performance characteristics, including safety.

Steel Wire Rod

Since the antidumping and countervailing duty cases were filed on imports of wire rod in 2001, the RMA has been concerned about the possible adverse impact of duties on the availability of the specialized tire-cord and tire-bead quality wire rod that is so important to the tire companies. Initially, RMA sought to have this specialized wire rod excluded from the investigations and, in pursuit of that objective, conducted intensive negotiations with counsel for the petitioning domestic wire rod producers. RMA was only able, however, to obtain counsel’s consent to the exclusion of grade 1080 tire-cord and tire-bead quality wire rod, and since petitioners’ counsel has a virtual veto with respect to such issues, only grade 1080 was excluded by the Department of Commerce.

In October of 2003, one of the major domestic producers of wire rod, Georgetown Steel Co. in South Carolina, shut its plant and filed for and obtained Chapter 11 bankruptcy protection. That shutdown, coupled with the trade restrictions on imported wire rod, has caused significant increases in prices and delays in obtaining supplies of the specialized tire-cord and tire-bead quality wire rod needed for the production of steel-belted radial tires. Although Georgetown remains closed, recently an offer to acquire its plant was made by International Steel Group, and the Bankruptcy Court has now set a deadline of June 12 for any competing bids, with an auction to be held by June 15. A reopening of the Georgetown plant under new ownership, however, would not likely occur until the fall, at the earliest. Moreover, there can be no assurance that the resumption of operations would immediately include the production of such specialized products as tire-cord and tire-bead quality wire rod. Thus, increasing shortages and higher prices are likely to continue in the future if no action is taken.

Domestic supply shortages, coupled with the unavailability of imports restricted by the outstanding antidumping and countervailing duty orders, have created a critical situation for the tire companies and the independent tire cord and tire bead producers. To avoid critical shortages and the resultant price gouging, RMA believes that all grades of tire-cord and tire-bead quality wire rod should be excluded from the scope of the antidumping and countervailing duty orders on wire rod. To this

end, RMA will soon seek relief from what we believe to be an overly broad trade restraint.

Conclusion

NHTSA has met many of the challenges it faced with the passage of the TREAD Act. Now is the time for Congress to provide clear guidance to the agency and the industry for completion of the tasks and for the next steps. With this guidance the agency will need sufficient resources to complete their tasks. RMA looks forward to working with this committee and NHTSA on these issues to promote safety.

Senator SMITH. Thank you. Mr. Shea, it's my understanding that most of the tire failures on the Ford Firestone recall failed because of warm weather affecting a compound in the rubber. Can you explain what has been done or is being done to make tires less prone to failure in warm climates?

Mr. SHEA. Tires by and large will perform as intended, providing the important ingredient of consumer participation takes place. Tires cannot inflate themselves. We can sell a tire, but we cannot on a regular basis make certain that the motorist has the tire inflated to the proper inflation pressure.

Our association, our industry, has undertaken a considerable public information campaign. In fact, we just came off our fourth national tire safety week, reminding consumers that at least once a month, particularly before going on a long trip and particularly as we head into warm weather, you check all of your tires, including your spare, and make sure they are set to the vehicle manufacturer's recommended pressure. We're making some progress. There's still a lot of work to be done.

Senator SMITH. It seems to me I've heard that many, many times, and yet I wonder if people respond to it. Do you have any idea how many people actually pay attention to it?

Mr. SHEA. Actually, we've had a lot of success this year, perhaps for an anomaly of a reason, and that is gas prices soared just before National Tire Safety Week, and the media picked up our message, which is that if you properly inflate your tires, you're going to increase—or decrease I should say—your fuel consumption. The Department of Energy, in fact, did a study a few years ago which estimated that underinflated tires cost American consumer 4 million gallons of gasoline every day. That's 1.5 billion gallons of gasoline a year, or \$3 billion we as consumers are spending that we don't have to.

Senator SMITH. That's an incredible number, and if people don't like their gas prices, they ought to check their tire pressure.

Mr. SHEA. Not just for the gas prices, but clearly for safety, but the twofold reason, I think, is a double reason to get consumers involved, and we are seeing progress.

Senator SMITH. We're going to hear from Ms. Claybrook and I'm going to ask her the same question about her access to records. Do you have any comment about the question I've asked the other panelists about the ability for consumers to get information?

Mr. SHEA. My response would echo that of both Dr. Runge and Mr. Strassburger that the early warning reporting system in our assessment is operating as intended. That is, the agency is getting a wealth of data, wealth of information, so that it can identify emerging problems. It was never intended to be a potpourri of information which frankly could be misinterpreted so easily because

the data hasn't been analyzed. The data is reporting incidences frankly which need further analysis. So I would support and echo the comments of Mr. Strassburger.

Senator SMITH. Do you have any familiarity with Mr. Starr's product and these color-coding—

Mr. SHEA. As of 4:30 yesterday afternoon, I had the privilege and pleasure to meet both State Senator Starr and his colleague, Mr. O'Brien. It was the first time we had an opportunity to meet.

Senator SMITH. So your Alliance doesn't have any position on this one way or the other?

Mr. SHEA. At this point, the Rubber Manufacturers Association—in fact, I said it's an interesting concept, and one that, because of its safety implications, I would be happy to welcome Smart Tread to an appropriate meeting of the association members so that individual companies could make an assessment of whether it makes sense from a cost-effective as well as a tire performance standards.

Senator SMITH. But I imagine that having participated in a lot of food processing association meetings that you'd probably rather see that evolve by market demand and regulatory action?

Mr. SHEA. Absolutely. We believe it ought to be market-driven.

Senator SMITH. Thank you very much, Mr. Shea.

Ms. Claybrook, welcome. We invite your testimony.

**STATEMENT OF JOAN CLAYBROOK, PRESIDENT,
PUBLIC CITIZEN AND FORMER ADMINISTRATOR,
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

Ms. CLAYBROOK. Thank you very much, Mr. Chairman. It's a pleasure to be here and I appreciate the opportunity to testify. I would like to submit my full testimony for the record and some attachments so that I don't have to cover those in my statement.

Senator SMITH. We'll include it without objection.

Ms. CLAYBROOK. Thank you. We still have a very large number of people killed on our highways today, 118 people every day, the same as a major airline crash every day, and I dare say that when you look at the budget for this agency, if you compared it to what would happen if an airline crashed every day, the Congress would respond a little bit differently. But unfortunately, people are killed one by one across this country, or two by two. And so we do appreciate the opportunity to at least elaborate on this a little bit today.

Dr. Runge said fairly recently that the total of people killed could reach 50,000 by the year 2008. This is a Vietnam War every year, he said. That's just not tolerable, and we agree with him on that.

The TREAD Act, as you're aware, was enacted very quickly. The Firestone and Ford Explorer case broke very quickly in August of 2000. The Congress had hearings in September and they enacted a law by November, and this new law has focused on consumer information and the pre-crash area of auto safety, that is, trying to stop the crash before it occurs. And the TREAD Act did leave some core problems untouched dealing with vehicle rollover, which of course was the problem that occurred in those crashes.

And since the TREAD Act was enacted in November 2000, 40,000 people have been killed in rollover crashes. It's a huge issue. It's one that still needs to be addressed, and we agree that electronics-devoted control is a crucial issue, another pre-crash way of address-

ing it. But we also believe that the crash worthiness of these vehicles needs to be addressed and really hasn't ever been sufficiently.

That's why Senator McCain, when the TREAD Act passed, alerted his colleagues, because the Congress really didn't have time to go into a lot of these issues, that the issue wasn't over and he would be back again. And he has, with Senator DeWine and Hollings and Snowe, introduced a bill that has now passed the Senate and is now in conference committee on the highway bill as 1072, and that bill would address rollover survivability, also ejection, vehicle compatibility, another major issue because of the increase in the number of SUVs on the highway and light trucks, and also prevention of rollover.

And these areas are very close to the priorities in the documents that have been released by the National Highway Traffic Safety Administration in terms of its own priority plans. It has already issued the advance notice for side impact. It has said that it's going to issue a rule at some point for roof crush, and many of the other issues in this bill are on their list.

One that is not, I would say, that concerns us, even though it's a small number of people, deals with power windows, and I just wanted to mention that one particularly because since 1996 when a petition was filed with the agency to change the way that power windows are allowed to go up and down on American cars compared to foreign cars, 28 children have been strangled to death. And that's because instead of lifting up the window, as in foreign cars now, not always, but in more recent ones, the U.S. manufacturers still have a system where you push it down to go up and you push it down to go down, and so children inadvertently strangle themselves.

Also, as the *New York Times* article on Sunday made very clear, a father who had lost his child in a crash involving the lack of compatibility between two GM vehicles said that you shouldn't have to be rich not to die in auto crashes. And that really is the underlying feature or factor behind the McCain bill, which is that this should be across the board and not just in luxury cars—these kinds of protections. It shouldn't just be for people who drive Mercedes Benz or BMWs that survive a rollover crash.

In terms of the TREAD Act itself, this is a terrifically important piece of legislation and it—we give the agency a high mark for moving quickly to try and implement the various pieces and parts of the legislation, and they're quite different so it took a lot of different kinds of expertise within the agency to do this.

On the other hand, we are quite critical of the outcome of some of the rules, particularly the tire monitoring rule, where OMB got involved and said, well, you have to offer two options, one of which essentially covers one tire and the other covers four tires. Public Citizen did sue, as you heard, and the court has ordered them to reissue it. It has been 9 months now since that court order, or 10 months now, so we hope that Dr. Runge and the Administration will be able to move quickly, because 150 to 175 people are killed every year from tire underinflation, and you've just heard what happens in terms of fuel use. And I think if the consumer is better informed about whether the tires are underinflated, they're more likely to keep them better inflated.

In terms of the early warning rule, which you've asked a lot of questions about, it's our view that the intent of Congress as we read it was that this information should be made public, and indeed, under the Freedom of Information Act, the kinds of information described here is readily available publicly. And of course when the agency does an investigation, this kind of information, whether it's warranty data or consumer complaints, that information is made available when the agency evaluates a particular defect. We see no difference between whether they're evaluating defects or whether they're getting early warning data, and certainly I don't see that the Freedom of Information Act makes the distinction. And as Dr. Runge said, this will be resolved in the courts because it is a legal issue.

Then with regard to consumer reimbursement, this is a small issue in the scheme of things, but it's a really irritating one. The Congress realized that some people in the Ford Firestone example had actually fixed their vehicles before the recall, and so they put a provision in the law that says that people have to be reimbursed if they fixed their vehicle ahead of time and then there's a later recall. And that's only fair, it makes sense, but the way that the agency issued the rule, you have to know when the engineering analysis was opened in the agency and it's a very narrow timeframe for qualifying for it and applying for it, and we think that if there's a 10-year statute of limitations in the law, which there is and was put in the TREAD Act, for the period of time over which a manufacturer from data manufacture has to recall the vehicle, that there shouldn't be this little tiny period of time that consumers have to get a reimbursement if they are very safety conscious and they act in advance of a recall. And we've been waiting 18 months for our petition for reconsideration to be answered and we see no light at the end of that tunnel.

So the rest of my testimony will describe in a little more detail the other items of our concern. We do appreciate, of course, the tire manufacturers supporting the same position that we took on the tire inflation device. I just wanted to mention that and appreciate that you did that even though we disagree on other matters. I don't want to hurt your reputation.

[Laughter.]

Ms. CLAYBROOK. Then finally I'd just like to say that we believe it is now time for the Congress to act on the McCain bill because of the huge death rate, and some of these issues have been pending for 30 years. The last time that we've—was updated it was—issued, the first one issued was 1971. It has never been changed since then. There is no provision for a rollover prevention standard. There is no provision for preventing children with the kinds of power windows that we have. And so we are very hopeful that the Congress and yourself will be supportive of this legislation. Thank you very much for the opportunity to testify.

[The prepared statement of Ms. Claybrook follows:]

PREPARED STATEMENT OF JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN; FORMER ADMINISTRATOR, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Thank you, Mr. Chairman and members of the Senate Competition, Foreign Commerce and Infrastructure Committee, for the opportunity to offer this written testi-

mony on the importance of improvements in vehicle safety. My name is Joan Claybrook and I am President of Public Citizen, a national non-profit public interest organization with over 150,000 members nationwide. We represent consumer interests through lobbying, litigation, regulatory oversight, research and public education.

I am testifying before you with shocking news that has, over time, sadly become hum-drum fact. Vehicle crashes are the leading cause of death for Americans from 4 to 34—killing *118 people every day of the year*—the same as a major airline flight crashing each and every day. The National Highway Traffic Safety Administration (NHTSA) estimates the direct cost in economic losses from vehicle crashes is \$230 billion each year (in 2000 dollars), or \$820 for every man, woman and child in the U.S.¹

Dr. Jeffrey Runge, Administrator of NHTSA, predicted last year that the total dead could reach *50,000 annually* in 2008. “This is a Vietnam War every year,” he said. “That’s just not tolerable.” Mr. Chairman, I agree.

The Transportation, Recall Enhancement, Accountability and Documentation Act, called the TREAD Act, was passed by Congress in November 2000 after a reporter in Houston, Texas, grabbed the attention of the Nation with her story that Ford Explorers with Firestone tires were experiencing sudden tire blowouts, rolling over and killing the people inside.

In the two months before Congress adjourned in November 2000, it held numerous hearings and passed legislation. Members were upset that auto safety regulators had been asleep on the beat, and that automakers had covered up the problem, and reacted swiftly with new authority for NHTSA. The major thrusts of the new law were to secure an early warning of safety defects by requiring automakers to submit defect information to NHTSA and enhancing crash avoidance, or pre-crash, factors—such as a requirement for new tire standards, tire pressure monitoring systems and better consumer information on rollover stability.

Yet the TREAD Act left the core problems in vehicle design untouched, and more than a third of people who die on the roads are still dying in rollover crashes. NHTSA’s early statistical assessment for 2003 found that the number of people killed in motor vehicles increased once again to the highest level since 1990. A major source of this increase was deaths in rollovers in SUVs, which increased 10 percent from 2002 to 2003. In fact, between 2000, when the TREAD Act was passed, and the end of 2003, 41,462 people lost their lives on American roads in rollover crashes alone—a stadium full of people—and *more than 200 times the number of people killed when Congress jumped into action in 2000.*

As Sen. John McCain (R.-AZ), Chairman of the Commerce, Science and Transportation Committee, said on the floor on October 11, 2000 during the close of debate on the TREAD Act, major safety issues would have to be revisited.

I say to my colleagues again that this issue isn’t over. Tragically, I am in fear that there will be more deaths and injuries on America’s highways before we finally make it much safer for Americans to be on America’s highways.

The Chairman’s words were tragically prophetic. And his call to action is being answered by this Congress as part of the highway funding bill. The bi-partisan, reasonable McCain-Hollings-Snowe-DeWine vehicle safety provisions in Title IV of S. 1072, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 (SAFETEA), would prevent thousands of these needless deaths on the highway each year.

The bill focuses on crash survival, and includes rollover survivability safeguards, and ejection prevention and vehicle compatibility measures. Also important are crucial new protections for 15-passenger vans and child safety in and around vehicles. All of these areas provide obvious, common-sense fixes where many precious lives may be saved cost-effectively with readily available safety technology and design improvements. In addition, the bill would require NHTSA to push forward with its work on the most well-established of any new crash avoidance technology through an evaluation of electronic stability control, in keeping with Dr. Runge’s recent interest in this area.

The priorities in S. 1072 are nearly identical to those highlighted in NHTSA’s own priority plans, and are the right priorities given the level of preventable death on the road today. The bill’s deadlines provide a framework for action by NHTSA by a date certain, while the content and phase-in period for all rules is left to the expertise of the agency.

At a recent press event, Dr. Runge noted the agency’s response to the clear timetable provided in TREAD for its *21 rulemakings in two years*, saying that NHTSA had completed its new proposed side impact standard in record time because the agency was in “the TREAD mode of turning out rules.” We envision similar success with the timetable in S. 1072. In fact, TREAD is a terrific example of the agency’s

efficiency in accomplishing many complex assignments from Congress within an exceedingly short time-frame. S. 1072 similarly would address vehicle safety priorities that have long languished, some for more than three decades, such as rollover prevention, rollover survival and ejection mitigation, and would produce a timetable for action valuable to both the agency and industry by setting a clear and reliable agenda for the future.

But while the TREAD Act rulemakings were accomplished mainly within their statutory deadlines, the content of the rules actually is a case study in the grave importance of clear and precise direction from Congress. While we would award the agency an "A-" on its relatively quick turnaround of rules, many of the major rules, as issued, fall far short of their real potential for improving safety. Our scorecard on key TREAD rulemakings is below.

Not At the Head of the Class: NHTSA's TREAD Report Card	
Timeliness of issuance of rules:	A-
Major crash avoidance and consumer information rules:	
Early warning information system to alert consumers of defects:	F
Tire pressure monitoring system to alert consumers of under-inflated tires:	F
Consumer reimbursement for defective vehicles or parts that are later recalled:	D
Rollover propensity consumer information program:	C-
<i>(Note: Companion rule on vehicle handling as yet un-issued.)</i>	
New tire safety standards:	D
NHTSA's Average for Implementation of Major Safety Rules from TREAD:	D

In many cases, the agency punted on the issues that would have greatly increased the benefits from the rule; in others, the agency used arcane reasoning to undermine the protection the rule could have provided. In several cases, NHTSA had to be taken to court on the merits of a rule by Public Citizen and other consumer groups. In general, the rules NHTSA has developed are characterized by more responsiveness to auto industry objections than public safety.

For example, the new early warning database for submission of information by manufacturers on developing defects, which was the heart and soul of NHTSA's new authority under TREAD, is plagued with mismanagement and cost over-runs. Yet real oversight of the program is virtually impossible because NHTSA, in a separate rulemaking which utterly contradicts the clear intent of Congress and the President upon signing TREAD, as well as the agency's early statements in the record and its then-current policies, deemed the vast majority of information collected for the database to be "proprietary" and therefore exempt from all disclosure to the public.

Congress, in passing the TREAD Act, was certainly incensed about the agency's failure to act in a timely manner in discovering safety defects, and required the creation of an early warning database as a public resource that would also provide a much-needed check on the industry's information monopoly concerning developing defects. Even the information on deaths and injuries, which *was* deemed publicly releasable by NHTSA, still remains unavailable, showing a lack of competent management of the database. We are currently suing the agency over its distortion of the Freedom of Information Act to withhold consumer complaints and other information concerning the public's experience in motor vehicles as reported by manufacturers.

In another ongoing and egregious example, after Public Citizen sued the agency, three judges on the Second Circuit Court of Appeals agreed unanimously in August 2003 that the agency had badly botched the rule on tire pressure monitoring systems that tell car owners whether their tires are dangerously under inflated with a warning light on the dashboard. Under pressure from the Office of Management and Budget (OMB) and the auto industry, NHTSA had crafted a standard that permitted installation of shoddy systems.

In November, officials in the General Counsel's office told us that a revised final rule would be soon forthcoming. Seven months later, a revised rule has not yet been issued, meaning that no rule is currently in force, and the agency's internal calendar indicates that the agency intends to re-issue a notice of proposed rulemaking, rather than a new final rule. We recently complained in a letter to Secretary Mineta about the unreasonable delay in re-issuing a new, legitimate final rule, and have

attached that letter and its response. The rule would save 142 lives a year, according to the agency's own analysis, making this further delay unconscionable.

In general, the record on the agency's implementation of TREAD reflects an effort to undermine the lifesaving possibilities of the mandates given to the agency by Congress. Details on each of these disappointments are provided below.

Early Warning Database Turned Into an Industry-Agency Secret

The TREAD Act's new authority for NHTSA to collect "early warning" safety defect information was the result of a clear determination by Congress to make the automotive industry publicly accountable for its decisions not to recall dangerous and defective vehicles by mandating disclosure of potential safety defects to both the agency and public.

The law followed upon shocking media and Congressional revelations of secret company memoranda and actions, including communications to dealers in foreign companies and foreign recalls that should have been given to U.S. regulators. Congress also called in the NHTSA Administrator for hard questions, upset that the Federal auto safety watchdog was asleep on the beat. A State Farm investigator had given the agency a slew of fatal cases from Ford/Firestone rollovers in 1998, but the agency had done nothing to investigate. Nearly 200 people died and 700 people were badly injured from the defects in the U.S. alone.

The public availability of information in that case would have saved lives and prevented a catastrophic loss of faith in both the industry in general and the reputation of Ford and Firestone specifically. The solution in the TREAD Act was to require automakers to submit information as it develops to a new NHTSA early warning database showing the industry knowledge of, and the consumer's experience with, vehicle safety. Like adverse drug reaction information collected by the Food and Drug Administration, the information was intended to be available to the public.

In working on the TREAD Act, Public Citizen and the many Ford/Firestone survivors who bird-dogged the bill anticipated that the industry would attempt to maintain the secrecy of the information, and raised several concerns about the disclosure provision in the proposed bill, predicting that the industry would attempt to use the proposed new language to undercut the scope of authority clearly granted by Congress. We protested the possible misuse of the statute vigorously to the Congress and to the agency.

In order to assure that this interpretation of the pending law was a consensus opinion with the committee and was one held by its Chairman, Rep. Markey (D.-Mass.) conducted a colloquy on the subject with Rep. Billy Tauzin (R-LA) on the floor of the House during debate on the bill. In that colloquy, Rep. Tauzin affirmed Rep. Markey's statement that the "special disclosure provision for new early stage information is not intended to protect [information] from disclosure that is currently disclosed under existing law." See 146 Cong. Rec. H9629 (Oct. 10, 2000). In addition, when signing the law on November 1, 2000, the President stated that he was directing NHTSA "to implement the information disclosure requirements of the [TREAD] Act in a manner that assures maximum public availability of information."

The disclosure provision, Section 30166(m)(4)(C), as enacted, states that:

None of the information collected pursuant to the final rule promulgated under paragraph (1) [the early warning rule] shall be disclosed pursuant to section 30167(b) unless the Secretary determines the disclosure of such information will assist in carrying out sections 3011(b) and 30118 through 30122 of this title.

Before receiving these assurances, on October 19, 2000, Public Citizen sent a letter to Secretary Slater warning that the industry would very likely attempt to bootstrap a secrecy requirement onto the pending bill.

Following passage of the bill and in an apparent response to our letter raising the issue of a worst-case scenario, the agency issued an interpretive legal memorandum regarding the impact of the new disclosure provision upon the agency's obligations under TREAD and FOIA. In light of the legislative record, the President's statement upon signing the bill, and the legal meaning of the statute, the Senior Assistant Chief Counsel, officially reviewed the TREAD Act provisions and concluded, from a legal perspective, that the section "will have no effect on the disclosure of documents received by NHTSA."

The agency's advance notice of proposed rulemaking (ANPRM) on early warning contained a brief section on the disclosure provision under TREAD, in which the agency noted that "we believe that section 30166(m)(4)(C) will have almost no impact . . . Historically, NHTSA has not invoked Section 30167(b) in deciding to release information to the public." Although the early warning rule expanded the universe of information available to NHTSA, principles governing its disclosure would

be similar to those applying to information already collected in the course of defect investigations, which is routinely disclosed by NHTSA:

The primary differences between pre-TREAD and post-TREAD Act reporting are likely to be in the mechanisms for reporting and amount of information reported. Before the TREAD Act, other than material submitted pursuant to 49 CFR 573.8, information in NHTSA's possession relating to a possible defect that was not the subject of an ongoing investigation was primarily in the form of consumer complaints. Under the TREAD Act, information will also be generated through periodic reports to NHTSA of information that a manufacturer might not otherwise have disclosed unless specifically asked by NHTSA to provide it. However, most of this information is likely to be similar to the types of information that NHTSA regularly obtained during its investigation pursuant to information request or special orders.

In our comments to the ANPRM, Public Citizen stated that the agency should address the issue of manufacturer and agency secrecy in the rulemaking, asking that "the agency's disclosure policy . . . be treated as a critical part of its obligation to honor the objectives of Congress and the President in making the TREAD Act a law."

The agency's notice of proposed rulemaking (NPRM) on early warning also unequivocally supported the public disclosure of early warning information. Although the agency stated that "TREAD does not affect the right of a manufacturer to request confidential treatment for information that it submits to NHTSA," the agency went on to review the categories of information that would likely be submitted under the agency's final rule and noted that:

Historically, these types of information generally have not been considered by the agency to be entitled to confidential treatment, unless the disclosure of the information would reveal other proprietary business information, such as confidential production figures, product plans, designs, specifications, or costs. Light vehicle production information is generally not confidential, unlike production data on child restraint systems and tires.

The agency continued, stating that, "[a]ccordingly, the agency does not expect to receive many requests for confidential treatment for submissions under the early warning requirements of the TREAD Act."

In its ANPRM and NPRM, NHTSA also reduced the scope of the information it would require automakers to submit for the database. In its final form, the database will include summaries of the numbers of consumer complaints submitted to the manufacturer, deaths and injuries, field reports by dealers, warranty claims and past production numbers by make and model.

The secrecy issue was even more important to industry. Seeing that the early warning docket was rife with statements upholding disclosure, the agency pulled a bait and switch. Without any notice in the early warning docket, and prior to issuing the final rule on early warning, on April 30, 2002, NHTSA published a notice in the Federal register concerning the agency's *sua sponte* plans to amend the procedures that it uses to process confidentiality requests under 49 CFR Part 512.

At first glance, this arcane rulemaking notice barely appeared to affect the early warning rulemaking, as the discussion of the rule was virtually non-existent. Yet the manufacturers seized upon this opening as an opportunity to argue that the information collected as a part of the early warning rule should be kept from the public. And in marked contrast to its notice, NHTSA's final confidentiality rule focuses almost entirely on the secrecy of the early warning database, and announced the agency's policy that all the information—with the exception of deaths and injuries—will remain secret and be withheld from the public even after a specific request under the Freedom of Information Act.

Members of Congress who authored portions of the TREAD Act, such as Rep. Henry Waxman (D.-Calif.), have indicated that the agency's decision to maintain this information in secret gravely undermines the law. This novel use of FOIA to undermine information about public health and product safety is the subject of a petition for reconsideration by consumer groups, which was recently denied by NHTSA, and is now the focus of a lawsuit currently pending in Federal court and brought by Public Citizen.

As the agency noted in its rulemakings on early warning, this kind of information has been routinely collected—and publicly released—in defect investigations over almost 40 years by Federal regulators. The defect file on the Ford and Firestone investigations contain such detailed information as consumer complaints, warranty claims, production numbers and field reports. For another example, consumer complaints submitted by consumers directly to NHTSA are published on its website.

As we anticipated, the most difficult and fundamental struggle over the fair implementation of the TREAD Act concerns the public availability of early warning information regarding defects. Unfortunately, NHTSA has subordinated the interests of the public, who are routinely injured or killed by vehicle safety defects, to the interests of the industry in a cover-up, despite the obvious importance of this assignment from Congress.

Ever since the Ford Pinto case in the late 1970s highlighted the deeply cynical nature of the industry in measuring costs against saving lives, the public has been all too well aware of the practice of bean-counting by automotive manufacturers. Indeed, American motorists have been provided with consistent examples in which the cost of the fix, rather than the seriousness of the safety defect and the risk it poses to human life, determines the automakers' decision-making process on remedies. Good information would be the most effective tool for consumers to defend themselves against this practice.

Now that Congress acted to remedy this tragic information inequity and market failure, the industry and agency has sought to undermine the best of Congressional intentions with subterfuge. Consumers should be empowered to make their own decisions regarding the hazards posed by the products that they use, and yet may only do so with clear and available information on safety.

And NHTSA should be held accountable by the taxpayers for its decisions regarding whether to pursue a defect investigation. The secrecy of the database will do nothing to correct the flaws highlighted in a 2002 DOT Office of Inspector General audit, which concluded that defect investigation methods are unnecessarily haphazard and that agency could use greater transparency.²

The secrecy of the information also greatly reduces the effectiveness of the new safety tool, as a public database would serve as an information portal, an invitation to public participation, and a quality improvement program for the industry. Consumers would be both motivated and able to "add their story," making the new database a living resource for the agency and public, instead of an unaccountable black hole.

Tire Pressure Monitoring Systems: Even When Consumers Win, They Lose

The TREAD Act required NHTSA to develop, within one year, a standard for a warning system in new vehicles to alert operators when the vehicle's tires are seriously under-inflated. After extensive study, NHTSA determined that a direct tire pressure monitoring system should be installed in all new vehicles. But in a "return letter" issued after meetings with the auto industry, the Office of Management and Budget (OMB) demurred, claiming its cost-benefit calculations provided a basis for delaying a requirement for direct systems. The final rule, issued May 2002, would have allowed automakers to install ineffective TPMS and would have left too many drivers and passengers unaware of dangerously under inflated tires.

In June 2002, Public Citizen joined with other consumer safety groups to sue NHTSA because its final rule would have allowed manufacturers to choose to install the inferior (indirect) system. A year later, in August 2003, a unanimous three-judge panel of the United States Court of Appeals for the Second Circuit ordered NHTSA to rewrite the rule, agreeing with Public Citizen and others that NHTSA acted contrary to the express requirements of the Act and in an arbitrary and capricious manner by allowing installation of a clearly faulty indirect system.

In its decision, the Court reminded NHTSA that the notion that "cheapest is best" is contrary to Supreme Court precedent that safety improvements are a core responsibility of Federal regulators. The court also reminded NHTSA that, in doing its cost-benefit calculations, the agency is supposed to "place a thumb on the safety side of the scale."³

In the ten long months since the rule was overturned by the Court, NHTSA has also failed to re-issue the rule, despite the substantial factual record collected by the agency in rulemaking which should make a new final rule an easy matter. NHTSA's internal rulemaking calendar⁴ disappointingly indicates that the agency anticipates it will publish a new NPRM, rather than a revised final rule, as agency officials had indicated.

Until a rule is again made final, the agency's delay means that no rule is on the books, despite very clear directions from Congress to protect consumers from the harmful effects of tire under inflation. For each year of continuing obfuscation and delay, NHTSA's own cost-benefit analysis shows that 142 lives are needlessly lost on the highway.

Dynamic Rollover Consumer Information Tests Used by NHTSA to Pad Industry's Scores

Following passage of the TREAD Act, in January 2001, NHTSA for the first time began to publish a rollover rating as part of its Web-based New Car Assessment Program (NCAP) star rating program.⁵ The 2001 scores were based on a static metric called "static stability factor" that is essentially a ratio of a vehicle's track width and height. While the auto industry had protested for years that SSF had no bearing on rollover propensity, the agency's final rule established a clear correlation between SSF and rollover in real-world crashes.

The agency, however, stopped short of setting a minimum safety standard, or "floor," for rollover propensity. Unlike the other ratings that are part of NCAP, including frontal and side crash tests, which award stars to vehicles which perform over and above a minimum standard, the absence of a minimum standard means that even the tippiest vehicles start out with an inflated score of at least one star. In comments, Public Citizen has also pointed out that NHTSA's use of stars, rather than another metric, such as "A through F" letter grades, is inherently inflationary and far less informative for consumers.

The TREAD Act required NHTSA to conduct an additional rollover consumer information dynamic test. In its rulemaking, NHTSA developed an on-road driving test mimicking emergency maneuver driving conditions, called a "fishhook maneuver." A two-wheel lift of two inches or more is a failure on the test; however, the manner in which the test is combined with the static metric fundamentally undermines its usefulness for consumers.

In the final scores awarded to vehicles, the dynamic test results are a one-way ratchet only—meaning that tip-up in the test has no negative impact on test results, while the absence of tip-up is, according to NHTSA, "worth half a star." As Rae Tyson, NHTSA spokesman, explained, "If there's no tip-up, you get a benefit, but if there is tip-up, there's no penalty."⁶ While many commenters, such as Public Citizen, favored combining the static and dynamic metrics into a single score, to ease use by consumers, we never anticipated that NHTSA would use the dynamic test to inflate the already-misleadingly inflated NCAP scores, and that the major indicator of rollover propensity—tip-up of vehicles—would be undermined in the score.

NHTSA also has yet to issue a critical second stage rulemaking for vehicle handling. In its dynamic test rulemaking, the agency expressed clear concern that automakers would comply with the new consumer information test by tweaking vehicle suspension, tire inflation or other areas, thereby improving test performance at the expense of real-world safety in the vehicle's handling for consumers. The agency is now behind the schedule it outlined in the final rule for its dynamic test. Timely issuance of the handling test is needed to assure that manufacturers do not make dangerous changes to vehicle handling just to earn the half-star now available on the dynamic NCAP test.

Reimbursement Rule Undermined by Arcane, Anti-Consumer Restrictions; Public Citizen's Petition for Reconsideration of Rule Unanswered by NHTSA since January 2003

In the TREAD Act, Congress amended the Motor Vehicle Safety Act to extend the time from 8 years to 10 during which manufacturers of motor vehicles or motor vehicle equipment must provide a remedy without charge. The expanded period was a direct response to manufacturers' failure to adequately address the need for a recall in the Ford/Firestone case.

In a similar vein, the TREAD Act also required manufacturer to reimburse an owner who has already incurred the cost of a repair prior to being notified of a defect. By expanding the Act's original time limits and requiring NHTSA to issue a new rule as to the reimbursement period, Congress clearly intended to expand consumers' rights with regard to both recalls and reimbursement. Providing a consumer with a reimbursement for a repair made *as soon as a safety defect is noticed by the consumer* is the best way to insure that consumers are not killed or injured by vehicle defects.

Yet NHTSA's final rule established an incredibly arcane time schedule for consumer eligibility to be reimbursed. In a typical recall, NHTSA decided, consumer should only be reimbursed for expenses for fixing faulty equipment if the repair is made *after* one of two things occurs: (1) NHTSA opens an engineering analysis into that defect on that make/model; or (2) the repair is one year prior to the date the manufacturer tells NHTSA about the defect (whichever is earlier). To know whether they are eligible, consumers must know the date of the manufacturer's notification to NHTSA of the defect or must know to go to the NHTSA Website and look up whether an engineering analysis has been opened by the agency.

Of course, most consumers do not know what an engineering analysis is, much less that its opening date affects their pocketbooks. Under NHTSA's rule, they must know to go to NHTSA's monthly report and keep checking it as it is updated. A recent search on May 28 of defect investigations added since April 27, 2004 indicated that 231 new records had been added since that time.

In contrast to this absurd exercise, a vehicle's manufacture date is obvious and clear to consumers. Consequently, the 10-year limit on a manufacturer's responsibility to provide a remedy without charge should be the only applicable time limit.

Congress intended to provide options for consumers and encourage timely recalls by removing a financial incentive for manufacturers to save money from delay, not cause consumers further headaches, as NHTSA has done here. Under NHTSA's new rule, the industry actually has a new, additional financial incentive to delay notification of the defect.

Hundreds of consumers send letters to Public Citizen every year concerning possible defects in their vehicles. Below is our best attempt to explain the workings of this obscure rule in a typical response. It is a sad day when consumers must contact a public interest group to secure a decent explanation of their own rights under the law.

REIMBURSEMENT INFORMATION GIVEN TO CONSUMERS BY PUBLIC CITIZEN

In November 2000, following the highly publicized Ford/Firestone debacle, Congress passed a law requiring establishment of a manufacturer reimbursement program. This law called on NHTSA to issue a regulation to assure consumers would be reimbursed if they fixed a defective vehicle or piece of equipment that was later included in a recall. In October 2002, NHTSA issued a final rule that Public Citizen believes is only a partial and begrudging response to this command from Congress.

The rule went into effect on January 5, 2003. You and other consumers could potentially now claim a reimbursement for repairs made to your vehicle if you follow the specific guidelines set out in the rule. Essentially, the rule says that once NHTSA or the manufacturer announces a defect recall, you can submit documentation of your repair and be reimbursed. Keep your eyes open for communications from the manufacturer of your vehicle—the communication should tell you where to send this reimbursement information.

The information you will need to provide the manufacturer to receive your reimbursement is:

1. Your name and address.
2. Identification of your product—either the vehicle or the piece of equipment.
3. Proof of the recall. This can be, for example, a photocopy of the notice sent to you by the manufacturer or a printout of the recall notice from the NHTSA website. (NHTSA recalls can be found at <http://www.nhtsa.dot.gov/cars/problems/>)
4. The receipt for the work you had done on your vehicle or piece of equipment. This could be, for example, a photocopy of an invoice from the mechanic or the receipt from an auto parts store.
5. Proof of ownership of the vehicle. This could be, for example, a photocopy of the title for the vehicle or a photocopy of the insurance for the vehicle with your name listed as owner.
6. If the remedy was obtained within the period you were covered by the manufacturer's warranty, you must explicitly document why the repair was not/could not have been done under the warranty. For example, you could provide a copy of a denial of warranty service from a dealership or some paperwork explaining why the warranty work did not fix the problem addressed in the defect (that was fixed by work you had done beyond the warranty.)

There is a small window of time during which repair work will be eligible for this reimbursement program. There are two "openings" to this window:

1. The most common defect to is one in which the vehicle or equipment has a safety-related problem. In case of a safety-related defect, the reimbursement window is opened when NHTSA opens an engineering analysis—or—one year prior to the date the manufacturer tells NHTSA about the defect (whichever is earlier). To determine whether or not an engineering analysis has been done on the defect in your vehicle, visit NHTSA's "Monthly Defect Investigations Report" website at <http://www.nhtsa.dot.gov/cars/problems/defect/monthly/>. There, engineering analyses (action #'s beginning with the letters "EA") are

listed along with the dates they were opened and any comments that NHTSA has collected on them regarding status of recalls.

2. A less likely defect scenario involves a vehicle or piece of equipment that fails a NHTSA standard. In this situation, the reimbursement window is opened after the observation of this failure by either NHTSA or the manufacturer.

Similarly, there are two “closures” of this reimbursement window:

1. If the defect was in your vehicle, the reimbursement window is open until ten days following the date the manufacturer mailed the last of its notices to owners about the defect.
2. If the defect was in a piece of equipment, the reimbursement window is open until ten days following the date the manufacturer mailed the last of its notices to owners about the defect—or—30 days after the conclusion of the manufacturer’s initial efforts to provide public notice of the existence of the defect or noncompliance (whichever is later.)

Omitting Key Safety Issues from a New Standard for Tires

In June 2003, in response to a mandate in the TREAD Act, NHTSA issued a rule updating safety performance standards for tires, the first major action on tire safety since the late 1960s, when the safety standard was initially issued, and prior to widespread use of radial tires. However, counter to Congressional intent, NHTSA left serious holes in the updated standard. Despite the clear mandate, the new rule failed to adequately address tire strength and road hazard protection, or to establish minimum standards for bead unseating resistance and aging. S. 1072 would upgrade the tire standards to respond to the TREAD directives by requiring NHTSA to improve tire resistance to bead unseating and aging.

Key shortcomings and omissions included:

- No upgrade to the road hazard impact test, despite a proposal in the NPRM;
- No test for tire strength included in the final rule;
- Retention of the old test for resistance to bead unseating, yet results from the agency’s 1997–1998 rollover testing provided a strong rationale for upgrading this area of the standard; and
- The effect of tire aging over use and time remains unaddressed pending further research.

In all of the above areas, proposals in the NPRM met with substantial protest by industry. The agency’s progress on the omitted priorities remains slow. Members of Congress specifically raised the issue of tire aging and the resulting degradation in safety during the Ford/Firestone hearings, yet the agency is still conducting research as a precursor to a rulemaking, promised in the tire standards final rule to occur within two years.

TREAD Act’s Criminal Penalties Ridiculously Ineffective, as NHTSA Agrees

The new criminal penalties created by the TREAD Act are useless by Congressional design, not NHTSA’s, due to the enormous “safe harbor” provision enshrined in the statute by the House Energy and Commerce Committee. Essentially, the burden of proof needed to prosecute under this provision is unreasonable in the extreme, rendering any prosecution both untenable and highly unlikely.

As NHTSA noted in its interim final rule on the provision, little use, if any, is expected to be made of the provision, which is already a virtual dead-letter:

We believe that there will be very few criminal prosecutions under section 30170, given its elements. Accordingly, it is not likely to be a substantial motivating force for a submission of a proper report.

Under the law, the penalties would apply only to persons who violate section 1001 of Title 18, an existing criminal statute and applies to only a very small class of actions. To prosecute, the state must prove that someone: (1) violated 18 U.S.C. 1001 (meaning that the lie or cover-up to the government was both knowing *and* willful); (2) violated 18 U.S.C. 1001 in reporting as required by the early warning rule; (3) had “the specific intention of misleading the Secretary” about a motor vehicle or motor vehicle equipment safety defect (not noncompliance with a safety standard or recall directive); and (4) the defect *had already* caused death or grievous bodily harm to someone at the time of the false report or failure to report. In addition, the law created a huge safe harbor, providing that no penalties will apply if the perpetrator “corrects any improper reports or failure to report within a reasonable time.”

In short, while the section increases the rarely-applied maximum penalty for a violation of Federal law concerning reports made to the government, at the same time it completely undercuts this new authority by prohibiting application of criminal penalties if the person who lied eventually recants. Because prosecutors always retain the ability to grant immunity, and to place case-specific limits on that immunity for witnesses or participants to secure testimony, the broad language of the “safe harbor” provision creates a much larger window for illegal activity than existed under current law. In addition, this law requires a request from the DOT to the Justice Department prior to prosecution, a highly unusual potential pitfall for enforcement of any criminal liability.

One of the great losses in the negotiations between the two houses of Congress in 2000 was the Senate bill’s very workable approach to a new criminal penalty authority for NHTSA. Those provisions, authored by Sen. McCain, were far superior because they did not create an additional form of immunity, applying criminal penalties to a knowing failure to recall a defective vehicle or part prior to its introduction into interstate commerce, if that defect later causes grievous harm to a person. This statute would have been an effective deterrent to cover-ups on defects, in contrast to the language in the TREAD Act, which, as NHTSA has made clear, accomplishes nothing.

Conclusion: Congress Now Able to Complete TREAD Act’s “Unfinished Business”

While the TREAD Act focused on information collection on defects and other crash prevention measures, such as upgrades to the tire safety standard, fixing the tires was not even half of the battle. Many serious vehicle-related hazards remain unaddressed. The vehicle safety provisions in Title 4 of SAFETEA 2004 would establish rollover prevention and protection standards, anti-ejection standards, a standard to prevent the extensive harm from vehicle mismatch, and other crucial, long-overdue safeguards.

The measures in the Senate highway bill would save thousands of lives:

- *A new roof crush resistance standard:* 1,400 deaths and 2,300 severe injuries, including paraplegia and quadriplegia, would be prevented each year by a more stringent standard.⁷
- *Improved head protection and side air bags:* 1,200 lives saved, and 975 serious head injuries prevented, would be saved by a new requirement each year.⁸
- *Side window glazing (“safety glass”):* A requirement would save 1,305 lives and prevent 575 major injuries each year.⁹
- *Upgrade to door locks and latches standard:* An upgrade would prevent hundreds of the 2,500 door-related ejection deaths each year.¹⁰
- *Rollover prevention standard that examines use of electronic stability control (ESC):* Several comprehensive studies estimate that ESC technology reduces deaths and injuries by as much as *one-third* by preventing crashes for occurring in the first place.¹¹
- *Compatibility standards for light trucks:* NHTSA research estimates 1,000 lives a year could be saved.¹²
- *Stronger seatback design:* 400 lives saved, and 1,000 serious injuries prevented, each year.¹³
- *Effective seat belt reminders in all seats:* 900 lives each year would be saved by such a requirement.¹⁴

Preventing these deaths would save taxpayers billions of dollars in direct costs alone, and prevent untold trauma and suffering. Requirements for the issuance of new and upgraded rules in all of these areas are contained in the lifesaving NHTSA Reauthorization bill in S. 1072 that passed the full Senate and is now pending in conference.

Too many decades have passed without any meaningful action on these practicable safety provisions. While consumer groups, including Public Citizen, have raised objections to the implementation of rules under the TREAD Act, we still believe that this agency could, if given sufficient direction and focus by Congress, marshal its expertise to accomplish “Phase Two” of the safety goals highlighted by the Ford/Firestone tragedy, but as yet unaddressed and unresolved.

Below I have included some details on the core facts that support passage of S. 1072.

It is time to ask American automakers to build a safer, better vehicle. Thank you, Mr. Chairman, for the opportunity to testify on these life and death matters.

FACT #1: TITLE 4 OF SAFETEA IS DATA-DRIVEN

Motor vehicle fatalities remain at an historic high and are the leading cause of death for Americans ages 2 to 34—every 10 seconds an American is injured in a crash and someone is killed every 12 minutes.¹⁵ The death toll on the road is equivalent to two fully loaded 747s (with 400 passengers) going down each week.

The problem is only getting worse. In 2002, highway deaths reached 42,815, the highest level since 1990. An astounding 82 percent of the increase in deaths between 2001 and 2002 occurred in rollover crashes. Rollover-prone SUVs and pickups, combined with vans, now are 49 percent of new passenger sales and 36 percent of registered motor vehicles—a 70 percent increase between 1990 and 2000.¹⁶

A recent Federal study found that fatalities in rollover crashes in light trucks threaten to overwhelm *all other reductions in fatalities on the highway*, an astonishing fact when we consider that rates overall are improving: air bags are now a requirement for new vehicles and seat belt use keeps going up. NHTSA explained that “the increase in light truck occupant fatalities accounts for the continued high level of overall occupant fatalities, *having offset the decline in traffic deaths of passenger car occupants.*”¹⁷

Each part of Title 4 – rollover prevention and survivability safeguards, ejection prevention measures, and vehicle compatibility measures, child safety, and 15-passenger vans – targets areas where cost-effective, feasible remedies are currently available to save lives.

Moreover, in many areas the hazards are inter-related—for example, rollover crashes involve interactions among vehicle factors such as rollover stability, ejection, side impact air bags, safety belt pretensioners, and door locks and latches. For that reason, NHTSA should be asked to examine problems as a whole, and to address, at the same time, all of the design and technology issues which can improve the survivability of rollover crashes. A comprehensive approach is also more cost-effective for manufacturers, as any re-design can be phased in at the same time over the life of the model cycles.

In short, Title 4’s comprehensive approach will produce the most cost-effective and scientifically sound new safety standards.

Congressional Mandates Are Appropriate

The Administration’s plan for reviewing safety standards outside of its “priority areas” is for a cyclical, 7-year review. While a more regular review of standards is a good idea (some have been on the books for more than thirty years!), such an approach is hardly “data-driven.”

The number of lives that would be saved by Title 4 dwarfs the still-tragic number of people killed in the Ford-Firestone tragedy, yet NHTSA’s Administrator, Dr. Jeffrey Runge, suggested at a Mar. 18, 2004, hearing in the House of Representatives that asking NHTSA to act in a timely way in these areas is unreasonable. In response to questions, Dr. Runge also said that, in contrast, “[l]egislative mandates are important when we have a crisis situation like in the TREAD [Act].”

Fact: Between 2000, when the TREAD Act was passed, and 2003, 200 times that many people were killed in the U.S. in rollovers alone.

This situation is a crisis.

FACT #2: NHTSA'S PRIORITIES ARE TITLE 4'S

None of the major SAFETEA provisions establishes new priorities for NHTSA—and many are identical to NHTSA's stated goals. The bill merely gives many of NHTSA's already-planned actions a timely certainty. The Administration's per se objection to a requirement in these areas is both misguided and misplaced.

SAFETEA Provision	NHTSA's Plans: On the Record
<i>Rollover prevention:</i> A rollover prevention standard to improve vehicles' resistance to rollover and a study of electronic stability control.	Rollover, including prevention, is one of the agency's four major priority areas. NHTSA has plans to research ESC in 2004–05 and will also evaluate a vehicle handling test for the New Car Assessment Program (NCAP).
<i>Rollover survival:</i> An upgraded roof crush standard; improved seat structure and safety belt design (including belt pretensioners), side impact head protection airbags, and side head protection airbags and upgraded door locks.	NHTSA plans to upgrade the roof crush standard soon. NHTSA is currently researching belt pretensioners and side-window ejection mitigation and is plans to upgrade the door lock standard. NHTSA also plans to upgrade the side impact test to require head-protection side-impact airbags.
<i>Front Impact:</i> Upgrade the frontal impact test procedure, consider new barriers and head impact and neck injuries, as well as offset barrier testing.	NHTSA's on-record priorities include an upgrade of crash-test dummies now used in frontal crashes and evaluation of a frontal offset barrier test during 2004.
<i>Side Impact:</i> Upgrade the side impact standard by considering new barriers and measures of occupant head impact and neck injuries and upgrade to dummy tests.	NHTSA's priorities include an upgrade of the side-impact standard to address light trucks and upgrade of injury criteria and data from second-generation side impact dummies.
<i>Aggressivity/Compatibility:</i> Standard to reduce vehicle incompatibility; a standard rating metric to evaluate compatibility and aggressivity and a consumer information program to communicate this information.	NHTSA published a "Priority Plan" on vehicle compatibility, another of the agency's four major priority areas, and plans to evaluate the feasibility of a compatibility requirement by 2004 and to develop an aggressivity metric thereafter.
<i>15 Passenger Vans:</i> Include 15-passenger vans in relevant safety programs, require 15-passenger vans to comply with relevant safety standards, and evaluate technologies to assist drivers in controlling the vans.	NHTSA will continue public education on the hazards of 15-passenger vans, require lap and shoulder belts in the vans, and include them in the upgraded roof crush rule. NHTSA also plans to evaluate ESC for 15-passenger vans.

SAFETEA Provision	NHTSA's Plans: On the Record
<i>Tire Safety:</i> Upgrade tire safety to improve strength, road hazard, bead unseating and aging performance criteria—all as asked for once in TREAD, and discarded by the agency.	NHTSA plans to research tire strength and aging (2003–2004).
Child Safety—Booster Seats, Backover Avoidance, Power Windows, Test Dummies and Rollover: Establish a state incentive for booster seat laws. Increase the use of child dummies, develop a new child dummy for rollover testing, develop a consumer information program relating to child safety in rollover crashes, and report on the performance of safety belts for children in rollovers. Report on technologies used to prevent injuries and deaths caused by automatic windows and a standard to ensure safer switches, and study methods to reduce injury and death outside parked vehicles.	NHTSA is developing a 10-year-old child crash dummy and looking into developing a three-year-old child dummy. NHTSA is also establishing performance requirements for booster seats and planning to compile death certificates to look at off-road vehicular deaths, including driveway incidents.
<i>Safety Belt Reminder Systems:</i> NHTSA to address alternate means to encourage increased belt use including consideration of audible or visual reminders.	NHTSA plans a study of the effectiveness of belt minders and evaluation of possible rule-making (2003–2005).

In fact, there are no surprises in the bill. All the areas highlighted are areas of clear existing need that have been discussed for decades, as NHTSA's plans show.

Yet action is uncertain without deadlines. *As the chart at the end of Chapter One shows, there is a long history of unfortunate slippage between plans and promises—and NHTSA's record on all of these issues is one of unreasonable delay and many broken promises to act. A mandate will assure that NHTSA's activities achieve the greatest possible savings in lives.*

Some critics of the bill have suggested that safety belt use should be the only focus of efforts to save lives. Critical provisions relate to safety belt and child restraints in the bill, such as; 1) changes regarding safety belt reminder systems; a report on technologies to improve the performance of safety belts for children between the ages of 4 and 8; and establishment of a grant state incentive program for states that enact laws mandating booster seats for children who are too big for child safety seats.

And while increasing safety belt use is a critical goal, the statistics do little to explain the high death rates in SUVs. In fact, SUV occupants are just as likely as car occupants to wear safety belts:

- NHTSA statistics show that 78 percent of SUV and van occupants, and 77 percent of passenger car occupants, wear their belts.¹⁸
- In fatal rollovers, the most deadly of crashes, SUV and passenger car belt-use rates are virtually identical, *yet these crashes are 61 percent of SUV occupant deaths but comprise only 24 percent of car occupant deaths.*¹⁹

**In the face of preventable suffering,
there is no good reason for delay.**

FACT #3: MAJOR TITLE 4 MEASURES ARE THIRTY YEARS OVERDUE

As demonstrated by the 10 chronologies in Chapter Two, NHTSA and the auto industry have known about the risks areas addressed by Title 4 for more than thirty years.

Case Study: Rollover

Despite years of improving belt use, rollover fatalities are at their highest level in a decade, mostly due to the rising rates of rollover deaths.

- Vehicle rollovers cause more than 10,000 fatalities each year—a full *third* of vehicle occupant deaths.^{20 21}
- The 2002 highway death toll was the highest in over a decade—and rollover crashes accounted for over 80 percent of these increased deaths.²²
- SUV and pickup rollovers account for nearly half of the increase in annual occupant fatalities.²³
- Sixty-one percent of sport utility vehicle occupant fatalities occur in rollover crashes,²⁴ and SUVs roll over in fatal crashes at 3 times the rate of cars.²⁵
- Shockingly, more than 20 percent of people killed in rollover crashes *were restrained* by safety belts at the time of the crash.²⁶

Rollover: Stymied Efforts Since 1973

In April 1973, NHTSA first proposed a rulemaking for a rollover resistance standard, which was never finished.

Thirteen years later, in September of 1986, Congressman Tim Wirth called on NHTSA to pass a life-saving rollover standard. His petition to the agency was denied. In 1988, Consumers Union and the Center for Auto Safety again asked NHTSA to act, as rollovers killed 9,500 people each year.

In 1991, Congress passed the Intermodal Surface Transportation Efficiency Act, which required NHTSA to address means of protecting motorists from “unreasonable risk of rollovers” in passenger vehicles.²⁷

But in 1994, the agency terminated its work on a rollover propensity minimum standard, promising that a series of new standards for rollover crashworthiness and a consumer information program were forthcoming.²⁸

The rules promised in 1994 included: advanced window glazing to prevent ejections, and stronger roofs; in addition, NHTSA stated publicly that it would also require improvements in door latches and hinges and upper side-impact protection.

None of the promised regulations on rollover crashworthiness has since been issued, but all are contained in Title 4.

The More Things Change...

The *New York Times* reported in September 2000 that:

[R]egulators have been studying rollovers for 27 years, but industry lobbyists have appealed to members of Congress from auto-producing states to block periodic efforts to adopt rules that would address the problem.

Case Study: Vehicle Compatibility

The design of light trucks—and large SUVs and pickup trucks in particular—with a high center of gravity, high bumpers, and steel bars and frame-on-rail construction, makes these vehicles act like battering rams in a crash.

The problem is a serious one:

- When an SUV strikes the side of a passenger car, the car driver is *22 times* more likely to die than is the driver of the SUV. When the striking vehicle is a pickup, the car driver is *39 times* more likely to be killed.

- NHTSA's Administrator estimated as long ago as 1997 that the aggressive design of light trucks kills 2,000 additional people needlessly each year.²⁹
- Another analysis found that 1,434 passenger car drivers who were killed in collisions with light trucks would have lived if they had been hit instead by a *passenger car of the same weight as the light truck*.³⁰

Yet, auto manufacturers continue to build ever-more heavy and aggressive SUVs and to market them as such. The chief designer of the 2006 Toyota Tundra recently bragged that his threatening design for the huge pickup truck is intended to highlight "the power of the fist."³¹

Despite shocking highway statistics and mounting research, in its June report NHTSA focused on only the struck vehicle—*bulking up protection in cars, but ignoring the equally important challenge of changes to reduce the aggressiveness of pickups and SUVs*. While improving occupant protection is critically important, the total crash dynamic can and must be considered.

Resisting Real Action: Promises, Promises by Manufacturers, Ratified by NHTSA

In December 2003, auto manufacturers announced a voluntary initiative to address incompatibility and aggressivity. The plan, currently to be phased-in on *most* vehicles by September 2009, would add side-impact air bags and lower the bumpers of SUVs or add a barrier to prevent them from riding over cars.

Yet the Alliance makes no specific commitments to redesign vehicles to be less aggressive. *Moreover, there is no requirement that all vehicles become compliant with the plan, and no outside body will verify vehicle compliance*. Voluntary "commitments" violate core principles of democratic accountability and transparency by involving closed, secret deliberations, no procedural or judicial oversight, no mechanisms for accountability, and no baseline for safety.

Even this new set of promises is only the latest in a series on compatibility issues. In 1998, the auto industry promised NHTSA Administrator Dr. Ricardo Martinez that it would make modifications to achieve safer designs, mainly by adjusting vehicle suspension. The industry refused to provide any details of their plans *and there is little evidence that any substantial design changes were made*. Consequently, the latest set of industry promises also raises questions, as vehicles continued to be designed to be large and aggressive, and the highway carnage continues.

As NHTSA states in the conclusion to its report making vehicle compatibility one of its four major priority areas, "[v]ehicle compatibility has been a concern for NHTSA since the 1970s."

The time for action is now.

FACT #4: TITLE 4 CLOSES SAFETY “DESIGN GAP” WITH FEASIBLE
AND AVAILABLE SOLUTIONS

In spite of the absence of Federal standards to improve occupant protection, there is a wide array of cost-effective safety technologies already available from automotive suppliers that could reduce deaths and injuries in crashes.

Chapter Three of this report contains supporting detail on the range of safety equipment available for 2004 model year vehicles, including: side impact airbags, laminated side-window safety glass, rearview cameras, backover prevention technologies, and rollover safety belt pretensioners.

Forty-seven percent of 2004 model-year vehicles offered head-protection side air bags, but only 27 percent offered the protection as standard equipment.³² In the 2003 model year, 40 percent of vehicle models offered head-protection side air bags, but only 24 percent offered it standard.³³

Of model year 2003 cars tested by NHTSA in the New Car Assessment Program (NCAP), electronic stability control (ESC) was standard on 22 percent of cars and optional on 17 percent. At least six model year 2004 cars offer a rearview camera as an option, and at least one 2004 model offers as standard a rollover safety belt pretensioner in all seating positions.

Safety technologies that are already widely available to luxury car buyers should not be limited to those consumers who can pay a premium — and requirements that enable technologies to become standard will lower prices for all consumers. A decent baseline for safety should not be available only to the rich.

Case Study: The Miracle of ESC

Electronic stability control (ESC) is an active safety system that helps drivers to maintain control of the vehicle and stay on the road. The system’s sensors compare the vehicle’s behavior in relation to the steering wheel position. When ESC detects a discrepancy, it intervenes to bring the vehicle’s direction back into line by transmitting the right commands to the antilock braking system and sometimes reducing the engine torque.

The core benefit of ESC is increased driver control, which translates into crash prevention. Studies conducted by DEKRA Automotive Research, DaimlerChrysler, Toyota, the University of Iowa and others indicate that ESC could positively influence *as much as 25 to 43 percent of fatal rollover crashes in the U.S.*, not to mention lives saved other crash types.

For example, one study showed a 27-percent reduction in fatalities in single-vehicle rollover crashes when vehicles had ESC, meaning that *installing ESC in all vehicles could save more than 2,100 lives in the U.S. annually in rollovers alone, not including fatalities that could be prevented in other types of crashes.*

Even with all this evidence, Title 4 allows NHTSA to draw its own conclusions on ESC, asking that NHTSA *issue* a rollover resistance standard, but merely *consider* additional technologies to improve vehicle handling, *including electronic stability control systems.*

Case Study: The Feasibility of a Superior Dynamic Roof Crush Test



The image above depicts the fixture used to conduct roof crush dynamic testing in a testing laboratory in Salinas, California. The road surface moves along the track, contacting the roof of the vehicle as it rotates on the spit. The test surface impacts both *sides of the roof on a single run*, imitating the first roll of a vehicle in a rollover crash. The picture shows a 1994 Chevrolet Suburban (*vehicle in white*).

The current Federal test is a static test using a platen, or plate, on the roof, and measures the impact of force *on only one side of the roof* with the steady exertion of pressure.

A dynamic test is far superior because:

- (1) It measures the survivability of the rollover crash—the human impact;
- (2) It includes the lateral, or sliding, velocity of the road as it moves beneath the vehicle;
- (3) It tests *both sides* of the roof—the current test only tests one side, with the windshield intact. Yet research shows that passengers sitting in the seat below the second, or trailing edge, of the roll, are the ones severely injured or killed. At the second impact, the roof, already weakened, crushes downwards toward the occupants' heads.
- (4) It shows the harm after the windshield shatters in the first impact. Although a windshield breaks on the first impact with the roof, it typically provides up to one-third of the roof's strength in the static test.
- (5) The test shows the real dynamic of crush as a function of roof geometry (roundness, curvature, etc.). Because the static test is not designed to include roof geometry, it omits a major factor for survivability.

While a static test measures the strength of the roof, a dynamic test measures injury to people.

Dynamic drop tests for roof strength are repeatable. As a 2002 engineering paper states:

The automotive industry and researchers have used drop testing for years to evaluate roof strength. In the late 1960s, SAE developed a standardized procedure to perform full vehicle inverted drop testing. Many domestic and import auto manufacturers have utilized the inverted drop test technique as far back as the 1960s and 1970s to evaluate roof strength.³⁴

Dynamic Tests Are Repeatable

The auto industry first protested the “repeatability” of dynamic tests in the late 1960’s in opposition to NHTSA’s then-new frontal crash barrier tests – now a standard compliance test. Industry lodged similar objections over the crash test parameters for NHTSA’s New Car Assessment Program, now an accepted measurement.

In each case, the industry claimed that a repeatable dynamic test could not be formulated — and yet one was developed and used.

FACT #5: TITLE 4 WILL SAVE JOBS AND MONEY

“Overall, the U.S. automotive supplier industry employs approximately two million workers with operations and facilities in nearly all 50 states. Sales in the U.S. automotive supplier industry totaled approximately \$370 billion in 2002.”

—Testimony of Jason Bonin, V. P. of Lighting Technology, Hella North America, before House Subcommittee on Commerce, Trade, and Consumer Protection.³⁵

Job Creation Benefits

An analysis of SAFETEA by the Enhanced Protective Glass Automotive Association (EPGAA) concluded that between 10,000 and 12,000 jobs would be created by the bill at both major manufacturers and safety suppliers.

Enhanced safety will also help to assure the longer-range competitiveness of the automotive industry. Recent books, such as *The End of Detroit*, by Michelin Maynard, point out that unless the domestic auto industry acts quickly to improve safety and quality, they will keep losing market share to foreign manufacturers.

American Consumers Value Vehicle Safety

- According to a JD Power and Associates 2002 study, nine of the top 10 features consumers most desired for their next new vehicle improve vehicle or occupant safety.³⁶
- A study by Maritz Research found that more than two-thirds of consumers say they would definitely or probably buy high-tech safety equipment on their next vehicle.³⁷
- “We’ve learned that safety sells. It sells today. It clearly will sell tomorrow,” National Transportation Safety Board vice chairman Mark Rosenkar told auto-makers in January 2004.³⁸

It is nearly always far cheaper to prevent harm in the first place. For families of crash victims, the most difficult fact is often how little it would have cost to build safety protections into the vehicle.

A Comprehensive Approach Lowers Costs for Consumers and Society

Highway crashes cost the U.S. economy, in direct costs only, \$230.6 billion a year (in 2000 dollars), or \$820 for every man, woman and child in the U.S. The average direct economic cost to society of each death is over \$977,000 and is \$1.1 million for each critically injured member of society.³⁹ The figures do not include the costs to families, the untold suffering, or stress of family dissolution following the death of a child.

Society pays nearly three-quarters of all crash costs, primarily through insurance premiums, taxes and travel delay. In 2000, these costs totaled over \$170 billion.

Improved Safety Costs Pennies Per Vehicle

Some safety improvements, such as enhancing roof strength, cost very little, because they require mere improvements in design, rather than any new technologies. Others cost mere pennies. In contrast, automaker profit on SUVs is very high, as much as \$8,000 for each Ford Explorer.

**\$ Dollars and Sense --
Wholesale Safety Costs per Vehicle**

- ¢ *Belt pretensioners: \$2.00*
- ¢ *Laminated safety glass: \$1.40/ window*
- ¢ *Cables to enhance door latch protection: \$1.70*
- ¢ *Automatic door locking via software to reduce ejection: free (programming change only)*
- ¢ *Roof strength reinforcements: \$8 to \$27*

FACT #6: TITLE 4 DEFERS TO NHTSA'S JUDGMENT ON THE SUBSTANCE
OF SAFETY RULES

The clear language of SAFETEA invests NHTSA with substantial discretion over the content of tests to meet safety goals and recognizes the agency's expertise.

While Title 4 does specify *goals*, such as improving the safety of occupants in roll-overs, *nothing in Title 4 predetermines an outcome or baseline for the new studies, test or safeguards.* The heart and soul of each new standard is entrusted to NHTSA. For example:

On ejection: "The Secretary of Transportation shall prescribe a safety standard . . . to reduce complete and partial occupant ejection from motor vehicles . . . In formulating the safety standard, the Secretary shall consider the ejection-mitigation capabilities of safety technologies, such as advanced side glazing, side curtains, and side impact air bags."

On compatibility: "The Secretary of Transportation shall issue motor vehicle safety standards to reduce vehicle incompatibility and aggressivity . . . In formulating the standards, the Secretary shall consider factors such as bumper height, weight, and any other design characteristics necessary to ensure better management of crash forces . . . in order to reduce occupant deaths and injuries."

On rollover: "The Secretary of Transportation shall prescribe a motor vehicle safety standard . . . for rollover crashworthiness . . . In formulating the safety standard, the Secretary shall consider . . . a roof strength standard based on dynamic tests . . . and shall consider safety technologies and design improvements such as (A) improved seat structure and safety belt design, including seat belt pretensioners; (B) side impact head protection airbags; and (C) roof injury protection measures."

**The clear language of the provisions enacts
performance standards, and not technology
requirements.**

Title 4 does not dictate effectiveness dates for any rule, *allowing NHTSA to write phase-in schedules that allow manufacturers considerable lead time to integrate changes into their platform re-design plans.* Wherever safety technologies are mentioned in the bill, Title 4 asks only that NHTSA *consider or evaluate* them. Whether to require the use of any technology is, in each instance, left to the agency's judgment and discretion.

Many vehicle safety issues, in the real world, are interrelated. For example, occupant protection in a rollover crash is related to: rollover propensity; ejection; side-impact airbags; window glazing; belt performance; and door latch and lock performance. *For this reason, Title 4 contemplates a holistic approach to vehicle safety, to encourage the agency to resist tradeoffs that compromise occupant problems, and to reduce the risk of unintended consequences.* The agency is also invited to apply current and available science on crash protection.

In short, a clear Congressional mandate on the inter-related priorities in Title 4 will avoid a piecemeal, scatter-shot approach by NHTSA, and allow vehicle manufacturers to most cost-effectively design safer vehicles. Agency discretion is actually enhanced by legislation which enables NHTSA to target safeguards that have long been the focus of concerted opposition from the auto industry.

Lastly, setting priorities for executive agencies is a core democratic responsibility of elected officials in Congress. Congress has fulfilled its duty in many recent laws, including ISTEA, and TEA-21. The history of ISTEA is instructive: *when Congress failed to direct NHTSA to issue a final rule, the result was either no rule or a very weak one, diminishing the impact of the law.*

FACT #7: RELIANCE ON VOLUNTARY SAFETY STANDARDS PROVIDES NO ASSURANCE OF SAFETY AND IS ANTI-DEMOCRATIC

Give us a "Commitment" Instead of a Rule

In December 2003, automakers announced a voluntary initiative to address incompatibility and aggressivity. The plan, currently to be phased-in on *most* vehicles by September 2009, would gradually increase the numbers of side impact air bags in vehicle and lower the bumpers of SUVs or add a barrier to prevent them from riding over cars.

Yet the Alliance made no specific or time-bound commitments to redesign these stiff vehicles to protect consumers, despite the fact that light trucks act as battering rams in crashes, and that the height and stiffness of SUVs makes them devastating on the highway.

Moreover, there is no requirement that all vehicles become compliant with the plan, and no outside body will verify vehicle compliance. While the commitment may increase occupant protection, it does little to address the violence that will be inflicted by the striking vehicle in crashes, ignoring the need to reduce stiffness and address ever-larger vehicle weights.

A voluntary "commitment" is a particularly inapt solution where, as here, thousands of lives are at stake. In fact, Congress rejected them almost three decades ago when it passed the National Traffic and Motor Vehicle Safety Act in 1966.

As the Senate Committee Report stated:

*The promotion of motor vehicle safety through voluntary standards has largely failed. The unconditional imposition of mandatory standards at the earliest practicable date is the only course commensurate with the highway death and injury toll.*⁴⁰

The 1966 Congressional legislators were right. The historical path of automakers' voluntary efforts is paved with broken promises.

From General Motors' promises in 1970 to voluntarily put air bags in all its vehicles by the mid-1970s (GM installed just 10,000 in model year 1974 and 1975 vehicles, and then discontinued the program), to Ford, DaimlerChrysler and GM's recent recanting of their widely publicized 2001 promises to voluntarily improve the fuel economy of their light trucks by 25 percent (withdrawn after the threat of Congressional action on fuel economy receded), "voluntary" is often just another name for tactical maneuvering and delay.

Moreover, government reliance on voluntary "commitments" violates core principles of democratic accountability and transparency, because such voluntary agreements:

- *Contain no mechanisms for accountability:* If the program proves dangerously deficient, there is no recourse for injured consumers, nor for the government to initiate a defect investigation or compel the industry to perform a recall;
- *Involve closed, secret processes and meetings:* The public, which is at risk, is shut out of development of the proposal, which is in secret by industry working groups not subject to oversight, compliance with statutory requirements, a responsibility to explaining their decisions, or judicial review of decisions;
- *Lack transparency:* The public has no means to secure an independent evaluation of the quality of the industry's voluntary tests or standards. The public gets no verification that a particular vehicle complies with the voluntary tests, unlike a government standards;
- *Lack a baseline for safety:* High-income purchasers, who can afford safety extras may be protected, but low-income purchasers remain vulnerable to cost-related decisions by manufacturers;
- *Produce weak and non-binding results:* Proposals are invariably weak because they represent the lowest common denominator among companies looking out for their own costs and product plans, and there is no obligation to be or remain in compliance, so companies may change their minds at will and withdraw any protection offered;
- *Are replete with exemptions and limited remedies:* Voluntary "commitments" usually have exemption clauses permitting manufacturers to opt out of "compliance" because of marketing considerations, costs, or for other reasons. Voluntary "fixes" also do not help many drivers. For example, the Ford Explorer 2-door "Sport" was never re-designed to lower its rollover propensity, although it is more popular and more rollover-prone than the 4-door model which was subject to a well-publicized re-design.

- *Undermine the efforts of regulatory agencies:* Voluntary efforts often sideline agency involvement and research into safety policy by allowing willing agencies to defer or avoid regulation in a timely and vigorous manner.

While automakers have spoken ominously about delay in their voluntary “commitments” if standards are enacted, *withdrawing safety protections from consumers, once they have been made available, would be both unwise and uncompetitive, in view of the strong consumer demand for safety technologies.*

In addition, Title 4 asks NHTSA to handle related vehicle safety issues as a package, and outlines a vigorous rulemaking schedule, to ensure that there will be little delay in achieving these crucial steps forward in safety.

SUV Owners Speak Out

Casey Ryan of Widlomar, CA father of 3 and driver of a 2003 Land Rover Discover:

If Americans can put a man on the moon during in the 60's and develop abstract topics like artificial intelligence, computer science, bioinformatics and genomics, then Americans can do anything they put their minds to. We need to be putting those minds to work for something that affects Americans on a daily basis; more relevant and practical for those who pay taxes and work hard like myself: Build a better SUV. We are the customers. They are the servers. Let's see some real customer service.

Endnotes

¹ Blincoc, L., A. Seay, E. Zaloshnja, T. Millar, E. Romano, S. Luchtner, R. Spicer. *The Economic Impact of Motor Vehicle Crashes, 2000*. (DOT HS 809 446). Washington: NHTSA, May 2002.

² Office of Inspector General, “Review of the Office of Defects Investigation,” National Highway Traffic Safety Administration, Jan. 3, 2002.

³ *Public Citizen v. Mineta*, 340 F.3d 39, (2nd Cir. 2003).

⁴ See <http://regs.dot.gov/rulemakings/200404/report.htm>.

⁵ See <http://www.nhtsa.dot.gov/cars/testing/NCAP/>.

⁶ Consumer Reports, “Where the Rollover Scores Go Wrong,” April 2004, at 6.

⁷ Plungis, Jeff. “Lax auto safety rules cost thousands of lives.” *Detroit News* 3 March 2002.

⁸ “NHTSA’s New Head Protection Rule Puts New Technology on Fast Track.” Press Release. Washington: NHTSA, 30 July 1998.

⁹ Willke, Donald; Stephen Summers; Jing Wang; John Lee; Susan Partyka; Stephen Duffy. *Ejection Mitigation Using Advanced Glazing: Status Report II*. Washington: NHTSA and Transportation Research Center, August 1999.

¹⁰ Plungis, Jeff. “Lax auto safety rules cost thousands of lives.” *The Detroit News* 3 March 2002.

¹¹ Schöpf, Hans-Joachim. (2002). *Analysis of Crash Statistics Mercedes Passenger Cars Are Involved In Fewer Accidents*. Germany: DaimlerChrysler AG. 11.

¹² Joks, Hans. *Fatality Risks in Collisions Between Cars and Light Trucks*. Final Report. Ann Arbor: Transportation Research Institute, Sept 1998.

¹³ Plungis, Jeff. “Lax auto safety rules cost thousands of lives.” *Detroit News* 3 March 2002.

¹⁴ *The UCS Guardian & Guardian XSE: A Blue Print For A Better SUV*. Washington: Union of Concerned Scientists, 2003. <<http://www.suvsolutions.org/blueprint.asp>>.

¹⁵ See United States General Accounting Office, “Research Continues on a Variety of Factors That Contribute to Motor Vehicle Crashes,” GAO-03-436 (Mar. 2003).

¹⁶ U.S. Environmental Protection Agency, “Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2003,” EPA420-R03-006, April 2003.

¹⁷ National Center for Statistics and Analysis (NCSA), *Characteristics of Fatal Rollover Crashes*, DOT HS 809 438, at 22 (Apr. 2002), at 13 (emphasis added).

¹⁸ See National Center Statistics and Analysis, *Safety Belt and Helmet Use in 2002—Overall Results*, Sept. 2002, at 8.

¹⁹ National Center for Statistics and Analysis, *Characteristics of Rollover Crashes*, April 2002, at 47 and National Center for Statistics and Analysis *Motor Vehicle Traffic Crash Fatality and Injury Estimates for 2002* at 50.

²⁰ *2002 Annual Assessment of Motor Vehicle Crashes*. Washington: NHTSA, July 2003. 64.

²¹ *Initiatives to Address the Mitigation of Vehicle Rollovers*. Washington: NHTSA, 2003. 5.

²² Hilton, Judith; Umesh Shankar. *Motor Vehicle Traffic Crash Injury and Fatality Estimates*. (DOT HS 809 586). Washington: National Center for Statistics and Analysis, 2003. 8.

²³ *Id.* at 1.

²⁴ *2002 Annual Assessment of Motor Vehicle Crashes*. Washington: NHTSA, July 2003. 60.

²⁵ *Characteristics of Rollover Crashes*. (DOT HS 809 4398). Washington: NHTSA, April 2002. 21.

²⁶ *Occupant Fatalities in Vehicles in Crashes with Initial Side, Rear, and Frontal Impact, and Rollover, by Year, Restraint Use, Ejection, and Vehicle Body Type. FARS 1992–2001 FINAL & 2002 ARF*. Data Request. Washington: NCSA, Sept. 2003.

²⁷ See the Intermodal Surface Transportation Efficiency Act of 1991: USCA § 1392 at sec. 2503.

²⁸ See 59 F.R. 33254, 33255 (June 8, 1994).

²⁹ Bradsher, Keith. *High and Mighty: SUVs—The World’s Most Dangerous Vehicles and How They Got That Way*. New York: Public Affairs 2002, at 193 (Referring to Hans C. Joksch, “Vehicle Design versus Aggressivity,” (April 2000), DOT HS 809 194, p. 40–42).

³⁰ Joksch, Hans C. “Vehicle Design versus Aggressivity,” at 41. Further calculations contained in an electronic mail communication between Public Citizen and safety researcher Hans Joksch stated: “In 1996, 890 car occupants died in collisions with SUVs. If the risk in collisions with cars of the same weight had been half as high, as estimated at that time, 445 deaths would not have occurred if SUVs had been replaced by cars of the same weight.” E-mail from Hans Joksch to Laura MacCleery of Public Citizen, on Feb. 24, 2003 (on file with Public Citizen).

³¹ Rehtin, Mark. “Toyota Concept Truck hints at next Tundra.” *Automotive News* 4 Jan. 2004. www.autonews.com/news.cms?newsId=7421&bt=fist

³² O’Donnell, Jayne. “Study: Side Air Bags Should Shield Head.” *USA Today*, August 26, 2003.

³³ Insurance Institute for Highway Safety Status Report, Vol. 38, No. 8, Aug. 26, 2003, at 2.

³⁴ Brian Herbst, Stephen Forrest, Steven E. Mayer and Davis Hock, *Alternative Roof Crush Resistance Testing with Production and Reinforced Roof Structures, 2002–01–2076*, SAE 2002.

³⁵ Hearing on Reauthorization of the National Highway Traffic Safety Administration, Washington D.C., March 18, 2004.

³⁶ Testimony of Robert Strassburger, Vice President, Safety & Harmonization Alliance of Automobile Manufacturers on the Reauthorization of the National Highway Traffic Safety Administration, before the Subcommittee on Commerce, Trade, and Consumer Protection, Mar. 18, 2004.

³⁷ Edward Lapham, “Most drivers want safety over entertainment,” *Automotive News*, Feb. 20, 2004.

³⁸ Omar Sofradzija, “Automakers Told Features Necessary,” *Law Vegas Review-Journal*, Jan. 31, 2004.

³⁹ Blincoe, L., A. Seay, E. Zaloshnja, T. Millar, E. Romano, S. Luchtner, R. Spicer. *The Economic Impact of Motor Vehicle Crashes, 2000*. (DOT HS 809 446). Washington: NHTSA, May 2002.

⁴⁰ Committee Report on S. 3005, The Traffic Safety Act of 1966, June 23, 1966, at 271, 273, 274.

Senator SMITH. Thank you. Did I understand you correctly that you think the Smart Tread technology is a good idea or not?

Ms. CLAYBROOK. I think it’s a terrific idea. The only concern I have is that we’ll never see it.

Senator SMITH. And why would you—

Ms. CLAYBROOK. My concern is because I’ve seen so many great inventions over the years for improvements in safety and there are many that today have never been adopted. It took 25 years to get air bags in cars, 25 year battle, and that was even with the involvement of NHTSA issuing the standard several different times. So I just hope that it is made available, because I think it’s one of those kinds of technologies that’s so simple and so easy for the

public to understand and by using color codes of yellow and then red it's so clear, warning and then danger, that we'd just like to see it adopted. I hope that manufacturers will do it voluntarily, but if they don't, I think that at some point in time in not-too-distant future it would be nice to have it regulated.

Senator SMITH. The side air bags, how does that relate to the rollover concern you have? Obviously many, many car manufacturers are pursuing that on a range of vehicles now. Is that something that you're encouraging? Where does that fit in in your view?

Ms. CLAYBROOK. I think it's terrific. Side impact head air bags particularly are very, very important, and the standard that has been—the advance notice for a standard that's been issued by NHTSA is very promising and I think that it's really great that Dr. Runge has pursued this as vigorously as he has. The side head air bag is very important not only for a side impact crash, but for a rollover crash and to prevent ejection.

Our one concern is that missing from the—I believe missing from the advance notice is any requirement or discussion of requirement for the head air bag to inflate when the rollover starts to occur. You need a sensor so that when that rollover starts to occur, the air bag inflates, not just when you're hit in the side, if it's going to be useful in a rollover protection. So we will certainly comment on that and I hope that that will be added.

Senator SMITH. Do you think NHTSA's doing enough with state legislatures on the Click It or Ticket programs? Do you see progress in that field?

Ms. CLAYBROOK. I think that it's great that—the Click It or Ticket program, I think it has gotten a lot of public attention and it does help with police enforcement, public information, and the laws. If you didn't have all three of those, NHTSA many years ago found that the way to get people to act is to have all three, a really good law, enforcement of that law, and public information, and that's what the "Click It or Ticket" program does. It adds the public information element to that.

However, we were very disappointed that Dr. Runge did not endorse the Warner Amendment to the highway bill, which would have eventually required that states enact the primary enforcement laws, and that makes it much, much easier for the police to enforce. The states that have it, like Oregon and Washington, have a much higher rate of belt usage and we thought that if Ronald Reagan could endorse a mandatory requirement for age 21 for drinking that George Bush could endorse one for primary belt use, but that didn't happen.

Senator SMITH. Maybe it will.

Ms. CLAYBROOK. Maybe it will.

Senator SMITH. Well, thank you all so very much. Your testimony is important and what I'd like to do because I know that a number of my colleagues wanted to be here, I'm going to leave the record open for them to submit written questions. I may even have a few of my own. But this is a very important issue. I hope, Ms Claybrook, we get a transportation bill.

Ms. CLAYBROOK. Thank you so much.

Senator SMITH. I understand the House is pursuing it right now pretty vigorously and so there may be a showdown on that issue,

but we do need a highway bill, it needs many of these provisions, and we're close but not quite there yet.

Ms. CLAYBROOK. Thank you so much.

Senator SMITH. With that, ladies and gentlemen, we thank you for your attendance, apologize again for the delay, and we're adjourned.

[Whereupon, at 4:20 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF CONSUMERS UNION

Consumers Union¹ appreciates this opportunity to share our views on the landmark auto safety legislation which is the subject of this hearing, the "TREAD Act." (Transportation Recall Enhancement, Accountability, and Documentation Act of 2000).

Consumer Reports has been testing and rating motor vehicles and automotive products since 1936, the year our magazine was first published. We have always made safety a top priority in our product ratings, and the safety of automobiles is no exception. CU has a long history of working with the National Highway Traffic Safety Administration (NHTSA) and Congress to press for improvements in automobile safety to identify safety priorities and insure that NHTSA is fulfilling its mandate to protect consumers.

Each year, CU conducts comprehensive tests of some 40 to 50 new vehicles that we buy anonymously at retail, and we provide consumers with ratings about performance, routine handling, fuel efficiency, reliability, comfort, braking, emergency handling, and safety features of these vehicles. CU also tests tires each year for their performance in braking, handling, cornering, and traction characteristics on dry, wet, snow-covered, and ice-covered surfaces. Each month, an estimated 17 million consumers read and consider our published test reports, product ratings, and buying advice as they ponder their choices.

TREAD's Rollover Consumer Information Program

The TREAD Act included a number of important safety measures that have benefited consumers, but we want to focus here on a vitally important provision in TREAD requiring NHTSA-after years of failing to address the rollover problem-to develop and conduct dynamic driving tests it had developed to measure vehicle rollover resistance and report those findings to consumers.

CU's History in Rollover Prevention Efforts

Consumers Union has spent years working to get NHTSA to address the problem of vehicle instability; during that period, the rollover problem has grown steadily worse each year. NHTSA's preliminary data for 2003 showed that while passenger car fatalities declined by 778, SUV fatalities increased by 456. SUV fatalities in rollover crashes increased 10 percent in a single year from 2,448 to 2,701. As NHTSA's press release noted, "This increase was partially accounted for by increases in SUV sales." However, notwithstanding sales volume, SUVs and pickup trucks as classes of vehicles have unusually high rollover rates due to their high centers of gravity.

CU's history in working on rollover issues dates back to 1988, when we asked NHTSA to set a stability standard to reduce rollover using dynamic testing. NHTSA granted that petition but ceased work on the standard in 1994. Finding resistance within the agency to setting such a standard, in 1996 Consumers Union asked NHTSA to at least develop a dynamic test for rollover resistance, conduct tests of SUVs using that test, and make the information available to consumers.² NHTSA

¹ Consumers Union is a nonprofit membership organization chartered in 1936 under the laws of the state of New York to provide consumers with information, education and counsel about goods, services, health and personal finance, and to initiate and cooperate with individual and group efforts to maintain and enhance the quality of life for consumers. Consumers Union's income is solely derived from the sale of *Consumer Reports*, its other publications, and from non-commercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, *Consumer Reports*, with more than 4 million paid circulation, regularly carries articles on health, product safety, marketplace economics and legislative, judicial and regulatory actions which affect consumer welfare. Consumers Union's publications carry no advertising and receive no commercial support.

² In 1973, NHTSA announced its intention to consider a standard "that would specify minimum performance requirements for the resistance of vehicles to roll over in simulations of ex-

Continued

granted CU's petition for such a consumer information program, calling CU a "welcome partner" in the quest for improved rollover safety.

The end of this long saga is that not until Congress mandated in TREAD that NHTSA develop and implement a dynamic test for a rollover consumer information rating program did NHTSA follow through. Today NHTSA uses a "fishhook" maneuver to evaluate vehicle rollover resistance. Our auto engineers support the use of the fishhook test because they believe it is rigorous enough to do a good job of assessing the rollover resistance of a range of vehicle designs—provided that the test is used to its fullest potential.

NHTSA's Perplexing System of the Rollover Consumer Information Ratings

However, we remain greatly disappointed and utterly perplexed at the way NHTSA has implemented its use of the test and formation program. When NHTSA released its first ratings on rollover in February of this year, using the new test on 2004 models, two of the 14 vehicles tested had tipped up.

NHTSA's head of public affairs said this about the scores: "If there's no tip-up, you get a benefit, but if there is a tip-up, there's no penalty. The rule of thumb is that not tipping is worth half a star." We were concerned about that result, and addressed the issue in the April 2004 *Consumer Reports* in an article entitled, "Where the rollover scores go wrong."

We believe that when a vehicle tips up on two wheels in NHTSA's rollover testing program, that should drop its rollover resistance score below that of vehicles that did not tip up. Not so, according to NHTSA. But tipping up in this test is a serious performance consideration.

Much of the disconnect between the dynamic test and the new overall star ratings lies in how the ratings attempt to estimate a vehicle's overall rollover risk. NHTSA has changed the statistical methodology it uses to estimate that risk. It also weighs a vehicle's static stability factor (SSF) much more heavily than the dynamic test, which we think is a mistake. The SSF relates primarily to field data on "tripped" rollovers, which typically occur when a vehicle's wheels slide sideways against a curb, for example. The dynamic test probes a vehicle's ability to stay upright when making emergency maneuvers. The former is based on the history of all rollover accidents, the latter on how the test vehicle performs in an emergency maneuver. They give important but separate information.

NHTSA's static measurement may be a helpful predictor of tripped rollovers, but the overall result as currently provided is not helpful to consumers—it virtually masks the dynamic behavior of the vehicle.

Getting Information On Vehicles That Tipped Up From NHTSA's Website is Difficult and Confusing

NHTSA's Website—where this information is stored but not easily found—shows the overall rollover scores for the two test vehicles that tipped up, the Ford Explorer Sport Trac and the four-wheel drive Toyota Tacoma extended-cab pickup, with vehicle ratings of two stars and three stars respectively out of a possible five stars. Compared with other vehicles, two and three stars sound pretty good to most consumers. However, even more frustrating is the difficulty in finding which vehicles failed the test. In order to learn whether the vehicle tipped up, the consumer has to click on the vehicle's name, and from there scroll down to the very bottom of the page and look for the word "tip" in a small box under the heading "rollover." This new and vital information is virtually buried, out of sight, away from consumers seeking safety information.

Further, an enterprising consumer seeking more information on NHTSA's Website would be surprised to learn that if he or she went back to the press release the agency sent out in February with rollover rating data, the press release *says nothing about the tip ups at all*. Instead, the two vehicles that are designated "tip" in NHTSA's Website, are described as "under review and [information about them] will be released at a later date." This befuddling conflict of information is at best, not helpful to consumers.

Meanwhile, the rating section of the Website includes no discussion of what "tip" means, whether the vehicles tested had electronic stability control (a relatively new technology that our engineers have found to be quite effective in reducing rollover), or at what test speed the vehicles tipped up.

trema driving conditions encountered in attempting to avoid accidents." But NHTSA backed away from setting a standard. In fact, in 1994 NHTSA halted rulemaking on a universal minimum-stability standard, concluding that a standard applicable to all vehicles would require the redesign of nearly all SUVs, vans and pick-up trucks—at an unacceptably high cost.

The agency never set such a standard, despite considering the rollover issue for the next 31 years.

The net effect of the new ratings program is to bury the new dynamic test information and prevent consumers from obtaining any really useful information regarding which vehicles are the more stable and forgiving in an emergency situation. NHTSA's consumer-unfriendly treatment of rollover ratings information also means that most vehicles will look alike when it comes to rollover propensity, including SUVs, which we know have a far greater propensity to roll over than passenger cars. The information program has great potential, but needs to be redesigned to make dynamic rollover test information more accessible, more accurate, and more useful.

Additional Concerns About Rollover Testing and Rating Program

We raise for your consideration two additional concerns regarding rollover. The first is that when NHTSA first released these ratings in February, it promised more test results in the "spring." To date, the test results of only 14 vehicles have been released. Second, NHTSA's current dynamic rollover test remains only part of the picture. Consumers Union has consistently recommended that a viable rollover testing program must include handling tests in order to prevent automakers from passing the fishhook test while degrading handling elsewhere, say by using tires that allow a vehicle to slide too easily. NHTSA officials appear to agree, saying they intend to add handling tests to complete the rollover testing protocol. However, we have seen no indication that they are developing these handling tests and without them, holding all the other problems aside, the rollover testing program is simply incomplete.

CU has struggled to determine how best to advise our readers on what we regard overall as confusing and even misleading information about a vehicle's tendency to roll over. Currently we tell our readers that any vehicle that tips up in NHTSA's fishhook maneuver testing should be regarded as falling below the minimum performance in NHTSA's test for rollover resistance. *Consumer Reports* will not recommend any vehicle that tips up in NHTSA's fishhook test.

In light of the problems with NHTSA's rollover rating system, we urge this Subcommittee to insist that NHTSA overhaul its rollover ratings system and delivery of consumer information to reflect completely, accurately, and in a consumer-friendly manner the relative stability of the vehicles tested and rated.

NHTSA's Work on TREAD and Beyond: Overall Observations and Recommendations

The Administrator of the National Highway Transportation Administration (NHTSA), Dr. Jeffrey Runge, has rightly proclaimed as a proud accomplishment the agency's completion of final rules in over a dozen different rulemakings since the passage of the TREAD Act in 2000. While each of these final rules was developed as a result of a Congressional mandate under TREAD, we agree with Dr. Runge that there is much take pride in. NHTSA's ability to put in place in a short time period a number of new regulatory standards is admirable.

We wish to make some observations and raise several other areas of concern in our comments.

A. The first observation is that auto safety gets faster, more comprehensive regulatory action from NHTSA when Congress gives the agency a broad roadmap for addressing longstanding safety problems and for developing new regulations, including mandates with specific dates. We are not suggesting that Congress engage in micromanagement of this Federal agency, but history has made clear that the public benefits when Congress gives the agency general directives for reducing risks and improving safety, like calling on NHTSA to update a 30-year-old tire testing standard or developing a dynamic test for rollover resistance. The safety organization Advocates for Highway and Auto Safety has documented NHTSA's history of action—or inaction—when a Congressional mandate is in place. With four different laws, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA); the Transportation Efficiency Act for the 21st Century (TEA-21); the Transportation Recall Enhancement, Accountability, and Documentation Act of 2000 (TREAD); and Anton's Law (2002), there is a clear pattern of NHTSA adopting a rule when there is a Congressional mandate to do so, and failing to solve problems on their own when Congress does not require action.

B. The second observation is that NHTSA has the ability to act expeditiously to put in place competent and well-developed mandatory regulations when given the road map and sufficient directive by Congress to do so. TREAD is the most recent and best example. On the other hand, the auto industry and even Dr. Runge argue that voluntary standards developed by industry, in contrast to mandatory ones, are often preferable because they can be adopted in a shorter

timeframe. This argument is belied by recent events. In February 2003, Dr. Runge asked the auto industry to engage in a voluntary process, whereby they would commit as an industry to reducing the special hazards posed by larger vehicles—SUVs, pickup trucks, and other large vehicles—crashing into smaller ones. The auto industry, working with the Insurance Institute for Highway Safety and with a NHTSA representative participating, adopted voluntary requirements to address occupant head protection in front-to-side crash protections. The date this voluntary standard is to go into effect, however, is September 2009. Consider this: NHTSA developed over 12 mandatory regulations in four years, several with immediate implementation dates, while the industry developed a single voluntary standard that from the time of its inception to expected full compliance will take over six years.

Voluntary standards can be slow to take effect, and they also exclude the public from the vital process of reviewing proposed actions and having meaningful input into their development. Industry members too often develop voluntary standards behind closed doors. Voluntary standards also leave consumers unsure whether the vehicles they are buying comply with a voluntary standard—they need not comply, since the standard is voluntary. Moreover, consumers can't know whether an automaker might decide to stop complying if the cost of doing so becomes too great, as has happened in the past.

C. While the rulemakings accomplished under TREAD were unprecedented and NHTSA accomplished a great deal in a short amount of time, much of the rulemaking under TREAD dealt with long overdue updates of regulations. Prominent among them was getting the agency to focus on detecting warning signals of product hazards and defects sooner rather than later, updating a three-decade old tire testing program, and requiring the agency to include dynamic testing for rollovers into the consumer information program discussed above. With all of TREAD's important provisions, it wasn't the final word on auto safety. There is much still to be done to make vehicles safer, particularly in light of the changing nature of the automobile fleet over the past fifteen years.

Americans drive many more SUVs and pickups trucks than in the past—over 50 percent of vehicles sold fall into the category of light truck, and their size and weight present new hazards to smaller vehicles in a crash.

We know that we may be preaching to the choir here—after all, the full Commerce, Science and Transportation Committee passed TREAD and Title IV of S. 1072, the NHTSA reauthorization bill. But we need the strong support of members of this Subcommittee and the full Committee in the coming weeks, as the House has chosen not to adopt the Senate provisions. Consumers Union reiterates our support for the motor vehicle safety provisions contained in Title IV of S. 1072, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 (SAFE-TEA).

As many of you know, Title IV calls for the establishment of safety standards for a number of long-overdue National Highway Traffic Safety Administration (NHTSA) safety initiatives, including vehicle rollover crash prevention, side impact crash protection, occupant ejection prevention, vehicle-to-vehicle crash compatibility, 15-passenger van safety, child safety measures, and improved consumer access to safety information. Each of these individual provisions is designed to set goals for action while giving NHTSA flexibility in setting effective dates for the safety measures to be implemented, and to give motor vehicle manufacturers the freedom to choose the design or technology that best meets the performance standards that are adopted.

For years, and in some cases decades, these safety measures have been under consideration by NHTSA, but have not been implemented. Title IV of S. 1072 provides an effective roadmap to complete action on these important life-saving measures, and will offer much needed protection for the driving public, in much the same manner as TREAD.

Thank you for taking the time to consider our views.
Respectfully Submitted,

SALLY GREENBERG
Senior Product Safety Counsel

R. DAVID PITTLE, PH.D.
*Senior Vice President
Technical Policy*

PREPARED STATEMENT OF THE ASSOCIATION OF INTERNATIONAL AUTOMOBILE
MANUFACTURERS, INC.

The Association of International Automobile Manufacturers (AIAM) is a trade association representing 14 international motor vehicle manufacturers who account for 40 percent of all passenger cars and 20 percent of all light trucks sold annually in the United States. AIAM members have invested over \$26 billion in U.S.-based production facilities, have a combined domestic production capacity of 2.8 million vehicles, directly employ 75,000 Americans, and generate an additional 500,000 U.S. jobs in dealerships and supplier industries nationwide. AIAM members include: Aston Martin, Ferrari, Honda, Hyundai, Isuzu, Kia, Maserati, Mitsubishi, Nissan, Peugeot, Renault, Subaru, Suzuki and Toyota. AIAM also represents original equipment suppliers and other automotive-related trade associations.

AIAM appreciates the opportunity to offer its views regarding the implementation of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act by the National Highway Traffic Safety Administration (NHTSA), the subject of the Subcommittee's June 3, 2004, hearing.

In this statement, AIAM will address three matters raised at the hearing—the appropriateness of mandated vehicle safety rulemaking proceedings specified in the Senate version of pending highway reauthorization legislation (S. 1072, as incorporated into H.R. 3550), the agency's ongoing program to address rollover crashes, and the agency's rule regarding the treatment of confidential business information submitted as part of "early warning" reports mandated by the TREAD Act.

Rulemaking Mandates

In September 2002, NHTSA announced four priority safety areas for in-depth staff review of possible mitigation measures: safety belt use, impaired driving, rollover mitigation, and vehicle crash compatibility. Building on that work, the agency last year announced a four-year priority plan for safety rulemaking and supporting research. NHTSA has developed this priority agenda based on its analysis of which aspects of safety have the potential to provide the greatest public benefit in terms of reduction of fatalities and serious injuries from motor vehicle crashes.

In our view, there is no justification for Congress to establish a rulemaking agenda and schedule for NHTSA's vehicle safety standards program. We are aware of no evidence suggesting that the agency has failed to select appropriate rulemaking priorities. Moreover, under Dr. Runge's direction the agency has substantially expedited the timing for developing major rules. We urge the Subcommittee to consider supporting the deletion of these provisions as part of the Senate-House conference on the Highway Bill.

AIAM fully supports the agency's approach of establishing its priorities on the basis of safety data, so as to target for early action those areas with the greatest life-saving potential. NHTSA's approach reduces the likelihood that vehicle manufacturers will be forced to direct staff and budget resources to research and development activities with a limited safety benefit.

To assist the agency in establishing appropriate priorities, Congress should fully fund the agency's research program. In particular, AIAM urges long-term full funding for the agency's Fatality Analysis Reporting System (FARS) and National Automotive Sampling System (NASS) crash databases and the planned, long-overdue updating of a comprehensive crash causation study. These data sources are critical to agency efforts to identify appropriate safety priorities. Another research priority that should be fully funded is agency work to develop safety standards appropriate for new technology vehicles (*e.g.*, fuel cell vehicles, fully electronic "by-wire" systems, etc.) and such matters as post-collision crash notification and emergency response. Manufacturers are already developing designs and prototypes for such new technologies. Without knowing what standards will apply or how to interpret current standards in the context of the new technology, manufacturers will generally not be able to economically incorporate standards compliance into their designs.

NHTSA Program to Address Rollover Crashes

Section 4156 of the Senate version of the Highway Bill (S. 1072) would require near term rulemakings to adopt standards on rollover crashworthiness and rollover resistance. The agency has recently issued upgraded consumer information requirements relating to rollover, in response to a Congressionally mandated 2002 study by the National Academy of Sciences (see <http://books.nap.edu/html/SR265/SR265.pdf>) and section 12 of the TREAD Act. NHTSA has found over the course of several years that the consumer information approach is superior to standard-setting as a means of addressing the rollover propensity matter, and recent experience with NHTSA and the Insurance Institute for Highway Safety consumer information programs supports the effectiveness of a consumer information approach. One con-

cern has been that establishment of a rollover propensity standard could effectively ban some categories of SUVs or significantly impair their functional utility while having no beneficial impact on the majority of vehicles; by contrast, the consumer information approach promotes improvement in all types of vehicles. In addition, the consumer information approach has the potential to achieve quicker results at lower cost. We see no basis for the need to overlay a regulatory program on the newly enhanced consumer information program.¹ Congress, having mandated the new rollover consumer information, should give the program a chance to prove itself.

Confidentiality

AIAM supports NHTSA's determination to maintain the confidentiality of significant portions of the information submitted by manufacturers under the agency's early warning report rule. In our view, the agency's decision is both legally justified and consistent with the practice throughout government with regard to the confidentiality of manufacturer-submitted product quality competitively sensitive information.

In response to the agency's 2002 rulemaking on the confidentiality matter, AIAM surveyed Federal and state agencies that administer programs analogous to the NHTSA safety program, to determine what policies those agencies follow regarding public access to the manufacturer-submitted data. Several regulatory agencies receive product quality related information from regulated parties for compliance evaluation purposes. These agencies consistently follow policies of withholding such information from public disclosure as described below:

- *California Air Resources Board (CARB)*—CARB administers a program under which vehicle manufacturers must report information on warranty claims relating to emission-related components. See Title 13 Code of California Regulations, sections 2144–5. Under this program, manufacturers must report counts of unscreened and screened warranty claims, categorized by engine family and specific component. When the number of warranty claims exceeds a threshold level, the manufacturer must submit a report containing the counts of claims CARB. This information may be used by the Board as the basis for ordering a recall based on the failure to meet emissions standards. Based on our discussion with CARB legal staff, we found that the Board treats the reports of warranty claims as confidential. The basis identified by the legal staff for this policy is to be found in California Government Code, section 6254.15, a provision of the California Public Records Act. Under that provision, “corporate financial records, corporate proprietary information, including trade secrets,” are exempt from public disclosure. The legal staff cited concerns regarding public confusion associated with premature release of such information as a subsidiary reason for their policy.
- *U.S. Consumer Product Safety Commission (CPSC)*—Under 15 U.S.C. 2064(b), each manufacturer of consumer products is required to report to the CPSC in the event one of the manufacturer's products fails to meet an applicable safety standard, contains a defect, or presents an unreasonable risk of serious injury or death. Under 15 U.S.C. 2055(b)(5), the CPSC may not disclose this information unless the Commission has issued a complaint involving the product, entered into remedial settlement agreement involving the product, or received the manufacturer's consent to release the information.
- *Food and Drug Administration (FDA)*—The FDA requires drug product manufacturers to report “adverse drug experiences” claimed to result from their products. See, e.g., 21 CFR 314.80, 314.81, 510.300. The adverse drug experience information is generally released to the public. See, e.g., sections 314.430 and 514.11. However, sales or production data involving the drug products is not released. See section 314.430(g)(2) and 514.11(g)(2). In this way, the information relating to individual adverse drug experiences is disclosed, but the confidentiality of the sales or production data prevents competitors from calculating “claims” rates (*i.e.*, the numerator of the rate fraction is disclosed, but not the denominator). For competitive purposes, the rate information is critical, in that it enables comparisons and extrapolations among different manufacturers, products, and production processes. FDA legal staff informed us that the sales/pro-

¹Public Citizen in its written testimony states that NHTSA is “behind the schedule it outlined in the final rule for its dynamic test” to issue a supplemental vehicle handling test. However, the dynamic test final rule states only that a handling test is not part of the TREAD requirements and that the agency is still soliciting information on the matter. See 68 Fed. Reg. 59257, October 14, 2003. We are aware of no schedule, whether established by Congress or the agency, for a handling test and no definitive determination by the agency that a handling test is needed.

duction information is withheld on the basis of FOIA exemption 4, as confidential commercial or financial information.

Conclusion

AIAM members stand at the forefront of technological advances to improve vehicle performance, efficiency, and safety. AIAM appreciates the opportunity to submit this statement for the Subcommittee's consideration and would be pleased to respond to any questions the Subcommittee may have regarding this statement.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BYRON L. DORGAN TO
HON. JEFFREY W. RUNGE, M.D.

Question 1. What opportunities do you think exist for the expanded use of nitrogen tire inflation to help address safety and other tire performance issues in the future?

Answer. The potential benefits of nitrogen tire inflation are very attractive for commercial vehicles, including aircraft, heavy trucks, heavy duty off-road construction vehicles, racing machines and other specialty equipment. As you mentioned in your letter, these vehicles have had nitrogen-inflated tires for many years and it appears that the benefits of nitrogen-inflated tires offset the cost burdens for these applications. In many cases, these vehicles are privately owned but commercially operated, so vehicle-operating costs are often mitigated.

For the passenger car, light truck, and multipurpose passenger vehicle market, the realistic opportunities available to expand the use of nitrogen-inflated tires are much harder to estimate. Private vehicle owners are generally responsible for the maintenance of their vehicles and are less likely to be aware of the technology or the benefits of nitrogen-inflated tires. Currently, there are few service facilities for private citizens to inflate their tires with nitrogen. Hence, we believe that the opportunities to expand the use of nitrogen tire inflation appear to be unlimited, if a consumer-oriented market is created for such a product. Manufacturers of machines that generate and/or store nitrogen and tire dealers would be the segment of the marketplace with the incentive to promote nitrogen inflated tires. The costs would include the investment in infrastructure as well as the per tire inflation costs. Tire pressure monitoring systems would still be needed on vehicles to inform drivers when their vehicle's tires are under-inflated, since nitrogen-filled tires would still become under-inflated, albeit at a slower rate than air-filled tires.

Question 2. If you think there is an impediment to expanding the use of nitrogen tire inflation in the United States, what steps do you think would be needed to overcome it?

Answer. We do not believe that there are impediments to expanding the use of nitrogen tire inflation in the United States. The use of nitrogen for tire inflation is expanding at a reasonable pace, especially for commercial and off-road vehicles. However, for light passenger vehicles used by the general public, we believe that limited availability of nitrogen inflation facilities and associated equipment, such as high pressure tanks and nitrogen generators, represents a potential challenge to expanding the use of nitrogen for tire inflation. Also, we expect that service stations and tire dealers that provide nitrogen for tire inflation to the general public may charge a nominal fee to cover the cost of operating and maintaining the nitrogen generating equipment.

Question 3. What should NHTSA's role be in promoting greater use of nitrogen inflation technologies in the Federal fleet and in the private sector?

Answer. NHTSA could conduct a Federal fleet operational study of the costs and safety benefits of inflating passenger car, light truck, and multipurpose passenger vehicles tires with nitrogen. Such a study could provide the agency with a better understanding of the potential costs and safety benefits of this technology, as it relates to improving the tire performance requirements in our safety standards. However, we do not believe that the agency should have an active role in promoting greater use of nitrogen tire inflation technologies in the private sector. The agency's safety standards are performance-oriented whenever possible and the tire safety standards currently do not include specifications for the tire inflation gas.