

**SUV SAFETY: ISSUES RELATING TO THE SAFETY  
AND DESIGN OF SPORT UTILITY VEHICLES**

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**HEARING**

BEFORE THE

**COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION**

**UNITED STATES SENATE**

**ONE HUNDRED EIGHTH CONGRESS**

**FIRST SESSION**

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**FEBRUARY 26, 2003**  
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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

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# **SUV SAFETY: ISSUES RELATING TO THE SAFETY AND DESIGN OF SPORT UTILITY VEHICLES**

**WEDNESDAY, FEBRUARY 26, 2003**

U.S. SENATE,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
*Washington, DC.*

The Committee met, pursuant to notice, at 9:30 a.m. in room SR-253, Russell Senate Office Building, Hon. John McCain, Chairman of the Committee, presiding.

## **OPENING STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR FROM ARIZONA**

The CHAIRMAN. Good morning. The purpose of today's hearing is to gain a better understanding of the various safety issues associated with sports utility vehicles, or SUVs, and other light trucks. In the interest of full disclosure, my family and I are owners and operators of SUVs, as many Americans with large families are as well.

As we all know, SUVs are extremely popular among consumers, yet they have received significant criticism for being more dangerous than other vehicles on the road. Statistically, SUVs have a higher rate of vehicle rollover than passenger vehicles.

Recent comments by Dr. Jeffrey Runge, the administrator for the National Highway Traffic Administration, gained attention when he expressed concerns about SUV safety and serious reservations about his family members driving some of them. His views in his capacity as NHTSA administrator, coupled with the data provided by his agency, merit a comprehensive review by this Committee.

Let me be clear. This hearing is not intended to vilify auto manufacturers or the SUVs that they produce, nor is this hearing meant to blindly defend the SUV as a vehicle that is more or less as safe as passenger cars. Rather, the purpose of this hearing is to examine the incidents of death, injury, and rollover when SUVs are involved in vehicle crashes.

I am a strong believer in the free market and consider consumer choice to be a fundamental component of a healthy economy and society. Consumer choice should be based on sound information, much of which, in this case, is provided by those who will testify today.

The Committee will be very interested to learn about the efforts underway to develop safer vehicles as well as to help educate the public and share existing information needed to make informed

choices. We also will be interested to learn whether any safety issues that may exist concerning SUVs can be resolved voluntarily by automobile manufacturers or whether uniform Federal safety standards are necessary.

Finally, it is important to recognize that over the years the automotive industry has made strides in improving vehicle safety. I hope to hear from our witnesses regarding what technologies currently exist that could further mitigate the safety risks that may be associated with SUVs.

I thank the witnesses for appearing and look forward to their testimony today.

Senator Boxer?

**STATEMENT OF HON. BARBARA BOXER,  
U.S. SENATOR FROM CALIFORNIA**

Senator BOXER. Thank you, Mr. Chairman, for holding this hearing.

I first would like to apologize in advance. I have two hearings going on in other committees—I am going to stay as long as I can—one in Foreign Relations and one in the Environment. But I do want to thank Dr. Runge for his efforts to make SUVs safer for the American public. And I want to thank the Chairman for calling this hearing.

Everyone knows there are SUVs everywhere, and you cannot drive down the street without having one in front of you, behind you, to the side of you. And a recent *New York Times* story about SUVs, it was dateline Greenbrae, California. That is where I live. And it is—every other car is an SUV. And I will tell you, large families and small families have chosen SUVs. That is their choice. And the way I look at it is that we do not have a choice, in terms of looking at the safety of these vehicles. We need to do that. At least I feel we need to do that, and I am glad we are going to do that today.

Beginning in 1999, the sale of SUVs and light trucks exceeded the sale of regular passenger cars. That trend continues today. There are now 76 million SUVs and light trucks on the road, or about 35 percent of all registered vehicles in the United States. It is clear that Americans love their SUVs. I am hopeful that next year, we will start seeing hybrid SUVs so the issue of fuel economy, hopefully we are going to make real progress on that and people can have an SUV that will get good mileage.

Because SUVs are larger and higher off the ground than regular passenger cars, drivers certainly think that they are safer. Now, I understand today we are going to hear from some automobile people who say that now they are getting safer. I think that is good, because actually, before, they never said they were not as safe, but they now say they are safer. So I guess that is progress. And what we are beginning to realize is, the combination of greater weight and height make the SUV top-heavy and more susceptible to rollovers.

I want to show you a chart on rollovers here, Mr. Chairman. This is the passenger car record on fatalities from rollovers, and we see a decrease here of 15 percent between 1991 and 2001. On SUVs, we see 150 percent increase in the sport-utility-vehicle rollover

deaths. And the other problem we have is that when an SUV does roll over, oftentimes the roof caves in on the passengers, and obviously the results are devastating.

And so what I hope we can do is hear from the witnesses today and see whether there is a need to set a standard for safety with SUVs. And I would like to suggest that after meeting with some—and I admit that I met with the people who care about the safety of automobiles—they are suggesting, and I tend to agree with them, that we should consider having a standard for rollovers and a standard for compatibility, because what happens is when an SUV hits another car, we are hearing now that there are fatalities in that other car because of the way the two vehicles match up when they hit one against another.

So there is one other chart, just quickly, and then I am done, that I wanted to show you. And this is that SUVs are more likely to roll over in a crash, 2.5 times. And I think these issues need to be looked at.

And I would also like to place into the record a record that we have that under administrations, Democratic and Republican alike, these standards have just been not addressed in either case, the roof crush, the rollover problem. So I would like to place that in the record.\* It just shows, Mr. Chairman, years and years of administrations of both parties just kind of ducking the standards question. And I hope we can take another look at it.

And I thank you very much for your leadership on this.

The CHAIRMAN. Thank you, Senator Boxer.

Welcome, Dr. Runge. It is good to see you again. Please proceed.

**STATEMENT OF JEFFREY W. RUNGE, M.D., ADMINISTRATOR,  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

Dr. RUNGE. Thank you, Mr. Chairman and Senator Boxer. Thank you for giving me the opportunity to testify about the safety of sport utility vehicles. This issue is a high priority for the National Highway Traffic Safety Administration. We appreciate your attention to it.

In the year 2001, more than 42,000 Americans were killed on our highways, and more than 3 million people were injured. About 31,000 of those killed were riding in cars and trucks. Although these numbers have many causes, I would like to talk about two issues today that center on the vehicle rollover and vehicle compatibility.

Here is what has led to these problems. The vehicle fleet, as you have mentioned, is much different than it used to be. Light trucks, including SUVs, pickup trucks, and minivans, have replaced large passenger cars and station wagons on our Nation's highways. Higher, heavier vehicles have replaced many that had lower centers of gravity, and their various shapes interact differently.

First, a few facts about rollovers, some of which Senator Boxer mentioned. SUVs are involved in fatal rollover crashes nearly three times the rate of passenger cars. In 2001, of the 31,000 people who died in cars and trucks, over 10,000 were killed in rollovers. So,

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\*The information referred to was not available at the time this hearing went to press.

overall, rollovers constitute about 3 percent of crashes, overall, but over 30 percent of fatalities in occupants.

The other issue is vehicle compatibility. The widening mismatch of vehicle size and weight on our Nation's highways is reflected in fatality statistics. In fatal crashes involving light trucks with passenger cars, over 80 percent of the fatalities are in the passenger cars.

Although we are focusing on the vehicle today, our agency looks at safety comprehensively. Driver characteristics and driver behavior are very important factors in every crash, so we must examine issues related to the driver as well as the vehicle. For instance, we could save most of the lives we lose in rollovers if people would simply buckle their safety belts every time on every trip. You can reduce your risk of death by 80 percent in light truck rollovers, and yet three of four people who died in rollover crashes were not wearing safety belts.

The agency is attacking this rollover problem on many fronts. For instance, our New Car Assessment Program, or NCAP, provides information that helps consumers purchase the safest cars. NCAP includes a rollover rating, which correlates very closely with the real-world rollover crash history of the vehicles rated. Under this system, a one-star vehicle is at least 40 percent more likely to roll over in a single vehicle crash than a five-star vehicle. This information is available by brochure as well as on our Web site at [nhtsa.gov](http://nhtsa.gov).

We know that market forces work, Mr. Chairman, as you have suggested. But in order for market forces to work, consumers must be given information to make those informed choices. Our NCAP program gives people the information they need, and, thereby, gives manufacturers a market incentive to improve the stability of their vehicles. NHTSA is also working on several regulatory initiatives to help reduce rollover deaths and injuries.

Now I would like to speak briefly on compatibility for a minute. With the increase in light trucks on our highways, the danger of the size and weight disparity is increasing. Let me give you some examples. People in passenger cars are at far higher risk when struck by a light truck from the front or the side. In frontal impact, there are eight fatalities in the passenger car for every fatality in a full-size van or pickup, and there are 4.5 fatalities in the car for every fatality in the SUV.

In side impact, the problem is worse, as you can see from this graphic on my right. These numbers have been updated from the numbers in my written testimony and are based on data from 1995 to 2001. When a pickup truck strikes the side of a passenger car, there are 39 fatalities among passenger-car drivers for every driver fatality in the pickup truck. When an SUV strikes the side of a passenger car, there are 22 fatalities in the passenger car for every driver fatality in the SUV. So you can see why this is a top priority for our agency.

We have a broad range of research activities currently underway on vehicle compatibility in order to attack this problem. We also appreciate very much the contribution of the industry to find science-based solutions to this very, very complex issue.

Mr. Chairman, the relationship of the corporate average fuel economy standard to safety is also of concern to us. We know that, to a significant degree, the CAFE program and our rules defining light trucks may have contributed to this rollover and compatibility problem. So later this spring, we will publish an advance notice of proposed rulemaking to solicit comments about the standards beyond model year 2007. We will be asking how we might restructure the CAFE program under our current statutory authority to solve these safety problems. Our goal is to enhance safety and achieve significant improvements in fuel economy while protecting American jobs.

Mr. Chairman, this concludes my oral testimony. My written testimony is submitted for the record, and I will be happy to answer any questions.

[The prepared Statement of Dr. Runge follows:]

PREPARED STATEMENT OF JEFFREY W. RUNGE, M.D., ADMINISTRATOR, NATIONAL  
HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Mr. Chairman, Members of the Committee, thank you for asking me to appear before you to testify about the safety of sport utility vehicles (SUVs). I had the pleasure of testifying before the Committee last year about our agency's priorities and I appreciate the opportunity to describe how SUV safety fits into these priorities. I look forward to working with you as we seek to make our roads safer for all highway users.

I want to begin by giving you some data to set the safety context. In 2001, our data show that 42,116 people lost their lives in highway crashes and more than three million people were injured. The number of fatal injuries has been at about this level for the past several years. In view of the steady increase in travel, this means that the fatality *rate* is stable or declining slightly. The number of injuries was almost five percent lower than in the prior year—a significant decline. There is reason for hope in these numbers, and a sign that safety measures are having an effect. Highway travel on a vehicle mile basis is far safer than it was 20 years ago.

What's new about these statistics is that they reflect the experience of a vehicle fleet that is very different from the fleet of 20 years ago. A more complex fleet, including vehicles such as minivans and SUVs that scarcely existed before, has replaced the fleet that was once dominated by passenger cars. There are now over 79 million light trucks on the road—including pickups, minivans, and SUVs—representing about 36 percent of registered passenger vehicles in the United States. With light trucks now accounting for nearly 50 percent of new vehicle sales, their share of the total fleet is growing steadily.

While the overall fleet is safer, the new fleet composition presents new safety issues. Two issues stand out. Rollover is one issue. Pickups and SUVs are involved in a higher percentage of rollovers than passenger cars—the rate of fatal rollovers for pickups is twice that for passenger cars and the rate for SUVs is almost three times the passenger car rate. Overall, rollover affects about three percent of passenger vehicles involved in crashes but accounts for 32 percent of passenger vehicle occupant fatalities. Single vehicle rollover crashes accounted for 8,400 fatalities in 2001. Rollover crashes involving more than one vehicle accounted for another 1,700 fatalities, bringing the total fatality count to more than 10,000.

Compatibility is the other issue. While light trucks represent 36 percent of all registered vehicles, they are already involved in about half of all fatal two-vehicle crashes with passenger cars. In these crashes, over 80 percent of the resulting fatalities are to occupants of the passenger cars. This problem will continue to grow as the percentage of light trucks in the fleet increases. SUVs account for about 35 percent of light truck sales.

These two issues are at the top of our vehicle safety agenda. I will address them in detail in a minute, but first I want to underline the importance of personal responsibility in highway safety.

We take a comprehensive approach to safety, which means that we look at the driver as well as the vehicle. We know that safety belt usage directly affects injury severity and the chances of survival in rollover crashes.

We can reduce the effects of the rollover problem overnight if all occupants will simply buckle their safety belts. The belts are there in every vehicle. They are 80 percent effective in preventing deaths in rollovers involving light trucks, and 74 percent effective in rollovers involving passenger cars. Yet 72 percent of the occupants of these vehicles who die in rollover crashes are not wearing safety belts. Of the fatally injured occupants, almost 60 percent are ejected from the vehicle, a percentage reflecting the violent and lethal nature of the rollover event.

We are intensifying our efforts to increase the level of safety belt use, through national safety belt mobilizations and by supporting the enactment of primary safety belt laws. Primary laws are more readily enforceable than secondary laws and lead to higher usage rates. Data show that the usage rate of safety belts in States with primary belt laws is 11 percentage points higher than the rate in other States. In 2002, the belt use rate reached 80 percent in primary belt law States for the first time. We will not solve the problem of low belt use unless the States adopt laws that can be readily enforced.

The other issue of driver responsibility is driving while impaired by alcohol or drugs. Impaired driving remains a constant problem on the highways. Alcohol is involved in 41 percent of the nation's highway fatalities overall, and in a like percentage of fatal rollover crashes.

We believe the issues of the vehicle and the driver are inextricably linked. Many of the deaths and injuries that could be prevented through vehicle performance standards can also be prevented through measures to improve driver performance.

Our approach to SUV safety reflects this comprehensive view. We have made the issues I've mentioned—rollover, compatibility, seat belt use, and impaired driving—the focus of special teams, known as Integrated Project Teams, that bring together expertise from all parts of the agency. I asked the teams to look at the best data available on these issues and to identify action items that the agency should pursue. We will be incorporating the results of the teams' work into a coordinated strategy to address each problem, which we will publish in the Federal Register in the near future. Although my remarks today will focus mainly on the vehicle issues, I urge you to keep all four issues in mind as you consider the question of SUV safety.

### **Rollover**

First, I want to address the issue of rollover. Under our consumer information authority, we carry out a program known as the New Car Assessment Program (NCAP). Through NCAP, we provide comprehensive information to aid consumers in their vehicle purchase decisions. The vehicle manufacturers have shown that they will voluntarily modify the design of their vehicles to improve their NCAP ratings. We welcome their efforts. Data shows that vehicles are becoming safer as a result.

We have used our consumer information authority to add a rollover resistance rating to NCAP beginning in model year 2001 that is based on estimates of the risk that a vehicle will roll over if it is involved in a single-vehicle crash. The rating is based on a vehicle's "static stability factor" or "SSF," which is a measure of a vehicle's track width (the distance between two wheels on the same axle) in proportion to the height of its center of gravity. Our analysis of real-world crashes shows that the ratings correlate very closely with the real-world rollover experience of vehicles. The lowest-rated vehicles (1-star) are at least 40 percent more likely to roll over than the highest-rated vehicles (5-stars).

A committee of the National Academy of Sciences recently studied our rating system for rollovers. While concluding that the static stability factor is an excellent predictor of single-vehicle rollover crashes, the committee stated that a dynamic rollover test might improve the rating system. The Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act directed us to develop such a test. We published a notice of proposed rulemaking under the TREAD Act last fall to prescribe a dynamic rollover test, received comments, and completed our own testing using the procedures in the proposal. We will publish a final rule in the near future. The dynamic rollover test will show how new vehicles actually perform in emergency steering maneuvers. Together, the static stability factor and the dynamic test will give manufacturers an incentive not only to improve the static stability of their vehicles but also to improve suspension systems and add stability control technology.

Informing consumers about voluntary improvements to rollover safety will help ensure that manufacturers who make such improvements are rewarded in the marketplace. The NCAP information will help consumers identify the vehicles that are more resistant to rollovers.

Market forces exert a powerful influence on vehicle choice, but consumers must be informed of the relative risks among vehicles in order to make appropriate market choices. Manufacturers will respond by providing vehicles that people want to

buy. In areas in which consumer information enables consumers to discriminate among vehicles based on their safety, we will see the fleet change much faster than through the traditional regulatory approach. We have been trying our best all through this administration to find ways to ensure that consumers are informed about the differences among vehicles and the importance of becoming educated before making a vehicle purchase.

While market forces are relatively fast and efficient, the agency recognizes that certain changes can best be effected through the rulemaking process. NHTSA is accordingly working on four rulemaking initiatives to help reduce deaths and injuries when a rollover crash occurs. One is a proposed upgrade of door lock requirements. The proposed upgrade will be published this year. Second, we are completing our evaluation of the current roof crush standard and expect to propose an upgrade of that standard early in 2004. Third, the agency intends to pursue rulemaking to consider possible ways to prevent ejection out of windows during a rollover. Finally, we have asked vehicle manufacturers about their plans to voluntarily install more effective seat belt reminders. In addition, we are awaiting the report this summer by the National Academy of Sciences evaluating technologies to increase seat belt use.

In the meantime, since it takes time to establish credible, scientific performance standards, we are encouraging the manufacturers to take voluntary steps to make vehicles more resistant to rollovers and to incorporate technologies that will make vehicles more protective when rollovers occur. Last month I suggested to the industry that they work toward a consensus on rollover sensing technologies for these systems, and encouraged them to examine the use of technology to increase safety belt use, also an essential part of anti-ejection efforts.

Our rollover team is working on innovative ways of preventing rollovers and mitigating injuries associated with these crashes. The team is examining safety belts, roof-rail air bags, roof crush, tire safety, and other vehicle issues, as well as possible NCAP information on roof crush, tire safety, and vehicle handling. Next month we will be publishing information in the Federal Register that will reflect the work of this team.

New technology or regulations can both have unintended consequences. We will therefore proceed expeditiously but deliberately. The physician's overriding ethic is "first, do no harm." We want to avoid harmful effects such as might result if an increase in roof strength resulted in raising the center of gravity, which could increase the propensity of a vehicle to roll over. We will continue to approach this holistically rather than through simple discreet, isolated rulemakings.

### **Compatibility**

Now I'd like to turn to compatibility. In simple terms, compatibility is the degree to which vehicles are matched in vehicle-to-vehicle crashes. In the fleet of 20 years ago, the primary incompatibility was one of weight, involving large cars and small cars. However, the arrival of SUVs and increased numbers of pickups has made other incompatibilities important as well—incompatibility in vehicle height and in the alignment of interacting vehicle structures, such as bumpers and chassis frame rails. There are also differences in the stiffness and design of their structures and in style of construction—vehicles with frames versus those with unibody construction.

These incompatibilities appear to be increasing. For example, in model year 1990 the average weight difference between light trucks and passenger cars was about 830 pounds. By model year 2001, the weight difference had increased to 1,130 pounds (based on EPA's Fuel Economy Trends Report). Similar changes are occurring in front-end heights and in stiffness. The average initial stiffness of pickups and SUVs is about twice that of passenger cars.

Passenger cars experience the greatest risk in frontal and side impact. For every driver fatality in a full-size van striking a car from the front, there are six driver fatalities in the passenger car. For every driver fatality in a full-size pickup, there are 6.2 driver fatalities in the car.

The problem is much worse for side crashes. The higher frame rails of a pickup truck or SUV may override the rails of a passenger car, resulting in greater intrusion. Likewise, the higher engine compartment poses a risk for passenger car occupants. When a pickup truck strikes the side of a passenger car, there are 26 fatalities among passenger car drivers for every driver fatality in the pickup. When a SUV strikes a passenger car, there are 16 driver fatalities in the passenger car for every driver fatality in the SUV.

Overall, these differences make SUVs and all light trucks more aggressive than passenger cars in their interaction with other vehicles. Based on our analysis, weight incompatibility and impact location each have a large effect on vehicle aggressivity. However, size and structure are also important. When controlling for

impact location, and comparing light trucks to passenger cars of comparable weight, we found that light trucks were more than twice as likely as a car to cause a fatality when striking a car.

Some automobile manufacturers have voluntarily introduced changes to their SUVs that will lead to improved compatibility in crashes with automobiles. The primary focus of these changes has been to improve the geometric mismatch between the frontal structures of the SUVs with those of the automobiles so as to improve the structural interaction during a crash.

NHTSA has a broad range of research activities currently underway on vehicle compatibility. Our immediate goal is to generate knowledge that government and industry alike can use. We are continuing to investigate real-world crashes, conducting crash testing, using computer modeling, and participating in international forums on vehicle compatibility. This information ultimately enables manufacturers to meet consumer's needs while producing vehicles that are less aggressive in a crash. This research also will provide the basis for future rulemakings.

We have also stepped up research related to side crash protection and research to evaluate the potential of advanced inflatable safety systems for preventing ejections in rollovers and protecting occupants in side impact crashes.

In August 2002, we published for public comment a 4-year vehicle safety rule-making priority plan. Rollover and compatibility were identified in the draft plan along with many other safety issues. In addition to considering public comment submitted in response to the plan, we are currently examining the research support that will be needed to implement those rules.

We also have an agency-wide Integrated Project Team (IPT) addressing this issue. The Compatibility Team currently is evaluating both aggressiveness and incompatibility in multi-vehicle crashes, both through real-world statistics and crash test data, to try to identify causation factors and solutions that can be incorporated into the vehicle fleet over time. This problem is being approached in two ways: by looking at measures to improve the safety features of the struck vehicle and measures to reduce the aggressiveness of the striking vehicle. The strategies they recommend will be published in the Federal Register this spring.

### **Fuel Economy**

Just as important to our work regarding the rollover propensity and compatibility of future vehicles is our ongoing work to address concerns about the relationship of corporate average fuel economy (CAFE) standards to safety. As you know, the President's National Energy Plan emphasized our strong determination to take safety into account when setting fuel economy standards.

We take seriously the findings and recommendations of the congressionally mandated study by the National Academy of Sciences (NAS) concerning the effect CAFE has had on vehicle safety. The NAS report concluded that the current CAFE system has had an unintended negative effect on passenger safety. It has in the past encouraged the divergence between small and large vehicles in the vehicle fleet, which has led to increased passenger fatalities and injuries. The NAS found that CAFE standards contributed to both the sale and production of lighter and smaller cars to meet the standard and the displacement of large passenger cars by minivans and SUVs in the nation's vehicle fleet, with negative consequences for vehicle safety. We are completing a comprehensive evaluation of the effects of the changes in vehicle weight and safety that have occurred in the years since the CAFE standards went into effect.

The President urged Congress to lift a six-year freeze on setting new CAFE standards, and we were pleased when it did so in December 2001. Since then, our agency has been hard at work setting sound, science-based light truck fuel economy standards for model years 2005 through 2007, which we will issue by April 1. Our proposed increases are the highest in 20 years and can be implemented without compromising safety or employment.

This spring, NHTSA will also publish an Advance Notice of Proposed Rulemaking to ask for comments about fuel economy standards beyond model year 2007. Many new fuel-saving technologies are on the point of being introduced. We want to find ways to improve fuel economy significantly while protecting passenger safety and jobs.

We know that, to a significant degree, the CAFE program and our past rules defining light trucks have contributed to the problems we now seek to solve. We will be asking how we might restructure the CAFE program under the current statutory authority to solve these safety problems. We are asking Congress to make safety and employment explicit statutory criteria for future CAFE rulemakings. And we will ask Congress for statutory authority to reform the CAFE system, perhaps along the lines recommended by the NAS, if we conclude that is the most appropriate way

to improve fuel economy while protecting passenger safety and jobs. We expect that our evaluation of vehicle weight and safety will be considered in this rulemaking proceeding.

### Conclusion

We are committed to reducing the problems of rollover and incompatibility. But NHTSA cannot do this successfully by itself. The manufacturers are fully aware of our concerns, and many have committed to address these problems. We are gratified by the recent response to our call for action from the automotive industry. The Alliance of Auto Manufacturers convened a meeting this month of the world's experts in compatibility, which was led by the Insurance Institute for Highway Safety. I received a letter on February 13 from the Alliance and the Insurance Institute stating their commitment to working on the issue. This is imperative.

We will be looking closely at the data from industry's forthcoming research as well as our own to make vehicles more compatible and to help individuals in the struck vehicles survive and avoid serious injury. The Alliance informed us last week that they intend to use the same approach to an industry-wide initiative to address rollover. This is good news for their customers and for all Americans who depend on them for safe, reliable, and comfortable transportation.

Mr. Chairman, this concludes my overview of the safety of SUVs. The issues involved are challenging, but I believe that we are meeting the challenge and that our actions will improve safety on the nation's highways. I will be glad to answer any questions you may have.

The CHAIRMAN. Thank you.

In other words, from a side crash the fatality risk is roughly five times in the case of a full-size pickup, three times in the case of an SUV, as it is of a passenger car. Is that—

Dr. RUNGE. You are reading that accurately, sir.

The CHAIRMAN. And it is obvious because of the size of the vehicle, right? I mean, it—

Dr. RUNGE. Yes, you will—

The CHAIRMAN. How much more complicated is it than that?

Dr. RUNGE.—you will hear some other technical testimony that I think you will look forward to that talks about that what has really caused this problem is not just size and weight, but also stiffness of the vehicle and geometry. So although mass is very, very difficult to change, larger vehicles are going to have more mass. What can be changed are the other two characteristics.

The CHAIRMAN. You mention that—and maybe others will allege—that one of the reasons why there are high fatalities in SUVs is because of lack of use of seatbelts, right?

Dr. RUNGE. That is correct.

The CHAIRMAN. Well, is there any evidence, empirical evidence, that shows that people that ride in passenger cars have any more or less proclivity for using a seatbelt than someone who rides in an SUV?

Dr. RUNGE. As a matter of fact, in 2002 SUV drivers caught passenger drivers for the first time, and they now wear their belts at exactly the same rate.

The CHAIRMAN. You made a speech at the Automotive News World Congress, and you mentioned that—you said that SUVs are so dangerous you would not allow members of your family to drive some of them. Were your comments taken out of context?

Dr. RUNGE. Indeed, even what you just said that I said is not exactly accurate, Senator. That was a response to a reporter's question following a central theme of trying to make the point that consumers need to make informed choices for their family. Some families have a need for utility and space. Others, like mine, have an

inexperienced driver in the family. And also the rollover risk, therefore, plays into the equation. So consumers need to make choices that are appropriate to their certain situations. I hope that satisfied you.

Let me just elaborate one more thing.

The CHAIRMAN. Yeah.

Dr. RUNGE. The answer was never about SUVs, generally. In fact, we believe that it is inappropriate to generalize for any vehicle class. The whole central theme of what I am trying to get across is, is that consumers need to be able to differentiate within vehicle classes. And certainly there are many SUVs that are safer than many passenger cars. So it is important that consumers get that information and weigh it.

The CHAIRMAN. The Alliance of Automobile Manufacturers and the Insurance Institute for Highway Safety recently wrote to you announcing formation of a working group to take steps toward creating voluntary vehicle safety standards. One, what is the credibility of the automobile manufacturers when there is a clear record that they opposed seatbelts and airbags? And two, how can you be sure that there will be full participation on the part of all interested parties as if it would be if you were under a formal rule-making process?

Dr. RUNGE. Well, without wanting to dwell on history, because I was not around for all of that—

The CHAIRMAN. No, but you judge people by their history. You have to judge their performance by their history. The automotive industry testified before this Committee on numerous occasions that we could not afford seatbelts and we could not afford airbags and we could not afford the ten-mile-an-hour bumper problem and it—you know, I mean, it is a clear history—nor can they increase CAFE standards. They were able to block Senator Kerry's and my effort for a modest increase in CAFE standards. So where is their credibility in establishing this voluntary vehicle safety standard?

Dr. RUNGE. Well, let me just respond by saying, Mr. Chairman, that our goal is to get the necessary countermeasures into the fleet as soon as possible.

The CHAIRMAN. As long as they are credible.

Dr. RUNGE. That is correct. And we will be watching very closely. But, in fact, we, at NHTSA, do not design cars and trucks. We are dependent upon those who do to actually—

The CHAIRMAN. But you do set—

Dr. RUNGE.—help determine what is feasible.

The CHAIRMAN.—standards. You do set standards.

Dr. RUNGE. Yes, sir, we do. And unfortunately, it takes a long time for us to do the research to develop an irrefutable compliance test that is repeatable 100 percent of the time.

In addition, we also set our standards—they are minimum safety standards. But we are hoping that the industry can move faster in parallel with us. We are also moving in parallel. We are doing our own research. We hope that it will converge at the end, but there is no guarantee, you are right about that.

The CHAIRMAN. In your opinion, which is the greater safety concern within the light truck category, vehicle rollover or compatibility?

Dr. RUNGE. Well, I think the statistics that we have seen speak for themselves, and I think that one is more amenable to a rapid change than the other, and that is rollover. A rollover is one third of our occupant fatalities on the highways, even though it is a very small percentage of crashes. We know what the fixes for that are. The industry, in fact, is already responding with different designs of vehicles, with the introduction of electronic stability control, anti-roll technology, and others. They are already finding their way into the fleet because consumers want that.

The CHAIRMAN. Do you believe that CAFE standards can be increased without compromising vehicle safety?

Dr. RUNGE. Senator, we have asked for authority to respond to the National Academy of Sciences report, which did validate our own data, with concerns about the relationship of CAFE to safety. We have to approach this very, very, very, very carefully. I think we all have the same overriding goals of less dependence on foreign oil, safety, and American jobs. We do not want to walk into a trap of unintended consequences. So we appreciate the work of the National Academy of Sciences. We are analyzing that.

We do believe that there are ways to improve fuel economy and fuel efficiency without sacrificing safety and American jobs.

The CHAIRMAN. You do believe there is.

Dr. RUNGE. I do believe there is. Now, I am not sure if we can do it under the current system of regulations that we have from the statute, but we are going to be looking very closely whether we can make improvements under our current statutory authority with our regulations to solve some of the problems that we are in now.

The CHAIRMAN. Senator Boxer?

Senator BOXER. Thank you, Mr. Chairman.

Doctor, you were an emergency room physician. Is that right?

Dr. RUNGE. Yes, ma'am, for 20 years.

Senator BOXER. I am assuming you have seen some of the injuries from car accidents.

I just want to thank you for something. I am sure you took heat—I do not know if you did—for your statement, modest though it was. I mean, basically, you just told the truth.

And let me just show it again. I mean, this is what is happening here, in terms of rollovers. And we know, as you point out, that although most crashes are not rollovers, a lot of the fatalities come from rollovers. So your saying that you are afraid for your family, I mean, I thank you for that. I really do. And I think that the truth-tellers save lives, and I just want to encourage you to continue being honest with the American people, because they deserve it.

And as I said, most of my neighbors drive SUVs, and they will continue to do so. They love them. And we want to make them safer.

I want to ask you something, because I was trying to understand some of the things that could be done. And there are groups out there that are helping me kind of get a grip on this, and I want to see if you think that what they are saying makes some sense. They are suggesting that NHTSA should issue requirements for basic rollover crash-worthiness protections. And right now, as I un-

derstand it, there are just warnings. We just tell people what the risks are, but we are not moving to change anything yet.

And you are looking at this issue. Do you think it would make sense to require safety belts that tighten in rollover crashes? Because there is some indication that because of the size of the car, that these belts could come open. Do you a safety belt which tightens in a rollover crash, is that a recommendation that makes some sense?

Dr. RUNGE. We are looking at all sorts of countermeasures similar to seatbelt pretensioners, which is what I think you are talking about, and it is all tied in with this ability of a vehicle to sense a rollover or an impending crash and actually reel the person into proper position before the crash. Absolutely, we think that has great promise.

Once again, you are already seeing this in high-end vehicles that the manufacturers are making. And you know, as those technologies work their way into the marketplace and become cheaper, you will see them—

Senator BOXER. Uh-huh.

Dr. RUNGE.—more ubiquitously within the marketplace.

Senator BOXER. Uh-huh.

Dr. RUNGE. Let me just back up a second, Senator, and—we do look at rollover, in terms of both crash avoidance and crash-worthiness, when they do occur. The charts about the rollover propensity and so forth are really about crash avoidance. And there are technologies that will help people avoid a crash, to stay on the pavement so that they do not trip and go off.

Senator BOXER. Uh-huh.

Dr. RUNGE. But crashworthiness is what you are talking about is also very important, and we are developing rulemaking and research on issues like improving door locks, roof strength, seatbelt—not just pretensioners, but design—

Senator BOXER. You are looking at window glazing and—

Dr. RUNGE. And window glazing.

Senator BOXER.—as part of it? I am sorry to interrupt you. I am just—I have so little time and so many questions.

What about the fact that the roof could be equipped with interior padding? Because that appears to be another factor contributing to fatalities. Are you going to take a look at that idea?

Dr. RUNGE. Yes, Senator, we are actively engaged in the preliminary research now to upgrade our roof crush standard.

Senator BOXER. Okay. I want to—when we talk about compatibility, Senator McCain made the point, “Well, clearly, these cars are so much bigger than the passenger vehicles,” but is it not also true there are other factors, in terms of compatibility? For example, the bumper, where the bumper is located on the SUV compared to where it is on a—just so that, in essence, the bumper does no good. You just—it does not cushion the blow. Is that something that we should look at for a future design?

Dr. RUNGE. Generally speaking, we refer to that as “geometry.” And it also has to do with where the—what we call the “load path” is. When a vehicle strikes another vehicle or strikes a tree or a barrier, we can actually measure where, how high or low or how wide or how centered that load path is in a vehicle. There are tradeoffs

with stiffening a vehicle or moving the stiffness around that the vehicle designers are much more aware of than we are, and we want to be careful that we avoid unintended consequences.

Senator BOXER. Uh-huh.

Dr. RUNGE. But, yes, the geometry absolutely must be addressed in order to deal with compatibility.

Senator BOXER. And talk to me about the frame of an SUV. Is it not less able to absorb a shock than a passenger car?

Dr. RUNGE. I am much more comfortable with engineering of the human body than I am with a vehicle, but let me just say that there are different types of construction. And once again, generalizing within an entire class of—

Senator BOXER. I understand.

Dr. RUNGE.—vehicles is difficult. There are frame constructions and there are uni-body constructions all within the SUV class, and—actually, the safety engineers who are going to testify later would be more able to answer that question precisely.

Senator BOXER. Senator Snowe has legislation calling on NHTSA to improve the safety of 15-passenger vans. Have you taken a look at her legislation? And do you have a position on that?

Dr. RUNGE. As you know, Senator, or I hope you know, NHTSA has issued consumer advisories on 15-passenger vans annually over the last couple of years. We had a press conference last April and May with the beginning of the heavy travel season, once again, to inform consumer about the instability of vans that are fully loaded, particularly these vans tend to sit around on their tires for days on end. Drivers may be just one of the members of the athletic team, for instance, instead of somebody who is actually trained in the handling characteristics of 15-passenger vans. We have a lot of high-center-of-gravity trucks on the highway, and the drivers who handle them are trained to do so. We also believe, with 15-passenger vans, that people haul large numbers of people around—i.e., greater than ten—should clearly be trained in the unique handling characteristics of those vehicles.

Senator BOXER. So do you support her legislation? And that is my final—

Dr. RUNGE. I will take a look at it.

Senator BOXER. Thanks.

Dr. RUNGE. I am sorry, Senator Snowe, I cannot recall off the top of my head.

Senator BOXER. Thank you.

The CHAIRMAN. Senator Allen?

**STATEMENT OF HON. GEORGE ALLEN,  
U.S. SENATOR FROM VIRGINIA**

Senator ALLEN. Thank you, Mr. Chairman. I am sorry I was late. I wish more people were driving SUVs here. They would have moved along a little faster.

[Laughter.]

Senator ALLEN. I was glad to be in one.

Senator BOXER. I came in my hybrid and got here early, so—

Senator ALLEN. Well, I drove a Toyota fuel-cell vehicle.

Senator BOXER. There you go, and you got here.

Senator ALLEN. Well, it was an SUV. There are not many of them yet, and I look forward to the day when there are SUVs made with hydrogen fuel cells or more, of course, of the hybrids, as well.

Regardless, I am also very glad that my wife was able to take my three children to school today in the snow in our SUV and that we have the freedom of choice to make decisions for our own family without governmental elitism, regulations, or nannyism, a different point of view maybe than expressed here today by others.

Regardless, let me ask you this, Dr. Runge, is it not true that the overall fatality rates on SUVs have dropped—SUVs, pickups, and minivans—and it is the biggest improvement in the fatality rates? You take from 1981 to 2001, the statistics I have seen, that the deaths were, in 1981—and you have the Isuzu Troopers and the Broncos, which is common knowledge they were top-heavy, they rolled over more than vehicles now—but the point is, there were 237 deaths per million registered SUVs in 1981, and now it is down to 73 deaths per million registered SUVs. Is that true?

Dr. RUNGE. Well, there—all vehicles—passenger cars, SUVs, minivans, pickup trucks—are all safer—

Senator ALLEN. Rollover rates are less.

Dr. RUNGE.—all safer than they were 20 years ago. They are safer than they were ten years ago. With respect to—the problem, as I said earlier, Senator, is the fact that there are so many more light trucks on the highways right now. It is manifesting itself in these fatality statistics. Yes, they are much safer. It sort of depends on where your baseline started, but, yes, all vehicles are safer than they were 20 years ago.

Senator ALLEN. Well, let me ask you this then. In 2001, 73 deaths per million registered SUVs compared with 83 deaths per million registered passenger cars, both an improvement over the past 20 years, a much more significant improvement with the SUVs. But would you agree with that, that there are 73 deaths per million registered SUVs—this is 2001—and 83 deaths per million registered passenger cars?

Dr. RUNGE. I will take a look at that data. I think you should also consider that in 1981, the seatbelt-use rate was less than 10 percent in the United States and now it is 75 percent, with the greatest increase being in light-truck occupants. So we have to slice that data up a little bit in order to determine whether it is strictly the vehicle characteristics or whether the driver and the vehicle together have made the statistics better.

Senator ALLEN. All right, if you want to get to the real—the prime cause of motor vehicle accidents, what would you say the prime cause of motor accidents—the main contributing reason?

Dr. RUNGE. There are many causes of traffic crashes.

Senator ALLEN. What is number one?

Dr. RUNGE. Uh—

Senator ALLEN. For fatalities.

Dr. RUNGE. Well, if we—we have to—we had done a causation study in the 1970s that showed that about—

Senator ALLEN. All right, let me ask you a leading question. Are drivers impaired by alcohol not the number-one cause of fatalities? Since we have limited time, I have—

Dr. RUNGE. I understand, Senator. I cannot—

Senator ALLEN.—we do not have the regular rules—

Dr. RUNGE.—I cannot make it that simple for you. People who are intoxicated—let me just say, alcohol is involved in 41 percent of traffic crashes. We also know that 72 percent of light-truck rollovers are unbelted and that nearly 60 percent of fatalities on our highways are occurring from people who are unbelted. But these also involve road departures. They also involve rollovers. They are multifactorial. So there is not one number-one cause that you can point to of a motor vehicle crash.

Senator ALLEN. Well, if someone is sober driving down the road unbelted, is that person a danger to someone that is greater than someone who is driving down the road belted and also having taken a few belts themselves, and impaired?

Dr. RUNGE. In that situation, I would say that the person who is impaired by alcohol is certainly at greater risk than the person who is unimpaired and unbelted.

Senator ALLEN. Would you not think it is a better—that most—that the highest priority use of law enforcement's time when trying to maintain safety on the roads is to be detecting those who are impaired drivers rather than worrying about the lapse of people who are driving down the road otherwise safely?

Dr. RUNGE. It is important that both impaired driving be lowered and that seatbelt use be raised. Those are the two issues, and they are our top two human-factor priorities at NHTSA. If we would do that, if we would get to 90 percent belt use, like most of the other civilized countries, we would save 4,000 or 4,500 lives per year. I cannot think of anything else that we could do as a Nation to save 4,000 people a year than by simply following the law that exists in 49 States, that is to buckle the safety belt.

Senator ALLEN. Fine. And all vehicles are equipped with seatbelts, are they not?

Dr. RUNGE. They are.

Senator ALLEN. In the—well, less than a minute left—in the questioning from the Chairman, as far as your prior statement about your daughter or your whole family, you would not let your kids drive these vehicles, certain SUVs, I will give you a chance to just clear that up. Just so you understand, I think free people can make decisions for themselves. I am not one who is in favor of over-regulation and nannyism from the government. People should be informed, make those decisions for themselves. And the quotes that I—as I said, let us get this straight, because sometimes people can be misquoted—did you actually say that you would not let your kid—“I would not buy my kid a two-star rollover vehicle if it was the last one on earth”?

Dr. RUNGE. Yes, I did say that. The last vehicle—

Senator ALLEN. Would you like to elaborate and—

Dr. RUNGE. Well, yes, I actually—keep in mind that I said two-star rollover vehicle. I did not say anything about SUVs. Moreover, I was talking about my new, inexperienced driver. And yes, the last phrase was a little hyperbolic.

This was all at the theme of exactly what you are getting at, and that is, is that every family should make informed consumer choices for themselves based on their needs and their limitations. So they need to weigh rollover risk against size and utility and in-

experienced drivers versus people who are used to driving trucks and not cars.

Senator ALLEN. Do you think you can work voluntarily with the auto manufacturers to improve safety?

Dr. RUNGE. Absolutely.

Senator ALLEN. Or would you prefer dictating to them? And that is a good leading question.

[Laughter.]

Dr. RUNGE. No bias at all in that question.

Senator ALLEN. Not at all.

Dr. RUNGE. We do work very well with the industry. Our researchers work hand in hand. We depend on their research. They look very closely at our research. We look at the Insurance Institute's research. We look at—you know, this is—the safety community in this country is not big enough that we need to operate in isolated spheres.

A good example of that was two weeks, when the Alliance convened a meeting that was chaired by the Insurance Institute to begin really to get into the issue of vehicle compatibility. These people build cars and they build trucks, and they understand the tradeoffs that are involved. They can move a lot quicker than we can. They are more flexible. They are faster. And I was gratified by—the people in that room were the world's experts in vehicle compatibility, except for our guys, who were not there.

Now, we will be moving in parallel, but they will be moving apace, I hope, and we will be watching very closely what they do. This is a perfect example of how we can work symbiotically.

Senator ALLEN. Got you. My time is up.

I would have further questions, but thank you, Mr. Chairman.

Dr. RUNGE. I would be happy to come see you, Senator.

Senator ALLEN. Well, I do think that consumers—when you see—if I may, Mr. Chairman—what Volvo has come up with, Volvo has always been known for their safety, whether it is in SUVs, sedans, station wagons, and I do think some people value safety at higher levels, and I do think that the marketplace will—for a great deal, will determine what auto manufacturers do, because people are going, I think, care about safety in different degrees. And I am hopeful that with this hearing and with your efforts, you can work voluntarily with the manufacturers, which I think will be consistent with market forces and consumer demand.

Thank you, Mr. Chairman, for that added minute.

The CHAIRMAN. Thank you, Senator Allen.

Senator Lautenberg?

**STATEMENT OF HON. FRANK LAUTENBERG,  
U.S. SENATOR FROM NEW JERSEY**

Senator LAUTENBERG. Thank you, Mr. Chairman, for holding this hearing. It certainly is timely. The growing volume of SUVs, light-duty trucks, and vans that are on the highways causes us to look at safety and the viability of what it is that government might want to do here to protect the public.

I, for one, am somewhat skeptical about getting the kind of cooperation we want from the industry itself, but I do know that they

are trying hard to make these vehicles safer, and I salute those attempts.

Having served on this Committee, Mr. Chairman, when I first came to the Senate 20 years ago, and getting involved in the debate about whether or not things like windshields could be made sturdier, bumpers more crash-resistant, and die-stamped parts could be identified that are frequently sold in the black market or in the after-market after the vehicle has been stolen. But I think it is fair to say that the industry has come a long, long way in those 20 years.

You know, Dr. Runge, I noted with interest your public commentary and just heard a little review of it. The fact of the matter is that I am one of those who believe that the majority need has to be satisfied. And when we talk about government intrusion, one could say, well, red lights, stop lights, are a government intrusion. It makes you slow down or stop at various intersections. Well, heaven forbid that we decide that it should be left up to the drivers and let them duel it out at the intersection.

[Laughter.]

Senator LAUTENBERG. So I, for one, encourage you to be aggressive about this. We are talking about the unexpected consequences of, as you say, new drivers. And the hard work that we did over the years on impaired drivers has paid off substantially. I was the one that wrote the legislation to raise the drinking age to 21. It was during President Reagan's tour of duty, and it was Elizabeth Dole's position, as Transportation Secretary. And we had a fight on our hands, but it worked, and it has resulted in substantial reductions in fatalities on the highway.

Dr. Runge, in your prepared testimony, you focus on the importance of personal responsibility in highway safety and talk about seatbelt usage and impaired driving, and I want to do everything I can to help you on these matters. But I want to ask you about something else. And it is a personal observation about aggressive driving. There is something about that bigger vehicle, all the power, the resemblance at times to a tank, a military vehicle. There are often incidents of road rage, and it looks like, to me, it heightens when the other driver is in a large SUV. And I wonder if there is any evidence that you have seen that would suggest that the size of the SUV and their seemingly invincibility may promote such behavior.

Dr. RUNGE. Senator Lautenberg, I would like to answer that question in a second, after I have the chance for the first time to thank you for your leadership in the 1980s on impaired driving, particularly with underage drinking, and raising that drinking age. You have saved more teenagers than anybody I can think of in this country—

Senator LAUTENBERG. That is kind of you.

Dr. RUNGE.—outside of medicine. So I just wanted to—I want to commend you that and thank you—

Senator LAUTENBERG. That is very nice of you. Thank you.

Dr. RUNGE.—for your leadership on that.

With respect to aggressive driving, we are trying to get our arms around this issue. I made a comment to the press which seemed to resonate when I first came here that I called it arrogant driving,

because I really do believe it has more to do with how we treat each other than anything else. There is also increased congestion. There is a relative anonymity behind the wheel. People do not know you. You know, if you go to a small town, you just do not see a lot of aggressive driving, because people know you and they think you are a jerk if you, you know, do not treat them correctly. But around here, we do not know our neighbors, and I just—I am convinced that the whole issue of how we treat each other has to do with anonymity, with congestion, with the increased pace of our lives, and that people tend to take it out on the road. They think they can lengthen their work day or their play day, for that matter, by shortening their road time. It just does not work that way. And I think there is an element of frustration. I am not aware of any evidence that SUV drivers are more aggressive than passenger-car drivers, but we do have a team taking a look at this whole issue.

Senator LAUTENBERG. Uh-huh. You bring up the question of anonymity, and the more I think the person is screened from public observation, the—I sense the tendency to be more casual about other people's rights, and I do not know whether it has ever been done, but I would love to see a study of what happens with tinted windows in cars to see whether—I think it raises a question of safety for law enforcement people. You do not know what is in the car when a police officer approaches the driver. And if it were possible to get any kind of statistic on what happens behind those darkened glass windows, I think it would be very interesting.

Mr. Chairman, I will put my statement in the record.

[The prepared statement of Senator Lautenberg follows:]

PREPARED STATEMENT OF FRANK LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

I want to commend Chairman McCain for holding this hearing. More than half of all new vehicles sold are now Sport Utility Vehicles (SUVs), light-duty trucks, and vans. Because of a growing consumer preference for such vehicles, they now constitute more than one-third of all the vehicles on the road.

These vehicles pose special safety challenges—they are more inclined to roll over than ordinary passenger cars.

And SUV occupants are nearly three times as likely to be killed in such accidents.

And, because SUVs are bigger, heavier, and have a higher center of gravity, they pose greater risks to the drivers and passengers in ordinary cars in a collision.

I also believe that SUV drivers tend to be more aggressive. Now, I don't have the data to prove that, but that has been my observation.

Over the past 10–15 years, there has been a clear increase in consumer preference for SUVs. That's obvious, and the market has responded.

But as SUVs have gotten bigger and bigger—and less and less fuel efficient—and as accumulating crash data have drawn attention to these special safety issues—all of that has spawned an anti-SUV backlash.

I think the industry is aware of this and I want to applaud the auto makers for their intention to bring more hybrid and so-called cross-over SUVs to the market.

And I want to applaud the auto makers for their commitment to making safety improvements voluntarily. It is worth noting that many such improvements can be made faster than the National Highway Safety Traffic Administration (NHTSA) can require them.

The issue is whether the measures the industry has committed to are going to be sufficient. The witnesses today should shed some light on that and I look forward to hearing their testimony.

Pardon the pun, but we've been down this road before.

Each time the industry has faced prospective regulations in the past, whether we are talking about seat belts or emissions or fuel efficiency standards or airbags, the response has been to (1) deny the problem; (2) use political clout to stonewall; (3) argue that the proposed regulations are too difficult or too costly to implement; or (4) claim that sufficient changes will be made voluntarily.

The first three responses are unacceptable. The fourth is feasible, but put me down as a skeptic at this point.

While industry officials and safety advocates may disagree about the need for new regulations, I hope we can all agree on one thing: *The best way to save lives and reduce serious injuries right now is to require and enforce seat belt laws.*

Seventy-two percent of the vehicle occupants who die in rollover crashes were not wearing their seatbelts. What a tragic waste of human life.

Another thing we should be able to agree on is: *the need to be even more rigorous in cracking down on drunk driving.*

According to the presentation that Dr. Runge made in Detroit last month—the one that generated some media interest—we could cut auto fatalities by *two-thirds* if we increased seat belt usage to 90 percent and continue to get tougher on drunk driving.

I have worked hard over my career to improve auto safety. In 1984, President Reagan signed my bill into law to raise the national drinking age to 21. That law saves 1,000 young lives each year. In 2000, President Clinton signed my bill into law that required a .08 blood alcohol level as the national “drunk driving” standard. That law is saving lives, too.

When I returned to the Senate after my two-year “sabbatical,” I wanted to get a seat on this Committee, in part because of its jurisdiction over auto safety.

Right now, the special challenges and risks that SUVs present to their own drivers and occupants—and to the drivers and passengers in ordinary cars—are our Number One safety concern.

Thank you, Mr. Chairman.

Senator LAUTENBERG. And I would like to enter a statement that I got from a woman from Arkansas about her experience with accident in an SUV and the tragedy that followed, just as an indication of what happened in this one instance. It is a pretty powerful statement, and I ask unanimous consent that both my statement and the statement submitted to me be included in the record.

The CHAIRMAN. Without objection. Thank you.

[The information referred to follows:]

PREPARED STATEMENT OF SANDY TURNER, LITTLE ROCK, ARKANSAS

In 1994, my daughter and I were returning from a trip to Memphis, where we spent Easter with my family. It was about 4 p.m. and we were traveling on I-40. According to other people—because I can’t remember this—a pickup truck with big wheels and no license plate was cutting in and out of traffic. He cut in front of me and knocked me off the road. My Jeep Cherokee rolled three times and the roof caved in. Each time it rolled, the roof hit me. The Jeep had no roll bars or cushioning on the roof. The truck driver kept going. They never caught him. I ended up in the median.

My 10-year-old daughter was in the back seat in her seat belt. She was okay, but I drifted in and out of consciousness for two weeks. I was wearing my seatbelt too, and we were going the speed limit.

The crash broke my spinal column and damaged my neck. It also broke my left arm, which is basically unusable. They put rods in my back, and I was in the hospital for three weeks after that. Then I went to a spinal center in Atlanta, where I stayed for three months. I am in a wheelchair now. I can’t move my legs. My right arm has gone out over the past six years, but they don’t know why. The only place I have feeling is on my head and the left side of my neck and arm.

I bought the Jeep new in 1992 because I needed something for carpooling. I had no idea how deadly they were. I became really aware after the accident.

I sued Chrysler, alleging that Jeeps had a dangerous tendency to roll over and that they provided inadequate roof strength and protections for people inside. We settled shortly after.

Now I’m telling my friends about SUVs and Jeep Cherokees, especially my friends with children. These vehicles are dangerous. Sometimes in a parking lot I have the urge to warn people getting in some of these vehicles and say, “Look what happened to me.”

Before the crash, I coordinated and produced a consumer segment called “Seven on Your Side” for our ABC affiliate in Little Rock. I also coordinated volunteers who answered the consumer hotline.

I'm unable to work now. All I'm able to do is use my left arm, and I don't even have full use of it. That's real hard on an active, fairly intelligent 54-year-old woman. My brain still wants to go out and do all kinds of things, but my body wears out. I just can't do it.

If some of these safety features that are being discussed now had been in place nine years ago, I would still be a working citizen and would have been able to raise my child, instead of having attendants do it.

Some people think that when someone has a spinal cord injury, that's all of it. But as my body matures and my injury matures, more and more things keep going wrong. My arm went out. I'm now having muscle spasms in my neck. That's one of the few places I can feel anything. New things crop up. I've had four operations since the initial injuries.

I urge the senators at this hearing to make these vehicles safer. I invite whoever decides not to install roll bars and padding to come and spend a day with me, just come and see what it's like.

What happened to me could happen to anyone. I hope the people here today will make sure it doesn't.

The CHAIRMAN. Senator Snowe?

**STATEMENT OF HON. OLYMPIA J. SNOWE,  
U.S. SENATOR FROM MAINE**

Senator SNOWE. Thank you, Mr. Chairman.

Dr. Runge, I want to follow up on Senator Boxer's question about the legislation that I am submitting. And I had also submitted it to you for your review several weeks ago, and I would appreciate your follow-up on the 15-passenger vans, because we had the worst traffic accident in the history of Maine last September when 14 migrant workers were killed. Obviously, there are some serious problems with the rollover rate of 15-passenger vans, as I understand three times the rate of other vans.

And I would like to ask you why your agency has not included the 15-passenger van in your dynamic rollover testing program. That is something that has been recommended by the National Transportation Safety Board.

Dr. RUNGE. Senator Snowe, thank you for that question. This is an issue at the agency. We are continuing to look at that particular issue. We also are very intent on looking at the volumes of vehicles that are on the road to make sure that we have covered the vast majority of the vehicles that are actually sold and run. So it is not just a vehicle-specific issue; it is also an issue of how many lives can we affect, how many vehicles can we rate. And we want to make sure that we have covered 80 percent of the miles traveled by the vehicles that we choose to run through the test.

I do not know of any reason, and I will have to consult with my engineers, why can we not include 15-passenger vans in some sort of a stability rating.

Senator SNOWE. Well, I think, with the risk of rollovers six times greater than if the van only has five occupants, then I think it really is essential to include it in your program.

Another disparity in current law, as I understand it, and that is what I am also addressing in my legislation, is that school children are banned from using these 15-vehicle vans if they are purchased. They cannot be purchased, but they can ride in them if they are rented, used, or leased. Do you think that is something that ought to be changed in law?

Dr. RUNGE. Well, it is my understanding, Senator, that that is State law. States can do that now if they choose to do so. Our abil-

ity to control that really has only to do with new vehicles and new vehicle sales. But what is good for a new vehicle certainly should be good for a used vehicle.

Senator SNOWE. Uh-huh. You referred in your testimony about the study that I requested concerning CAFE standards. You know, Senator Feinstein and I have introduced legislation to raise the CAFE standards for SUVs in the light-truck category comparable to passenger vehicles. And I requested that study because there had been some questions raised that as you try to improve fuel economy, you also incur the risk of compromising safety standards. And you said that this study is about to be completed. Do you have a timetable for that?

Dr. RUNGE. Well, I hoped it would be out by now, Senator. We sent it out for peer review to some distinguished researchers in the field earlier in the wintertime. We have gotten those comments back. Dr. Kahane is incorporating those comments into the manuscript, and I think it will be ready very, very soon.

Senator SNOWE. Okay, that is very—

Dr. RUNGE. So this, indeed, is a wonderful study taking into account driver behavior, driver characteristics, and looking at the actual effects not only occupants, but also on others on the road.

Senator SNOWE. How would you address overloading SUVs, which is something that the Consumer Union's research on this subject has certainly raised serious questions just about, how much cargo you can put in these SUVs given the fact it increases the roll-over potential? What steps have you taken or will take with respect to this issue?

Dr. RUNGE. We have not done very much on that issue at all yet, as far as consumer information goes. We have—let me just back up a second.

We appointed four integrated project teams to deal with four of our priorities at NHTSA. One of them is a Rollover Integrated Project Team, which has engineers, consumer information people, behavioral scientists, and the like from all across the agency. We will publish that report shortly. There are some issues in that report having to do with consumer education on issues such as these.

We know that for some light trucks, station wagons, and SUVs, that one really should not load the top, increase the height of the center of gravity, put extra load on the rear wheels with trailers, lots of heavy cargo or luggage. Every vehicle has a rating that is readily visible for the consumers. It is in the owner's manual, it is usually somewhere in the vehicle, even the glove box, that tells the vehicle owner how much weight they can safely put into their vehicle. I have no idea how often people actually read that or know what it means, but we should take a look at that issue.

Senator SNOWE. Well, I know the Consumer Union has recommended having it prominently displayed in the vehicle's window or someplace that is readily identifiable, you know, to indicate the load capacity of the vehicle. And I think certainly that is something that is doable and should be done.

I am just wondering if some of these steps could not be done sooner rather than later on some of these issues. When you see the lopsided rates involved with these accidents and fatalities that occur to people who are struck by these vehicles who are in pas-

senger cars, it really does raise some very serious questions. I mean, it is alarming if you look at the statistics. In half of all the fatal two-vehicle crashes involving SUVs and passenger cars, over 80 percent of fatalities have occurred to occupants of the passenger cars. So, to me, it seems pretty clear that we should be moving sooner rather than later on some of these issues.

And then, secondly, I agree with you on the seatbelts. I mean, you know, obviously, it would probably obviously save many lives by the use of seatbelts. But, again, we still have to address the fundamental, which is the rollover propensity of SUVs. So while it is important to be wearing the seatbelt, I think it is also important to address the structural problem that exists with these vehicles, as well.

Dr. RUNGE. Thank you, Senator.

Senator SNOWE. Thank you.

[The prepared statement of Senator Snowe follows:]

PREPARED STATEMENT OF OLYMPIA J. SNOWE, U.S. SENATOR FROM MAINE

Thank you, Mr. Chairman, and good afternoon, Dr. Runge. I congratulate the President for his judgement in appointing you to head up the National Highway Transportation Safety Administration, and I'm certain you will be an effective and engaged leader in this extremely important arena.

Mr. Chairman, light trucks, which include sport utility vehicles, the safety of which we are considering today, are very popular and practical vehicles in my State of Maine, given the State's long snowy winters, its largely rural communities, numerous small businesses, and diverse year-round outdoor recreational activities. In fact, over 60 percent of the new vehicles sold last year in Maine fall into this category.

Nationally, we know about 50 percent of all vehicle sales are in the "light truck" category—SUVs, minivans, and small to medium pickup trucks—which represents about 36 percent of all vehicles on our roads and highways. That's about 79 million vehicles. So I am particularly interested in this hearing as I want everyone to be able to purchase vehicles that fit their lifestyles but that are also safe, while providing better gas mileage.

The facts according to reports from NHTSA and the Insurance Institute for Highway Safety are that light trucks crashes with cars account for the majority of fatalities in vehicle-to-vehicle collisions, and are uniquely dangerous to other cars on the road. Two thousand people would still be alive if their vehicles had been hit by a heavy car instead of an SUV and, according to the Independent Insurance Agents of America, 80 percent of car and SUV owners believe that automakers should make safety changes to SUVs that would make the roads safer for passenger cars. As today's SUVs grow even larger, this war of escalation is much like an arms race as people wanting to feel safe on the roads buy bigger and bigger gas guzzling SUVs, and those who choose lighter passenger cars are put in greater danger.

Dr. Runge, I staunchly support your efforts to prioritize vehicle safety by looking at vehicle compatibility and rollover prevention and protection, particularly as these factors account for a large and growing share of the safety problem. In that light, I am pleased to hear that you have appointed Integrated Project Teams to address your top priorities and hope you will be publishing recommendations in the Federal Register for public comment in the near future.

In its 2001 Report on CAFE Standards, the National Academy of Sciences stated that consideration should be given to designing and evaluating fuel economy targets that are dependent on vehicles attributes, such as weight, that inherently influence fuel use—and that any such system should be designed to have *minimal adverse safety consequences*. NAS went on to say that safety could be improved by reducing SUV bulk and could reduce the death rates of other motorists from large SUVs, and new engine technologies can produce fuel-efficiency savings without compromising safety, which could actually be improved if automakers reduce the bulk of large SUVs and pickups deadly to other motorists in a collision.

The Report also recommended that NHTSA undertake additional research on this subject, including a replication using current field data of its 1997 analysis of the relationship between vehicle size and fatality risk. As you may recall, I called for this study to go forward at a 2002 Committee hearing with you, and I hope that

this is proceeding as we also need careful and up-to-date analysis to investigate the links between improved fuel economy and injuries resulting from accidents.

Studying rollover crashes is also important as they account for 32 percent of occupant fatalities. And SUV rollovers are far more likely to occur than for passenger cars. In 2001, fatalities for single vehicle rollovers increased by 2.3 percent. Over 60 percent of the occupant fatality rate were those in SUVs while passenger car fatalities were 22 percent. This trend also applies to serious injuries as data shows that 46 percent of serious injuries occur in SUV rollovers while passenger car injuries are much lower—at 16 percent.

These statistics are simply unacceptable, and I was pleased to read in a *New York Times* article of February 14, that the auto industry acknowledged that SUVs and pickups pose serious dangers to cars, and has agreed for the first time to cooperate in taking steps towards voluntary standards to make cars safer when hit by the larger light trucks and to make SUVs less dangerous.

Dr. Runge, I do caution you not to rely on voluntary programs alone to meet these safety challenges and responsibilities but believe that government initiated programs—working in partnership with industry—should be considered. There is a great sense of urgency and a growing concern over the social costs of SUVs, which are more harmful to the environment because of their greater emissions that affect the public's health.

SUVs also make it more difficult to reach the nation's energy goals as they do not have to meet the higher CAFE standard of passenger cars. While still bitterly opposed by the industry, the congressionally mandated Corporate Average Fuel Economy Standards, have led to much greater fuel economy in the past 25 years and less reliance on foreign imported oil.

We must consider ways to raise the bar—and soon—both to protect the public and, at the same time, obtain greater fuel economy. I look forward to working with you, Mr. Chairman, and the Committee, and with Dr. Runge, consumers and the industry to reach these goals. I thank the Chair.

The CHAIRMAN. Dr. Runge, just briefly, on this Alliance of Automobile Manufacturers and Insurance Institute for Highway Safety, how can you ensure that all interested parties have an input?

Dr. RUNGE. Well, the way that we have discussed this working is, is that the industry will begin its work. This was their kickoff meeting, and they have divided themselves into two groups, one to look at the characteristics of the striking vehicles and another to look at self-protection or the characteristics of the struck vehicle. We also have an extensive research program going on with compatibility issues. So we will be watching, Senator, and I am sure you will be, as well.

The CHAIRMAN. I do not think that is good enough. Did you see the front of *USA Today*?

Dr. RUNGE. I saw the front page. I have not read the story yet.

The CHAIRMAN. Well, let me tell you what it says. It says, "New evidence from the government suggests that key auto-crash tests run by the insurance industry and Federal regulators might make sports utility vehicles deadlier to people in small cars." It says, "Research finds little proof the tests actually lead to vehicles that better protect their own occupants. The findings call into question the crash-test ratings that millions of consumers rely on when buying cars and trucks. It could lead to an overhaul of Federal tests to make them better predictors, what really happens when vehicles collide. They are making—new government testing shows that as automakers design SUVs and pickups to score well in insurance industry and government frontal crash tests, they are making front ends so stiff that they might be more dangerous to those riding in small cars."

It is sort of a follow-up to what Senator Snowe was talking about. If you make the SUV stiffer in the front and stronger, then

perhaps you inflict, at least according to this article and other information, greater damage on people who are occupants of passenger cars.

Do you have any response to that? And what research have you been doing that might add to our information on that issue?

Dr. RUNGE. Thank you, Mr. Chairman. I understand what the author is talking about. We, in fact, did do—we looked at two vehicles that made substantial improvements in their Insurance Institute safety rating recently and looked at their performance and how they interacted with another vehicle in a two-car collision. And it showed that one of the vehicles actually inflicted more damage on the struck vehicle than the older one that did not fare as well in the Insurance Institute test. And the other one was roughly similar. These were two crash tests, and clearly we want to crash more vehicles that have done this.

Mr. O'Neill, I am sure, later on, will a comment about that, but I would encourage the Committee not to regard stiffness as a general yes/no, a binary answer, any more than they would that, you know, an SUV is safe/not-safe. It is really not a binary question. It is a very complex issue. Where the vehicle is stiff and where it interacts with the other vehicle is just as important as how stiff it is.

You know, with respect to our own and our own consumer-information tests that we have done, we also have been concerned in the past that our own tests may be making vehicles stiffer and more dangerous to their crash partners. So a study was done by a NHTSA researcher a couple of years ago who studied the forces delivered by vehicles over the course of NCAP, and actually showed that in 15 years of data, from 1983 to 1998, vehicles actually became less stiff and had less deflection on chests and less head injury criteria with our full frontal 35-mile-an-hour power test. And we also looked at real-world performance, and it turns out that when vehicles come together and one is rated "good" by our NCAP test and one is rated "poor," that the occupants of the "good" vehicle fare much, much better, with about a 25 percent lower fatality rate than those in the "poor" vehicle. So we are looking at this very carefully.

The CHAIRMAN. Well, I hope so, because it seems to me that it is a rather serious issue.

Senator Allen, did you have an additional question?

Senator ALLEN. If I may.

The CHAIRMAN. Sure.

Senator ALLEN. Thank you, Mr. Chairman.

Could you share with us statistics as to injuries or fatalities of those who are driving in SUVs versus passenger vehicles?

Dr. RUNGE. We will have more complete data on that when our size and weight study comes out. I do not want to preempt Dr. Kahane, but I will get back to this same theme, and that is, is that I would not generalize SUVs and other vehicles. Some SUVs are much safer than some passenger cars. Some SUVs are less safe than some passenger cars. So we really need to differentiate, which is my central theme all along, Senator. We want consumers to go to our rating system and differentiate within the SUV class about vehicles that may be more safe than others.

Senator ALLEN. Having grown up generally driving pickup trucks, so I am more—was more familiar driving them, the SUVs, many of them, are on a pickup truck body. There are others—my brother has got one of those BMW whatever they are, and I was driving it. It is like a sports car. They are expensive. I would never have one. He makes more money than I do, and, regardless it is like a sports car. And every—it is just amazing the pickup on it, but it is a different—it is a completely different frame than what you have on—generally on the Fords, Dodges, and Chevrolets, which are on a pickup-truck body.

So in summary of what you are saying here in answer to a lot of questions, is that your goal is to work with the manufacturers to make them safer. And there is a whole sheet here of voluntarily installed safety devices over the years, from tire suspension organization, the traction controls, stability controls, airbags. While they might have been a threat as the mandate one time, now they are demanded by people. People want them. You do not need to tell them. People want airbags.

Your goal, as I understand it, as a philosophy, is not to ban a particular SUV, for example, but rather make sure that individuals making a decision would know of its propensity, its safety, and so forth, and they make that decision. They may want more cargo capacity. They may be towing. I have no personal need for towing, but others may. And then they make those decisions as to some sort of preclusion or dictate or restriction on the sale of the vehicle. Is that correct?

Dr. RUNGE. That would be a nice summary of my philosophy, with two caveats. First of all, we are a regulatory agency, and, therefore, we have an enforcement division that looks for unsafe vehicles that do not meet our Federal motor vehicle safety standards. And we will not hesitate to take those off the road through the recall process if we find a vehicle that is out of line with its peers.

The other caveat is that when technology enters the fleet and we have been able to assess that and analyze it, and, in fact, it looks like it is good, or if we, in fact, in our research, see something that is good, sometimes a regulation can level the playing field so that manufacturers who are willing to invest more in safety are not put at a competitive disadvantage to those who do not want to invest in safety. That is another good reason for a regulation, is when we can actually show good cost benefit to a requirement for a safety device.

Senator ALLEN. Are there any SUVs on the road right now that you think should not be on the—I am talking about being manufactured now—that would meet that criteria?

Dr. RUNGE. There—no. I think that, once again, the vehicles that are out there all have legitimate reasons for being there. And as you very, very well pointed out, Senator, it depends—consumers need to be informed about vehicles that meet their needs—safety as a consideration, utility as a consideration, their own family's driver characteristics as a consideration. But if we thought there was an unsafe vehicle out there, we would take it off the road.

Senator ALLEN. Thank you, Mr. Chairman.

Thank you, Doctor.

Senator LAUTENBERG. Thanks, Mr. Chairman, just briefly.

Dr. Runge, my compliments go to you for what looks like an intense and active interest in dealing with this problem, finding out more about it, and that is what we ought to do. And I wonder, while this is not specifically SUV-related, whether you have had a chance to look at the .08 blood alcohol content law, which I got passed into law before I left the Senate, two years ago. And we have seen some compliance since then by States. We still have a dozen States, roughly, that have not lowered their blood alcohol content. Regrettably, one of them is my own State, New Jersey, and that is going to be done, I believe, in the next short while.

Have you had a chance to look at the results of that? Is there any indication that we have made safety gain as a result of lowering that blood alcohol content level?

Dr. RUNGE. Yes, sir, we have done analysis of States. Unfortunately, it is hard to do a controlled study. We have to do a longitudinal before-and-after comparison. But we are seeing reductions of about 7 to 9 percent in alcohol-related fatalities in States after they pass the .08 law. So we believe that it is effective.

We also believe that the American public should not fear .08. It is not a glass of wine or two at dinner that gets you to .08. Most people would be shocked at how—most people would agree completely if they were ever at .08 that they should not be operating a motor vehicle.

So there is this tendency to fear lowering of blood alcohol content as putting one in some risk if he is a drinker of any alcohol. The far greater risk is being hit by a drunk driver in States that are not taking active roles to put these kind of measures in place.

Senator LAUTENBERG. I thank you very much. The sanctions will be going into effect starting this year, and I would hope that we will be able to get some reporting. And I do not know whether it falls to your department or somewhere else is the Department of Transportation that reports to us, but the States have to be reminded that there is a significant penalty if they do not change.

Thanks very much, Mr. Chairman, and thank you, Dr. Runge.

The CHAIRMAN. Thank you, Senator.

Thank you, Dr. Runge. We look forward to working with you.

Our next panel is Ms. Joan Claybrook, president of Public Citizen, Mr. David Pittle, the senior vice president of Technical Policy of Consumers Union, Mr. Brian O'Neill, the president of the Insurance Institute for Highway Safety, Mr. Robert Lange, who is the executive director of Vehicle Structure and Safety Integration at General Motors Corporation, Ms. Susan Cischke, who is the vice president of the Environmental and Safety Engineering at Ford Motor Company, and Mr. Christopher Tinto, who is the director of Technical and Regulatory Affairs at Toyota Motor North America.

Welcome to the witnesses, and, Ms. Claybrook, we will begin with you.

**STATEMENT OF JOAN B. CLAYBROOK, PRESIDENT, PUBLIC CITIZEN**

Ms. CLAYBROOK. Thank you, Mr. Chairman.

The CHAIRMAN. Welcome back before the Committee, Ms. Claybrook.

Ms. CLAYBROOK. Thank you, Mr. Chairman. I very much appreciate the opportunity to testify today before the Committee and to the other Committee members.

Mr. Chairman, SUVs are antisocial, dangerous vehicles, and Congress should act to bring down the death toll from these top-heavy highway battering rams. Overall, SUVs are more hazardous than passenger cars. In the National Highway Traffic Safety Administration's statistics, fatality data for all types of crashes from 1999, the occupant fatality rate of 100,000 registered vehicles was 17.78 for SUVs, and 16.44 for passenger cars. Acknowledging, of course, that they are fairly close between the two, I think that Dr. Runge has made the best point, which is there are safe SUVs and there are safe cars, and there are unsafe others of both.

Any real study should also examine the increasing number of fatalities imposed on passenger car occupants because of two-vehicle crashes from deadly SUVs and pickup trucks. And I think in answer to your question on the *USA Today* study, that article, that it is really unethical to talk about the deaths only to the occupants of these vehicles, but you also have to look at the deaths that they cause to the occupants of other vehicles. And some very excellent researchers, Ross and Wenzel, have put together a lovely study that shows not only the death rate in the vehicle as the occupant, but also the combined death rate from both the occupant and the impact that that vehicle has on other people.

SUVs are basically gussied-up pickup trucks, and most have never been substantially redesigned to be safely used as passenger vehicles. And we have already heard some of the problems that arise when the high bumper, stiff frame, and construction of these vehicles fails to adequately absorb the energy and also imposes great harm on others on the highway. There are also problems of side guardrails which are designed basically for cars. And there are also pollution issues.

And I would take issue a little bit with Dr. Runge, that you can make safer and more fuel-efficient SUVs, because much of the improvement in fuel efficiency that occurred from 1977 to 1985, and, indeed, could be applied in SUVs comes from technology. And also, when the Department of Transportation issued those standards in the 1970s, what the manufacturers did was they took the weight out of the heaviest vehicles, not out of the smaller vehicles. So you had a more compatible vehicle fleet because you got rid of the 5500-pound behemoths, and they were closer to 4,000 pounds, and so they did less harm to others on the highway.

The SUV, as it is currently designed—not as it could be designed, but as it is currently designed—is a bad bargain for our society and a nightmare for many American motorists because of their aggressive design and because of their capacity to roll over so readily and also their lack of crashworthiness. That is a huge problem that could be fixed much more easily, as Dr. Runge has acknowledged this morning. That is, fixing up the roofs, tightening up the belts when the roll occurs, having better seat structures, side window glazing that does not crack but shatters like the windshield does, and side airbag curtains. When you have that, these rollovers are not highspeed crashes. It is not like you are going at 55 or 65 miles an hour in a rollover because you change direction. You are going

a certain highway speed, but then you change direction. And these are not heavy-duty crashes. You can protect most occupants in these crashes.

And you can also substantially redesign these vehicles to have a lower center of gravity. And indeed, some of such vehicles have already been redesigned. The new Volvo SUV is a great example of the state-of-the-art. And there is no reason why every SUV on the highway could not have the same kind of crash protection and lack of rollover propensity that they do.

There are 32 vehicles in the NHTSA rating system that have two stars or one star that are SUVs, and this is really unacceptable, and it was those vehicles that I think that Dr. Runge was referring to when he said he would not let his children drive them. I do not think anybody should drive these vehicles. I do not think they should be manufactured that way. They can be certainly changed completely.

One of the problems is that the current roof standard, roof crush standard that NHTSA has is very weak, and it was weakened because the auto industry, General Motors, particularly, in early 1970, came in and persuaded the agency to cut back the tests for that standard. But it should have a dynamic test, and this is something the agency has the capacity to do. Right now, when a rollover occurs, the windshield breaks in the first roll, and when it does, the roof loses 30 percent of its protective capacity. So the—and if you look at who has paraplegia, quadriplegia, and brain damage from rollovers, it is the people who are sitting where the roof crushed in. So roof crush is a huge issue.

Another issue that I think is very significant, and the auto industry talks about the importance of having belt usage, belt usage is very high in SUVs. It is in the 77/78-percent range. But in fatal rollover crashes, it is much lower. And I have a substantial question about the performance of belts in a rollover crash and whether they are doing their job, which is the reason that I urge that there be pretensioning of these belts so that the belt actually holds you in place and you do not flip around during the course of these crashes.

Some of the interesting examples are of—the difference between SUVs and cars is that a Honda Accord, which weighs about 3,000 pounds, has a better rating, in terms of safety and real-world experience, than the Ford Expedition, which weighs 5686 pounds. So you can have some important design—that shows the importance of design. Design is critical to whether or not these vehicles behave and perform as they should for the American public.

I would also like to comment just for a minute on consumer information. Right now, the agency's consumer information is on the Web page. It is not on the sticker on the windshield so that when you go to buy a car you really know how these vehicles perform. In addition, the agency used to have some rules for turning radius and for stopping distance. SUVs have a longer stopping distance than others. And so it is a huge problem between the ability of the consumer to make a decision and the—you know, what is available to them, in terms of information. It simply is not there.

Lastly, I would just like to comment on the voluntary standard, Senator. In the committee report of this Committee in 1966, it says

very clearly that voluntary standards have failed. The reason the law was enacted in 1966 was because the industry never did voluntarily put in safety unless they were under duress at a particular moment in time. And the problem with voluntary standards is that consumers cannot participate in the development of these standards. The industry promises to do something and then changes its mind, as it did with—General Motors did with side curtains, for example, or Ford did with 25 percent improvement in fuel economy, which they promised in the year 2000, then they changed their mind and backtracked. This happens all the time. And so voluntary standards mean nothing to consumers.

And in addition, when you go to buy a car, there is no certification of what voluntary standards they actually comply with. So you do not have it in the marketplace, you do not participate, there is no enforcement, and there is no involvement in the process.

Lastly, I would just like to mention that there—in addition to the remedies that I have already mentioned, there are a number of loopholes for SUVs in the law, in a variety of laws—in the tax laws, there have been in the tariff laws, in the safety laws. SUVs, for example, have a lower fuel economy capacity, they have—they do not have to meet side-impact protection at all if they are over 6,000 pounds, they do not have to meet a roof-strength—the substantial roof-strength standard at all if they are over 6,000 pounds, they do not have to have the child anchorage systems if they are over 8500 pounds. And there are a number of areas where SUVs have been exempted, and that is part of what has made them such a cash cow for this industry.

[The prepared statement of Ms. Claybrook follows:]

PREPARED STATEMENT OF JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN

**Profit-Driven Myths and Severe Public Damage: The Terrible Truth About SUVs**

Thank you, Mr. Chairman and Members of the Senate Committee on Commerce, Science and Transportation, for the opportunity to testify before you today on the safety of sport utility vehicles, or SUVs. My name is Joan Claybrook and I am the President of Public Citizen, a national non-profit public interest organization with over 125,000 members nationwide. We represent consumer interests through lobbying, litigation, regulatory oversight, research and public education. Public Citizen has a long and successful history of working to improve consumer health and safety.

In recent months, there has been welcome and renewed public attention to the social, environmental and safety problems afflicting SUVs. While every consumer knows about the way these gas-guzzlers block visibility on the road, blind drivers with higher headlamps, and cause congestion in cities, few may be aware that SUVs are in fact no safer than large or mid-size cars and impose additional safety liabilities in many types of crashes. Since Dr. Jeffrey Runge, Administrator of the National Highway Traffic Safety Administration (NHTSA), openly assessed SUV hazards for their drivers and other motorists during a recent speech in Detroit, a long-needed public debate has begun. We must ask whether SUVs deliver what they promise in terms of consumer need and safety, and take a hard look at the profoundly anti-social and violent aspects of these pollution-belching highway battering rams.

As I will discuss, the criticism of SUVs is richly deserved. SUVs are basically gussied-up pickup trucks, and most have never been comprehensively re-designed to be safely used as passenger vehicles. In a crash, the high bumper, stiff frame and steel-panel construction of SUVs override crash protections of other vehicles. Due to their cut-rate safety design, SUVs often fail to adequately absorb crash energy or to crumple as they should, so they ram into other motorists and shock their own occupants' bodies. Endangering their occupants, SUVs may also slide over roadside guardrails, which were designed for cars. And their high profile and narrow track

width create a tippy vehicle, which, when combined with their weak roofs and poor crash protection, places SUV drivers at risk of death or paralysis in a devastating rollover crash. All of these factors mean that overall, SUVs are less safe on average for their occupants than large or midsize cars, and yet inflict far greater costs in both lives and money on other motorists.

The SUV is a bad bargain for society and a nightmare for American roads. The switch from mid-size and large passenger cars to SUVs has endangered millions of Americans, without any recognizable benefits. One former NHTSA Administrator estimated in 1997 that the aggressive design of light trucks (a category including SUVs, pickup trucks, vans and minivans) has killed 2,000 additional people needlessly each year.<sup>1</sup> Yet automakers continue to exploit special interest exemptions and safety loopholes, while creating consumer demand and shaping consumer choice with a multibillion-dollar marketing campaign, because SUVs bring in maximum dollars for minimal effort.

After years of losing out in the passenger car market to foreign manufacturers, the domestics' decision to produce and market vehicles in the far less regulated, tariff-protected<sup>2</sup> SUV category was like hitting the lottery for Detroit. In the SUV, the industry found and developed a broad market that allowed it to rake in cash, while taking every step to avoid spending money to fix the unstable and threatening vehicle that resulted.

Manufacturers have known for decades about the tendency of SUVs to roll over, and about the damage incurred when the vehicles' weak roof crushes in on the heads and spines of motorists. Manufacturers have settled the many lawsuits brought by motorists who were horribly injured by these vehicles and facing a lifetime of pain, often imposing gag orders to hide the documents that show this knowledge. They've also unblinkingly faced the carnage inflicted on other motorists from high SUV bumpers and menacing front grilles, building ever-more heavy and terrible SUVs over time and continuing to market them militaristically, such as the ads calling the Lincoln Navigator an "urban assault vehicle." For this designed-in harm, they are rarely held responsible. Throughout, they've kept churning out millions of SUVs, essentially unfixed.

This hearing is necessary because, although manufacturers have known for years about these hazards, instead of acting voluntarily, they have bobbed, weaved, delayed and denied. SUVs are in fact the dangerous offspring of a heady mix of profit-driven special interest politics and corporate deception. Most safety standards and emissions rules are more than thirty years old, and relentless industry lobbying has killed off interim attempts to update them or pass badly needed new ones on rollover or vehicle compatibility. Yet when the safety, fuel economy and emissions laws were originally passed in the 1960s and 1970s, it was unimagined that SUVs and other light trucks would become, as today, nearly half of all new vehicles sold. The result is that Detroit has retained, and jealously guarded, a massive incentive to create demand for, and to sell, these highly profitable machines.

Despite their high price tag, SUVs are cheap to produce because of an accumulation of regulatory exceptions and the near-total lack of up-to-date, much-needed standards for rollover and vehicle compatibility. The result is that consumers are unnecessarily threatened, injured and killed. The combination of safety design shortcuts that imperil their own occupants, aggressive and heavy designs that devastate the occupants of other vehicles, and special, higher levels of fuel usage and pollutants means that the SUV is a lose-lose for society. Better regulation is sorely needed to transform this socially and environmentally hostile vehicle into one worth selling or owning.

#### *1. SUVs Are No Safer for Their Drivers Than Mid-size and Large Cars, and Are Extremely Dangerous for Others on the Road*

Although many Americans purchase SUVs because they believe that they will safely transport their families, the truth is that SUVs are among the most dangerous vehicles on the road. They are no more safe for their drivers than many passenger cars, and are much more dangerous for other drivers who share the highway, making them a net social loss for society. Yet this cycle is perpetuated by industry-spread myths that heavier vehicles are safer *per se*, so consumers believe that they must continue to "supersize" their own vehicle in order to remain safe. The self-reinforcing nature of this growing highway arms race makes the notion that SUVs are safe for their occupants one of the more harmful myths of our time.

Yet the influx of these new urban assault vehicles is threatening overall road safety in new and more frightening ways. While the rate of passenger cars involved in fatal crashes per 100,000 registered passenger cars declined by 15.1 percent between 1995 and 2001, the rate of light truck involvement only declined only by 6.8 percent during the same time. Thus, while light truck involvement rates in fatal

crashes have always been greater than those of passenger cars, this difference is growing ever larger.<sup>3</sup>

The growing death toll from SUVs is so significant that a recent federal study found that fatalities in rollover crashes in light trucks, a category which includes SUVs, threatens to overwhelm *all other reductions in fatalities on the highway*, an astonishing fact when we consider that 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.*”<sup>4</sup> In addition to the height of the vehicles’ profiles and headlamps, which block sightlines on the highway, light truck design is so incompatible with passenger vehicles that they are estimated to kill approximately 2,000 unnecessary vehicle occupants each year, as noted by a previous NHTSA Administrator.<sup>5</sup> A more specific 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, even under the same crash conditions.<sup>6</sup> The deadly design of light trucks has thus been responsible for thousands of unnecessary deaths on American highways.

Overall, SUVs are no safer for their occupants than are many passenger cars. NHTSA’s fatality statistics show that, in 2001, there were 162 deaths per million SUVs and 157 deaths per million cars, indicating that the death rate for SUVs is slightly higher.<sup>7</sup> In fact, researchers Marc Ross, of the University of Michigan, and Tom Wenzel, of Lawrence Berkley National Laboratory, have examined detailed crash data and concluded that risks to drivers of SUVs are slightly higher than risks to drivers of midsize and large cars, but slightly lower than risks to drivers of compact and subcompact cars. When the risk to drivers is combined with the risk to drivers of other vehicles, the average SUV has about the same combined risk as the average compact car (and higher combined risk than average mid-size and large cars, while lower combined risk than the average subcompact). This is further explained in the chart below. However, Ross and Wenzel found that the risk to drivers of the safest compact and subcompact models are lower than that of the average SUV, and are about the same as that of the safest SUV model.

Ross and Wenzel Fatality Risk by Vehicle Type—1997–2001 model years (using NHTSA driver death rates per million vehicles sold)

	Combined risk	Risk to driver	Risk to other drivers
Sports Car	225	175	50
Pickup Truck	211	108	103
Subcompact Car	141	109	33
SUV	132	79	53
Compact Car	128	90	38
Large Car	112	74	38
Mid-Size Car	97	66	32
Minivan	80	40	40
Luxury Import	60	40	20

Combined risk is the sum of the death rate for a vehicle’s drives and the drivers of other vehicles with which it collides, showing a vehicle’s net social harm in crash fatalities.

Variations within weight categories are significant. For example, drivers of Honda Accord (3049 lbs.)<sup>8</sup> passenger cars and the hulking Ford Expedition SUV (5686 lbs.) have similar risks to their drivers. And drivers of the gargantuan Chevrolet Suburban (5567 lbs.), the safest SUV identified, have the same fatality rates as drivers of much smaller Volkswagen Jettas (3091 lbs.). But in each of these two cases, the SUV model imposes over twice the risk on drivers of other vehicles than the car model.

Ross and Wenzel have also specifically challenged the idea that weight explains the safety levels of particular vehicles. Using the resale value of vehicles as a proxy for the “quality” of their design, their research shows that, while there is a wide range of safety outcomes in each weight category, the risk to the driver of a vehicle is more closely correlated with the quality of that vehicle than with its weight.<sup>9</sup> Because heavy vehicles are much more dangerous for others on the highway, it is critical to figure out whether this added weight actually buys better safety for the occupants of these vehicles. Ross and Wenzel’s work shows that some of the heaviest vehicles offer only very mediocre protection for their occupants, yet threatens other drivers, inflicting a net loss on society.

For just one egregious example from a different study, for every Ford Explorer driver saved in a two-vehicle crash because that driver chose an Explorer over a large car, five drivers are killed in vehicles hit by Explorers.<sup>10</sup> We must take up the challenge presented by Ross and Wenzel and begin to address the net social consequences of bad choices—choices made out of a narrowly perceived, woefully uninformed, and factually incorrect, self-interest.

For this reason alone, a recent release of data by the Insurance Institute for Highway Safety (IIHS) is beside the point.<sup>11</sup> IIHS claims that its numbers show that overall occupant fatality rates for SUVs are, for the first time, lower than the overall rates for cars.

My main objections to the work by IIHS are below:

1) The IIHS has been quoted in several news articles as emphasizing that the new study, for the “first time,” shows that SUVs are safer than cars. There are several serious problems with this claim:

a. Other statistics disagree: NHTSA’s overall occupant fatality data for all crashes for 1999 (the most recent year NHTSA published statistics using SUVs as a vehicle class) showed that the occupant fatality rate per 100,000 registered vehicles was 17.78 for SUVs and a slightly lower 16.44 for passenger cars.<sup>12</sup> NHTSA’s statistics include all vehicles on the road.

b. The overall IIHS driver death rates for SUVs (73) show they are more risky than both large (63) and very large (69) cars, as classified by IIHS. The only real disagreement between the Ross and Wenzel data and IIHS concerns whether mid-size cars are also more safe than SUVs, which may be a matter of how the researchers have sorted particular vehicles by size. In addition, IIHS rollover death rates for SUVs (2-wheel drive = 44/four-wheel drive = 31) show that these are still far above the overall rollover rates in single-vehicle rollover crashes for cars (all cars = 18).

c. SUVs may be killing more people in cars: IIHS fails to consider the effect of SUV aggressivity as their numbers grow in proportion to the overall vehicle fleet, which could mean that the marginal relative safety gains in SUVs *are at the expense of the occupants in passenger cars*. The fatality rate in cars has declined steadily over time, and has been cut in half since 1980. IIHS must estimate how much further the car fatality rate would have declined if thousands of car drivers had not switched to more dangerous SUVs. One expert estimates that the net increase in deaths from the aggressive design of SUVs was 445 in 1996 alone, over what the death count would have been had those drivers been in cars of the same weight class.<sup>13</sup> IIHS must show that their numbers are significant outside of this “replacement effect” caused by the deadly design of SUVs.

d. Very small sample size: The IIHS does not present any indication of the statistical significance of its findings, as it did in earlier make/model analyses. Yet the IIHS sample size, which sorts one year of fatality data for three model years of vehicle registrations into even smaller bins of data regarding vehicle type (inexplicably divided by both wheelbase and length for cars, *and* weight for trucks), is likely to also be small, making a spread of 115 to 125 between SUVs and cars in the IIHS 2001 occupant fatalities chart statistically insignificant. In contrast, the analysis by Ross and Wenzel uses fatality data and vehicle sales from five years, which allows analysis of particular vehicle models.<sup>14</sup> The more detailed analysis by Ross and Wenzel indicates that SUVs are less safe than mid-size and large cars and safer than compact and subcompact cars for their drivers.

e. The data categories may be misleading: IIHS has included all car types, including high risk sports and mini cars and low risk minivans, in their car category, and has dropped the worst performers, 2-wheel-drive SUVs, out of the SUV category below 3,000 and above 5,000 lbs. IIHS must demonstrate that this line-drawing does not distort its results. Also, SUVs should only be compared with vehicles with comparable attributes appealing to SUV buyers, such as minivans, and compact, mid-size, and large cars. Moreover, the new cars used in the IIHS sample may be underinvolved in crashes, as drivers of new cars tend to be more affluent and more careful on the road.

2) The study’s focus on weight fails to explain the problem and leads to the wrong result: In fact, there are tremendous variations in the safety of vehicles for their drivers and for others on the road *within the same weight or size categories*.<sup>15</sup> Other research shows weight to be inconclusive at best, as it confounds such potentially more explanatory factors as safety design, quality and size. A better method would be to update the 2000 IIHS make/model anal-

ysis, so that consumers may be informed about the particular vehicle models they drive.

The IIHS study's focus on occupant protection, without considering off-setting aggressivity effects, perpetuates the myopic focus on occupant safety, rather than factoring in the costs and risks for others on the road. The IIHS results would wrongly lead individual consumers to purchase heavier vehicles as a matter of self-protection. Yet Ross and Wenzel have shown that drawing conclusions about safety across weight classes without looking at make/model quality distinctions produces a misleading picture at best.

And the IIHS approach results in a far more dangerous highway for all of us. Encouraging consumers to "super-size" vehicles creates a vehicle fleet with a far greater range between the largest and smallest vehicles. But these kind of disparities have been shown by safety experts to be the most devastating in two-car crashes, turning the nation's fleet of vehicles into a combination of battering rams and lambs to the slaughter. One study recently concluded that the risks *imposed by heavier cars on lighter car occupants outweigh the benefits to heavier car occupants*, and that the *variability of distribution of weights in the vehicle fleet increases net fatalities*.<sup>16</sup> Another study demonstrated that shifting the passenger vehicle fleet to include more SUVs in lieu of cars increased the overall number of deaths.<sup>17</sup>

Instead of fixing design flaws in SUVs, manufacturers frequently claim that driver behavior is to blame. But data on driver behavior patterns also fail to explain the difference in driver death rates between SUVs and passenger cars. SUV drivers killed in rollovers are, in fact, considerably less likely to be either speeding or drunk than are passenger car drivers involved in a fatal rollover crash, suggesting that it is easier for SUV drivers to lose control of the vehicle and become involved in a severe crash.<sup>18</sup>

## II. New Safety Standards On Rollover and Aggressivity Reduction Could Save Lives

### A. Rollover

As General Motors pointed out in its response to Dr. Runge's comments in Detroit, rollover crashes are rare events, representing only 2.5 percent of all crashes. GM failed to mention that *almost one third (32 percent) of all occupant fatalities are rollover-related (over 10,000 per year)*.<sup>19</sup> And, when they occur today, rollovers are often deadly. According to NHTSA, 20 percent of fatal crashes involve a rollover.<sup>20</sup>

SUVs are a major part of the rollover problem: while 22 percent of passenger car occupant fatalities are attributable to rollover, a whopping 61 percent of SUV occupant fatalities are.<sup>21</sup> The high frame and unstable design of SUVs makes SUV rollovers particularly likely, and the weak roofs and poor crash protection make them deadly when they do occur. SUV rollovers are dangerous no matter how you slice the data:

- High overall death toll from SUV rollovers: SUV rollovers resulted in 12,000 deaths in the U.S. in the 1990s and increased from 2,064 in 2000 to 2,142 in 2001.<sup>22</sup> According to the NHTSA Administrator, in 2001, SUV occupants were far more likely to die in fatal rollover crashes than were other vehicle occupants. SUV occupant fatalities in rollover crashes occurred at a rate of 9.9 per 100,000 registered vehicles, compared to a rate of 3.53 for passenger cars, 4.33 for vans, and 6.97 for pickup trucks.<sup>23</sup>
- High SUV involvement in fatal rollovers: According to NHTSA, the rate at which SUVs roll over in fatal crashes is more than three times the rate of passenger cars. While passenger cars roll over in fatal crashes at a rate of 3.48 per 100,000 registered vehicles, SUVs roll over at a rate of 11.06, pickups roll over at a rate of 7.52, and vans roll over at a rate of 4.09.<sup>24</sup>
- High rate of SUV rollover fatal crashes: While the rate of passenger car occupants who died in fatal rollover crashes per 100,000 registered vehicles declined 9.7 percent between 1995 and 1999, the rate for SUV occupants declined only 1.8 percent in the same time period. Critically, SUV occupant death rate in rollover crashes has remained about three times that of passenger car occupant deaths.<sup>25</sup>

And the problem is growing. The rate of passenger car occupants who died in fatal rollover crashes per 100,000 registered vehicles declined 18.5 percent between 1991 and 2000, while the rate of light truck occupants who died in fatal rollover crashes increased 36 percent between 1991 and 2000.<sup>26</sup>

*1. The High, Boxy Design of SUVs Makes Them Prone to Roll Over, Particularly in Emergency Maneuvers*

The high center of gravity of SUVs and narrow track width makes them unstable during emergency maneuvers, such as swerving to avoid another vehicle, pedestrian or curb, or during a tire blowout. Loading of the vehicle, which is encouraged in SUVs by the large cargo areas, raises the center of gravity of the vehicle, making it more dangerous and hard to control. Consumers unaware of these handling differences may drive SUVs more aggressively, yet be unable to handle the slower response time and longer braking distances of a light truck. In a rollover propensity test of the Ford Explorer by Little Rock, Arkansas, trial attorney Tab Turner, even an expert driver aware of the planned timing of the tire blowout was unable to keep the vehicle from rolling over.

Although charged by Congress to prepare a rollover propensity minimum standard in 1991, NHTSA terminated rulemaking on the standard in 1994. NHTSA defended its termination by citing obsolete statistics on the number of SUVs in the vehicle population in the late 1980s, without acknowledging the growing popularity and hazards of this vehicle class. At that time, NHTSA promised that a consumer information program and numerous crashworthiness protections would be forthcoming.

A decade and tens of millions SUVs later, in January 2001, NHTSA at long last published very basic information based on a static measure of the rollover propensity of vehicles as a part of the agency's New Car Assessment Program, which assesses a mere 40 or so vehicles in each model year. Rather than prominently displaying a vehicle's safety ratings next to the sticker price to help consumers make informed purchases, the safety information is only available on the agency's Web site, where fewer than 1.5 percent of consumers would even think to look.<sup>27</sup> NHTSA claimed that its program would highlight the poor performers and that public pressure would force manufacturers to improve the rollover tendencies of vehicles.

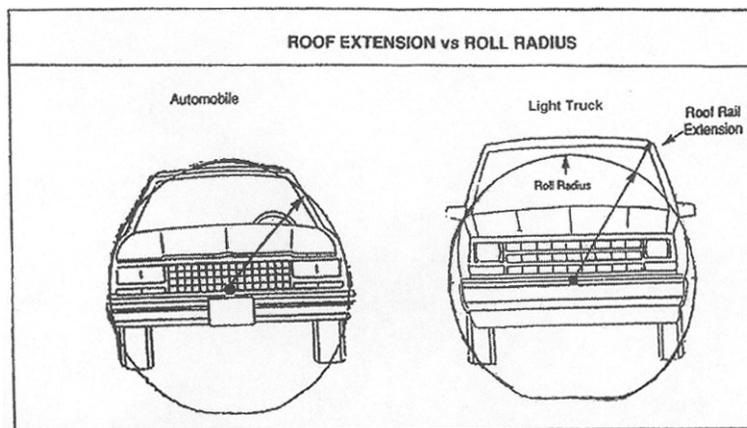
Yet 22 SUVs in the 2003 model year received a rollover rating of just two stars out of a total of five, indicating that they are very prone to rollover, and the Chevrolet Blazer was awarded a pathetic single star, the minimum handed out to any vehicle in the testing program. A single star or two stars, as Dr. Runge indicated, on this test is a failing grade. By imperiling anyone who unwittingly purchases one of these unstable deathtraps, these continuing low grades show the failure of NCAP's rollover tests to set a meaningful floor for risks imposed on consumers, demonstrating that the program also well deserves a failing grade.

The Transportation, Recall Enhancement, Accountability and Documentation (TREAD) Act, passed in the wake of the Ford/Firestone disaster, included a requirement for a dynamic rollover consumer information program to be added to NCAP on the NHTSA Web site. This is a step in the right direction, but consumer information, for the reasons described above, will never be enough. NHTSA should return to the Congressional mandate it denied in 1994 and establish a minimum standard for rollover propensity. Between 1994 and 2001, 12,959 people have died in SUV rollovers alone, not to mention the other people killed or injured in other types of vehicles.<sup>28</sup> No more consumers should be a guinea pig in this ongoing, failed experiment in market dynamics or should be forced to await the next Ford/Firestone debacle before a meaningful remedy is implemented.

*2. A Safety Standard Establishing Basic Rollover Crash Protections Is Sorely Needed*

Despite the unconscionably high death toll, rollovers are actually highly survivable crashes, because forces in the collision are far lower than those in many other types of highway crashes. Race car drivers, who wear five point belts and drive vehicles with strong crash protections, often walk away from severe crashes that would be deadly in other vehicles because of superior crashworthiness designed into their vehicles. This survivability means that rollovers are primarily dangerous due to poor vehicle design. Safety belts and seat structures are not made to keep occupants in place during a crash, and vehicle roofs are so flimsy that they crush into occupants' heads and spines, inflicting very serious injuries.

These important crash protections are also missing in most SUVs, yet rollovers are particularly violent in this type of vehicle. The box-like, windowed passenger area of an SUV (called the "greenhouse"), protrudes into the air and in a roll hits the ground with more force due to its shape. Rolling "like a box" creates a more violent rollover crash upon impact with the ground, in comparison with the crash dynamics of passenger cars, which roll more like tubes. Centrifugal forces push passengers' heads towards the outside of the roll and into contact with the vehicle's sides and roof just as the vehicle impacts the ground, frequently crushing inward with deadly consequences.



These heightened risks distinguish SUVs from passenger cars and in part may account for the dramatically higher rollover fatality rates.

In addition, the heavy bodies and engines of SUVs place greater pressure on the roof during a roll, making roof strength a paramount concern for drivers of these vehicles. Most SUV roofs are not strong enough to withstand the impact of a rollover crash. The current roof crush standard became effective in 1973 and has been revised since that time only for extension to vehicles with a gross vehicle weight (GVWR) of 6,000 pounds or less and to apply to vehicles with raised roofs.<sup>29</sup> This weight limit has allowed manufacturers to increase the gross weight of SUVs and pickups over 6,000 pounds to evade the standard, meaning that the vehicles most in need of a strong roof are totally unregulated. The weight limit should be raised by Congressional action to 10,000 pounds to correct this egregious oversight.

NHTSA's 1994 termination of work on a rollover propensity standard was followed by subsequent public statements in which the agency promised many crash-worthiness improvements, including a stronger roof crush standard as well as requirements for better door latches, door hinges and upper side impact protection. Among these tragically broken promises, the roof crush standard remains far out-of-date.

In order to "beat" the standard in recent years, manufacturers have taken the short cut of merely improving the bonding of the windshield to the vehicle structure, which helps the vehicle pass NHTSA's weak test without helping occupants, because in a crash the windshield is typically gone by the end of the first roll. Once the windshield is gone, typically one-third of the roof strength disappears with it, and the roof crushes.

When roofs crush in a rollover, the cardinal rule that occupant space not be intruded upon is broken. The survival space for occupants is greatly limited or eliminated altogether, so that the heads and spines of occupants contact the roof. In addition, roof crush can open ejection portals—making windows and the windshield area very large and leading to ejection of occupants, which is frequently fatal. The current static standard tests only one side of the vehicle, failing to provide any indication of what will happen in a roll when the following side (rather than the leading side) impacts the ground. Because in a real-world rollover the roof is already weakened by the first impact, and the windshield shatters in the first roll, roofs should be tested under those conditions. Although NHTSA has issued a general request for comments over a year ago, a schedule of deadlines for the agency to issue a proposed and final rule is sorely needed and should be set out by Congress.

What is needed is a dynamic test that will provide the basis for a minimum roof strength standard, or, at a minimum, an updated static test for both sides of the roof with the windshield removed, and both should be applicable to vehicles over 6,000 lbs. In addition, Congress should require crash protections that will protect occupants in rollovers, such as safety belts that tighten in a roll, advanced window glazing and side head protection air bags to keep ejection portals from opening, and air bag sensors that will deploy the air bags in a rollover crash.

### B. Anything But Simple: The Dubious Physics of SUVs Makes Them Highly Aggressive in Multiple Vehicle Crashes

The facts about SUV aggressiveness<sup>30</sup> in multiple vehicle crashes are horrifying. Because of the height, weight and structural rigidity of SUVs, when they collide frontally with passenger cars, drivers of passenger cars are over four times more likely to die as the drivers of the SUV. And the destruction in a side impact is even more shocking. When an SUV hits the rear side of a passenger car, the driver of the passenger car is over 16 times more likely to die than the driver of the SUV.<sup>31</sup>

In front-end (“head-on”) collisions with passenger cars, the higher SUV will “run up” the front of the car. In side impact collisions (“broadside” or “T-bone”), the SUV will override the passenger car door, thus invading the occupant compartment and posing a much greater risk of injury to the driver and passengers, as compared to a comparable collision between two passenger cars. Light trucks, a category including SUVs, striking a passenger car in the side are more likely to intrude at least six inches into the occupant compartment, more likely to kill, and more likely to override the door of the target car, than is a passenger car striking another passenger car.<sup>32</sup>

Driver Fatality Ratios in Two-Vehicle Crashes<sup>33</sup>

Vehicles Involved in Crash	Type of Crash	Ratio of other vehicle driver fatalities to passenger car fatalities
Passenger Car: Passenger Car	Frontal	1:1
Full Size Van: Passenger Car	Frontal	1:6
Full Size Pickup: Passenger Car	Frontal	1:6.2
SUV: Passenger Car	Frontal	1:4.3
Minivan: Passenger Car	Frontal	1:2.6
Compact Pickup: Passenger Car	Frontal	1:2.6
Passenger Car striking Passenger Car	Side impact	1:7.8
Full Size Pickup striking Passenger Car	Side impact	1:26.1
SUV striking Passenger Car	Side impact	1:16.3

The problem of SUV incompatibility is a matter of design, and not merely weight. For every million registered cars weighing between 3,500 and 3,900 pounds, 45 deaths occur in vehicles struck by these cars. For every million registered sport utility vehicles *in the same weight class*, 76 deaths occur in vehicles struck by the SUV.<sup>34</sup> Other studies have confirmed this result, finding that even cars in the same weight grouping as SUV are far less dangerous for other vehicles on the road.<sup>35</sup>

Ross and Wenzel paint an even more sophisticated picture, by pointing out that that, while SUVs and pickup trucks are the most aggressive vehicles as a class, particular designs of make and model vehicles within these categories are much better or worse than others.

Ross and Wenzel’s Top 20 Most Risky Vehicles (by vehicle make, 1997–2001 model year)

Rank in list	Type of Vehicle	Make and Model	Combined risk
1	Pickup Truck	Ford F-Series	238
2	Pickup Truck	Dodge Ram	225
3	Pickup Truck	Chevrolet S-10	216
4	Pickup Truck	Chevrolet C/K series	203
5	Subcompact Car	Pontiac Sunfire	202
6	Subcompact Car	Dodge Neon	199
7	Pickup Truck	Ford Ranger	196
8	SUV	Jeep Wrangler 194	
9	Pickup Truck	GMC C/K- series	193
10	Subcompact Car	Chevrolet Cavalier	186
11	Pickup Truck	Dodge Dakota	184
12	SUV	Chevrolet Blazer	172
13	Pickup Truck	Toyota Tacoma	171
14	Compact Car	Pontiac Grand Am	157
15	SUV	Ford Explorer	148
16	Large Car	Lincoln Town Car	147
17	Midsize Car	Dodge Stratus	143

Ross and Wenzel's Top 20 Most Risky Vehicles (by vehicle make, 1997–2001 model year)—  
Continued

Rank in list	Type of Vehicle	Make and Model	Combined risk
18	SUV	Chevrolet Tahoe	141
19	SUV	Toyota 4Runner	137
20	Large Car	Buick LeSabre	133

Combined risk is the driver fatality risk and risk to other drivers per million vehicles sold

As this suggests, improvements in the compatibility of vehicle design could save many lives. Researchers have found that the light truck bumpers—either alone or in combination with the front grille or front hood—were the component most often associated with passenger car damage.<sup>36</sup> Another study for NHTSA revealed that hood profile—the height of the hood of a light truck—was the most important factor in the aggressiveness of a light truck. In this study of twelve collisions, the researchers found that a lowered profile (a tapered hood) for the light truck reduced the probability of serious injury to occupants of the struck car from 97 percent to 11 percent.<sup>37</sup>

Some manufacturers are already applying technology to reduce the carnage. Mercedes-Benz has designed the bumper of its SUV to be the same height as its C-Class compact luxury car, to reduce the probability that the front of its SUV will invade the occupant compartment of passenger cars in a side impact crash. Toyota has designed its Lexus LX 470 SUV with an “active height control system,” which lowers the ride height of the SUV by as much as four inches if it is driven at high speeds.<sup>38</sup> By adding a lower cross-member bar to the vehicle below the front bumper, the Volvo's new XC90 SUV better engages the structure of small vehicles, increasing its crash compatibility. And to better protect pedestrians and bicyclists, the rounded front of the XC90 is smooth and the engine is positioned low in relation to the hood, allowing the hood to dissipate crash forces rather than transferring them to the person hit.<sup>39</sup>

These kinds of changes should be the norm, rather than the exception. Without regulation, they will remain the province of luxury manufacturers, yet these designs show what is feasible if a socially responsible attitude toward the safety of others is a priority. NHTSA has been collecting crash profile information as a part of its New Car Assessment Program for the past decade, yet it has never used this information to suggest regulatory changes or propose an aggressivity reduction standard. It is far past time to act on this information and to establish basic standards to limit vehicular violence by urban assault vehicles.

### III. While the Worst Risks Remain Unregulated, SUVs Exploit Other Key Loopholes

SUVs provide a case study in industry muscle overpowering government. Sailing through loophole after loophole, the vehicles exploit numerous omissions and special favors, from the tax code to fuel economy rules and safety protections. In addition to the extra costs and boondoggles listed below, SUVs also inflict needless harm on the public health, emitting smog-forming, greenhouse gases that cause respiratory maladies and global warming.

#### *A Legacy of Loopholes: SUVs are Regulatory Renegades*

- **Emissions Evasion:** In 1997, the auto industry brokered a *voluntary* agreement with the EPA that protected Detroit's largest and most profitable SUVs from having to make any pollution improvements until 2004. In addition to befouling the air with high levels of smog-forming pollutants and greenhouse gases, the emissions exemption also encouraged an upsizing of SUVs above the 6,000 pound threshold, helping to make large SUVs the most rapidly expanding market segment. In 2004, a new emissions program is scheduled to take effect that will impose new fleet requirements on average emissions.
- **Fuel Economy: A Twisted Tale of Two Vehicle Classes:** In 1978, when Congress passed the first fuel economy law, instructing NHTSA to set the Corporate Average Fuel Economy (CAFE) standards for passenger cars at 27.5 miles per gallon (mpg) it told NHTSA to set standards separately for light trucks (now set at 20.7 mpg). In designing these categories, NHTSA never imagined that trucks would one day morph into popular passenger vehicles, constituting one-half of all new vehicles sold. Furthermore, the light truck standard applies only to vehicles under 8,500 pounds. Consequently, automobile companies push vehicles above the upper limit and game the rules defining cars and light trucks to artificially deflate their CAFE.

- Subsidies and Tax Breaks for SUVs Rob Federal Coffers and the Public

*Extravagance at a High Price for the Public:* The luxury SUV giveaway began in the 1980s as a tax break to enable small farmers and construction companies to deduct the cost of their pickup trucks as a business expense.<sup>40</sup> A business that purchases one of the 38 different SUVs that qualify can immediately deduct \$25,000 from the sticker price, and the Bush stimulus package of 2002 allots another 30 percent depreciation bonus on top of a 20 percent deduction over five years, as well as an existing exemption from luxury surcharge taxes. Instead of closing this sinkhole for public revenues, the Bush administration is seeking to raise the initial deduction to an incredible \$75,000, a figure that would effectively cover the entire cost of a large, luxury SUV.<sup>41</sup> Because the loophole applies only to “light trucks” exceeding 6,000 pounds, some small business owners have admitted that the tax breaks have caused them to purchase large SUVs when they would otherwise have bought smaller vehicles.<sup>42</sup> According to Taxpayers for Common Sense, the light-truck loophole costs the federal government between \$840 million and \$986 million yearly. Thankfully, efforts to close this egregious waste of tax dollars and safety threat have been made in both the House of Representatives and the Senate. Sen. Barbara Boxer (D.-CA) introduced the “SUV Business Tax Loophole Closure Act,” S. 265, and Rep. Anna Eshoo (D.-CA) offered the same title as H.R. 727 for consideration by the House.

*“Light Truck” Gas Guzzlers Need Not Pay:* When adopted in 1978, the gas guzzler tax sought to penalize individuals who consume more than their fair share of gasoline. Legislators chose not to subject “light trucks” to the fine because these vehicles were used primarily for work purposes and made up only a small percentage of the vehicle fleet. Today, SUVs are flooding the market place, draining oil reserves, and spoiling the environment. Exempting SUVs from a gas guzzler penalty violates legislative intent and effectively rewards consumers for driving socially irresponsible vehicles.

- Designed for Cars, Safety Standards Don’t Adequately Protect SUV Occupants
- Holes in Side Impact Protection:* Unlike passenger cars, a loophole in the federal safety standards requires SUVs over 6,000 pounds to meet only a weak, outdated side impact crash test, but not the more effective moving barrier test. Consequently, many larger SUVs need not offer reinforced side door crash protection.

*Roof Strength Weak on Top:* Despite their high risk of rollover, SUVs over 6,000 pounds need not meet any minimum crash protection standard for roof strength. In a rollover crash, roofs of SUVs typically crush into their occupants’ heads, inflicting serious injury and death.

*Bumper Height and Strength Encourage High Costs and Aggressivity:* In order to minimize damage in low speed crashes and to ensure crash compatibility between vehicles, passenger cars must meet very weak standards for bumper strength and standards for height, none of which apply to SUVs. Consequently, crashes involving SUVs result in more severe property damage and higher insurance payouts than passenger cars. The lack of bumper height requirements creates a menace to other vehicles on the road.

*Missing Child Restraint Anchorage Systems:* Although marketed as family vehicles, the largest SUVs (above 8,500 lbs.), unlike passenger cars, are not required to install anchorage systems to accommodate child restraints.

*Brake Light Requirements Dimmed Down for SUVs:* Unlike passenger cars, many SUVs have lower conspicuity because they need not have a center high-mounted stop lamp.

*SUV Manufacturers Evade Air Bag Safeguards That Applied to Cars:* In 1997, auto manufacturers successfully convinced NHTSA to allow them to reduce the test requirements for air bags, changing the test from a 30 mph barrier test to a less demanding sled test. Having never been required to comply with the protective standards applicable to passenger cars, manufacturers wished to avoid doing the vehicle re-design for light trucks that would make them, overall, more energy absorbing and reduce the need for a more aggressive air bag. In its May 2000 recent final rule on advanced air bags, NHTSA continued its bad habit of letting them off the hook. Instead of asking SUV makers to do more, NHTSA reduced the protectiveness of the requirements for all vehicles, including cars and light trucks, by lowering the common standard to a 25 mph test.

*SUV and Light Truck Tire Performance Is a Safety Blowout:* Since the government established separate performance standards for passenger car tires and

light truck tires in 1968, light truck tires have not been held to the same high speed and endurance requirements as passenger car tires, placing consumers at risk of dangerous blowouts. As evidenced by the Ford-Firestone debacle, light truck tire failures have resulted in countless deaths and injuries. A new standard is pending that will apply to all vehicles under 10,000 lbs., but the agency has yet to issue the final rule.

*SUV Braking Distances Historically Stopped Short on Safety:* Government safety standards for minimum braking performance originally allotted longer braking distances for SUVs and light trucks than for passenger cars. Because they are typically built on truck underbodies, many SUVs lack independent rear suspensions and are equipped with inferior braking systems that result in poor emergency handling. In one test on wet pavement in the late 1990s, fully loaded cars like the Cadillac DeVille and Toyota Camry had stopping distances between 164 and 174 feet, while Ford's Expedition SUV required a lengthy 220 feet to come to a halt.<sup>43</sup> New braking performance requirements just took effect this model year, but the longer distances will still plague millions of SUVs currently on the road.

#### *IV. The Market for SUVs Reflects the Impact of Advertising Rather Than a Need for Vehicles With the Capabilities of SUVs*

Although manufacturers claim consumer choice drives the light truck market, they spend billions each year to both create and enlarge these consumer preferences. The auto industry spends more per year on advertising than any other industry in the United States, and more than the next three biggest spenders (financial services, telecommunications, and national restaurant chains) combined.<sup>44</sup> SUV advertising, in particular, has grown to exorbitant levels in the past decade, exceeding in percentages even the growth of SUV sales. In 1990, manufacturers spent \$172.5 million on SUV advertising, and in 2000 they spent an incredible \$1.51 billion. Over the last decade, manufacturers spent over \$9 billion to advertise their highly profitable SUV.<sup>45</sup>

Automakers have made a huge financial investment in an attempt to persuade consumers to purchase SUVs. Yet the argument that the market for SUVs somehow correlates to a real economic demand would be laughable if it were not so frequently rehearsed by automakers. Despite being marketed to consumers as rugged, go-anywhere vehicles, only a small percentage of SUVs are actually used for their off-road and towing abilities.<sup>46</sup> SUVs are, instead, an expensive fantasy packaged up for America by Detroit—an “off-road luxury” vehicle marketed primarily to suburbanites with little need for these features and little awareness of the safety risks. Detroit's fantastical images of trucks marauding through empty mountainscapes bear so little resemblance to the vehicle's typical use that it is patently implausible that the SUV market reflects a true social need.

#### *V. Voluntary Standards Are No Solution*

*“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.”—Committee Report on S. 3005, the Traffic Safety Act of 1966<sup>47</sup>*

On February 13, 2003, the Alliance of Automobile Manufacturers (the Alliance) and the IIHS wrote a letter to Dr. Runge acknowledging the need to improve SUV front-to-side and front-to-front crash protection to address vehicle incompatibility and stiffness, or aggressivity. This is the first industry-wide acknowledgment of such deficiencies in SUVs and other light trucks.

Yet this long-overdue admission appears mainly calculated to convince federal regulators and others that a voluntary effort to improve vehicles should replace any new move to regulate the safety of SUVs. Buying into this obvious delaying tactic would be a grave mistake. The vague promises and half-hearted inquiries (“possible changes . . . need to be explored”) described in the letter are no substitute for a public process resulting in mandatory safety improvements required of the entire light truck fleet.

Automakers have long asked legislators to “trust them” to improve safety, an argument Congress specifically considered and rejected when it enacted the National Traffic and Motor Vehicle Safety Act in 1966, the Act giving rise to NHTSA. In lobbying against the Act, auto manufacturers tried to sell Congress on the concept of voluntary standards. The plausibility of their proposal was roundly criticized by Congress and ultimately denied.

Legislators were right. The historical path of automakers' voluntary efforts is paved with broken promises. From General Motors' (GM's) 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, Daimler/Chrysler and GM's recent recantation 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 the manufacturers' tactical whims.

The Alliance/IIHS letter suggests that "one possible result could be development of voluntary standards, such as those previously developed for side air bags." The limited inquiry conducted by the side impact air bag working group (an industry group working only on injury prevention) is an extremely poor example on which to model the crucial SUV safety standards that are needed. Instead, the side impact air bag group is representative of many problems that infest a voluntary alternative to regulation.

This group has thus far been plagued by the following serious drawbacks, among others:

- The narrowness of the group's focus on injury prevention from the air bags (mitigating the down-side), rather than injury reduction in all passengers (exploring the up-side), has accomplished little and yet has precluded broader efforts to develop a requirement for side impact head protection air bags;
- Real-world data on the crashes involving these air bags is scarce due to the lack of a requirement for their installation and the resulting low fleet penetration;
- Core sections of industry group meetings are closed to the public, and policy analysts in attendance from consumer groups have been asked to leave mid-meeting;
- Some manufacturers, including General Motors, have since ceased installing side air bags in some models, and the lack of a safety standard enables this capriciousness.

In general, a promise to develop voluntary standards is merely grounds for obfuscation, delay, secret meetings, and deniability. A significant body of academic research has repeatedly shown that voluntary standards fail, for the following reasons:

- **Closed, secret processes and meetings:** The public is shut out of the development of the proposal, which instead is designed in secret by industry working groups;
- **Lack of procedural and judicial oversight:** Industry group decision makers are not subject to oversight, compliance with statutory requirements, and judicial review of decisions;
- **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 install technology in compliance with the group standard, meaning that companies can change their minds at will and decide to withdraw any protection offered by the new standard;
- **No accountability:** The public has no means to secure an independent evaluation of the quality of the industry's voluntary tests or standards;
- **No transparency:** The public receives no verification that a particular vehicle actually complies with the industry's voluntary tests, as they do with government standards that are subject to public compliance testing and enforcement, and there is no vehicle sticker at the point-of-sale to indicate that a standard is met;
- **No baseline for safety:** High-income purchasers that can afford safety extras may be protected, but low-income purchasers remain vulnerable to cost-based decisions by manufacturers.

As the Committee Report on the Traffic Safety Act of 1966 observed in rejecting the option of standards developed on a voluntary basis, such as through the Society of Automotive Engineers (SAE):

*These SAE standards are the product of a committee consensus, subject to a single manufacturer's veto, while affording no consumer or user representation: Compliance is voluntary. There exist no procedures to compel their adoption, monitor their use, or evaluate their effectiveness.*

A voluntary standards program is a particularly inapt solution where, as here, manufacturers have long been on notice of the serious safety hazards in these vehicles and where the externalities of their decisions to produce ever-more aggressive and deadly vehicles are imposing needless suffering and costs on all of us.

### VI. *Better Safeguards Are Needed to Protect the Public*

In addition to the shocking toll in lives, devastating injuries, and unnecessary suffering, the monetary costs of our failure to regulate SUVs is staggering. NHTSA estimates the “comprehensive cost”<sup>48</sup> of each motor vehicle crash fatality in FY 2000 at approximately \$3.4 million. Without adjusting for inflation, the cost to society of SUV rollover fatalities in FY 2001 alone cost the United States approximately \$7.3 billion, and has totaled a shocking 44 billion since 1994, when NHTSA terminated its rulemaking on a minimum propensity standard.<sup>49</sup> The 2,000 unnecessary deaths resulting from the aggressivity of light trucks deaths cost the U.S. economy approximately \$6.8 billion per year.<sup>50</sup>

Congress could put a halt to the carnage, the human suffering, and the incredible waste, by requiring simple, long-overdue measures to address the safety of SUVs, light trucks and other vehicles, up to 10,000 lbs.:

- 1) NHTSA should develop and implement a minimum rollover propensity standard;
- 2) NHTSA should issue a requirement for basic rollover crashworthiness protections, including requirements for:
  - a. Safety belts that employ sensors which pretension in a rollover crash (currently belts remain slack in a rollover from the lack of pressure);
  - b. Side impact head and frontal air bags with sensors that trigger inflation in a rollover crash;
  - c. A dynamic roof crush standard, and, in the interim, a revised static standard which test both sides of the roof with the windshield removed;
  - d. Roof structures equipped with interior, energy absorbing materials to reduce damage to the occupant should any body part of the occupant contact the roof;
  - e. Advanced window glazing for impact protection in side windows; and
  - f. Improved seat structure and belt placement to contain and protect occupants by integrating safety belts into the seat structure.
- 3) NHTSA should issue aggressivity reduction and vehicle compatibility standards;
- 4) Close the luxury tax loophole as it applies to SUVs;
- 5) NHTSA should improve the safety of 15-passenger vans, which are plagued by many of the same rollover problems as SUVs are, such as in legislation recommended by Sen. Olympia Snowe (R-ME);
- 6) Improving funding for NHTSA to develop regulatory standards and track realworld crash data;
- 7) Placing vehicle safety information on stickers at the point-of-sale and changing the NCAP program to grades that indicate success and failure rather than unclear results with stars;
- 8) Improving the fuel economy of light trucks, which the National Academy of Sciences found would accrue safety benefits if improvements were targeted at vehicles weighing more than 4,000 lbs.

It is far less expensive for manufacturers to undertake a comprehensive re-design of vehicles for safety and fuel economy at the same time, as was the case when the initial fuel economy standards were targeted for the same time-period as new occupant protection requirements. Therefore, Congress should ask manufacturers to bring their vehicle fleets into this century by upgrading the vehicles’ safety and fuel economy in one combined design campaign.

These eight crucial changes would transform American highways by realizing the promise of the safety program first envisioned in 1966—saving countless lives, improving the quality of vehicles sold in America, and making the United States once again a leader in automotive safety.

#### Endnotes

1. See Bradsher, Keith, *High and Mighty: SUVs—The World’s Most Dangerous Vehicles and How They Got That Way*, 2002, at 193 (referring to Joksch, Hans C., “Vehicle Design versus Aggressivity,” (Apr. 2000), DOT HS 809 194, at 40–42).

2. See *Id.* at 32.

3. See National Highway Traffic Safety Administration (NHTSA), 2001 Motor Vehicle Crash Data from FARS and GES, at 17 (the rate of passenger cars involved in fatal crashes per 100,000 registered passenger cars declined by 15.1 percent between 1995 and 2001 (from a rate of 25.11 to a rate of 21.31), the rate of light truck

involvement only declined by 6.8 percent during the same time (from a rate of 28.13 to a rate of 26.23)).

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

5. See Bradsher, Keith. "Light Trucks Will Get Designs That Are Safer, Official Says," *New York Times*, June 2, 1998 quoting former NHTSA Administrator Dr. Ricardo Martinez.

6. See Joksch, Hans C., "Vehicle Design versus Aggressivity," April 2002 at 41; Further calculations contained in an electronic mail communications between Public Citizen and safety researcher Hans Joksch stated that: "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." Email from Hans Joksch to Laura MacCleery of Public Citizen, on February 24, 2003 (on file at Public Citizen).

7. Cloud, John, "Why The SUV Is All The Rage," *Time Magazine*, Feb. 24, 2003; See also NCSA, *Characteristics of Fatal Rollover Crashes*, DOT HS 809 438, at 22 (Apr. 2002), (In 1999, there were 16.44 passenger car deaths per 100,000 registered passenger cars compared to 17.78 SUV deaths per 100,000 registered SUVs.).

8. All four figures use curb weight. Curb weight is the weight of a vehicle that is ready to drive, with all fluid levels topped up and a full tank of gas, but without occupants or cargo.

9. Ross, Mark, Wenzel, Tom, "Losing Weight to Save Lives," prepared for the Commission on Energy Policy, January 29, 2003.

10. See Bradsher, Keith, *High and Mighty: SUVs- The World's Most Dangerous Vehicles and How They Got That Way*, 2002, at 449, footnote 13 (Leaving aside SUVs and considering just the number of drivers killed per 5,000 crashes, in which a large car hits another car of any size, an average of 2.2 drivers die in large cars and 5.5 drivers die in the other cars that were struck. Together these numbers render a total of 7.7 deaths per 5,000 crashes. Because the large cars are heavier than most of the cars they hit, the drivers of the large cars tend to fare better. When looking at the crashes involving Explorers, on average only 1.2 Explorer drivers die when involved in the same number of collisions with cars. Compared to the 2.2 drivers who died in the large cars, the Explorers actually save a life. However this is misleading because, when hit by Explorers instead of large cars, the death rate for drivers of other cars rises dramatically, doubling to 11 deaths. Therefore, on average 5.5 extra driver deaths occur in the struck cars. The combined death rate for drivers on both sides of the collision has now risen to 12.2 for collisions involving Explorers, compared with 7.7 when there were just large cars hitting the other cars.).

11. Insurance Institute for Highway Safety, "Fatality Facts: Passenger Vehicles as of November 2002," (Feb. 14, 2003).

12. See, National Center for Statistics and Analysis, *Characteristics of Rollover Crashes*, DOT HS 809 438 (April 2002), at 22.

13. See Joksch, Hans C., "Vehicle Design versus Aggressivity," April 2002 at 41; Further calculations contained in an electronic mail communications between Public Citizen and safety researcher Hans Joksch stated that: "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." Email from Hans Joksch to Laura MacCleery of Public Citizen, on February 24, 2003 (on file at Public Citizen).

14. See Ross, Mark, Wenzel, Tom, "Losing Weight to Save Lives," prepared for the Commission on Energy Policy, January 29, 2003.

15. *Id.* 22

16. Greene, David L., "Fuel Economy, Weight and Safety: Its What you Think You Know, That Just Isn't So," Presentation to Automotive Composites Conference, Society of Plastics Engineers, Detroit, Michigan, September 19, 2001, at 12.

17. *Id.* at 12.

18. See NCSA, *Characteristics of Rollover Crashes*, DOT HS 809 438, (Apr. 2002), at 34 and 37 (In fatal rollover crashes, fifty-three percent of passenger car drivers were speeding compared with 39 percent of SUV drivers. And speed is an important factor in the fatality of rollover crashes; in 2001; nearly three quarters of all fatal rollovers took place on roads where the speed limit was 55 miles per hour or higher. Furthermore, while passenger car and SUV drivers were equally likely to have a 0.01 to 0.09 Blood Alcohol Concentration when getting into a fatal rollover crash, 39 percent of passenger car drivers were at 0.10 or over while only 27 percent of SUV drivers were (0.08 is the legal level for intoxication)).

19. *Id.* at 14.
20. *Id.* at 3.
21. Jeffrey W. Runge, M.D., NHTSA Administrator, "Meeting the Safety Challenge" at Automotive News World Congress, Dearborn, Michigan, Jan. 14, 2003.
22. See Bradsher, Keith, *High and Mighty: SUVs- The World's Most Dangerous Vehicles and How They Got That Way*, 2002, at 164.
23. Jeffrey W. Runge, M.D., NHTSA Administrator, "Meeting the Safety Challenge" at the Automotive News World Congress, Dearborn, Michigan, Jan. 14, 2003.
24. See NCSA, *Characteristics of Rollover Crashes*, DOT HS 809 438, (Apr. 2002) at 21.
25. *Id.* at 14 and 20; See also "Registration Data for 1975-2001: Data Source" FHWA and Polk," provided by a NCSA researcher to Public Citizen on Feb. 6, 2003, (the rate of passenger car occupants who died in fatal rollover crashes declined 9.7 percent between 1995 and 1999 (from 4.12 to 3.72 deaths per 100,000 registered vehicles), the rate for SUV occupants only declined 1.8 percent in the same time period (from 11.38 to 11.17 deaths per 100,000 registered vehicles.).
26. See NCSA, *Characteristics of Rollover Crashes*, DOT HS 809 438, (Apr. 2002), at 14 and 20; See also "Registration Data for 1975-2001: Data Source" FHWA and Polk" provided by a NCSA researcher to Public Citizen on Feb. 6, 2003, (The rate of passenger car occupants who died in fatal rollover crashes declined 18.5 percent between 1991 and 2000 (from 4.32 to 3.52 deaths per 100,000 registered vehicles) while the rate of light truck occupants who died in fatal rollover crashes increased 36 percent between 1991 and 2000 (from 7.55 to 10.27 deaths per 100,000 registered vehicles.).
27. See NHTSA, *Status Report for Rollover Prevention and Injury Mitigation*, Docket No. 91-68, at 11 (May 1996), (NHTSA's own research shows that only about 1.5 percent of consumers would consider researching auto safety issues by contacting a federal agency, while about half would think to request safety information from auto dealers. The report indicates that a 1995 Customer Satisfaction Survey reflected that less than 50 percent of the people surveyed would go to the auto dealer for information. Seventy-six percent of the people polled considered safety to be an important factor. However, less than 50 percent of the total population polled said they would request information from the dealer. Only 60 out of 4,000 people said they would contact a federal agency for auto safety information.)
28. Advocates for Highway and Auto Safety, *Analysis of NHTSA SUV Rollover data*.
29. The current standard requires a static test, in which the platen on the vehicle roof corner, above the A pillar, must bear one and a half times the vehicle's weight with the windshield intact.
30. "Aggressivity" of a vehicle is generally defined as the risk of fatal or serious injury to occupants of other vehicles with which it might collide. See, Joksch, Hans, et al., *Vehicle Aggressivity: Fleet Characterization Using Traffic Collision Data*, U.S. Dept. of Tran., N.H.T.S.A., DOT HS 808-679 (Feb. 1998).
31. Jeffrey W. Runge, M.D., NHTSA Administrator, "Meeting the Safety Challenge" at the Automotive News World Congress, Dearborn, Michigan, Jan. 14, 2003.
32. Terhune, K.W., Ranney, T.A., et al., "Study of Light Truck Aggressivity," Calspan Field Services, Inc. (Feb. 1984).
33. Jeffrey W. Runge, M.D., NHTSA Administrator, "Meeting the Safety Challenge" at the Automotive News World Congress, Dearborn, Michigan, Jan. 14, 2003.
34. See Insurance Institute for Highway Safety, *Status Report*, Vol. 43, No. 9, Oct. 30, 1999, at 3.
35. See Joksch, Hans C., "Vehicle Design versus Aggressivity," April 2002 at 41; Further calculations contained in an electronic mail communications between Public Citizen and safety researcher Hans Joksch stated that: "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." Email from Hans Joksch to Laura MacCleery of Public Citizen, on February 24, 2003 (on file at Public Citizen).
36. Terhune, K.W., Ranney, T.A., et al., "Study of Light Truck Aggressivity," Calspan Field Services, Inc. (Feb. 1984).
37. Monk, M.W., et al., "Striking Vehicle Aggressiveness Factors for Side Impacts," U.S. Dept. of Trans., NHTSA, NAD-52 (January 1986).
38. Gardner, Greg, et al., "Fine-Tuning the Laws of Physics," *Ward's Auto World* vol. 34, no. 4 (April 1998).
39. Lamm, John, "The Safety Story," *Road & Track Guide to the Volvo XC90*, 2002, at 48.

40. See <http://www.taxpayer.net/TCS/whitepapers/SUVtaxbreak.htm#10> (visited February 20, 2003), describing Section 280F(d)(5) of the Internal Revenue Code of 1986.

41. McCarthy, Sheryl, "Eliminate SUV Tax Giveaway Which Helps Rich and Busts Budget," *The Detroit News*, Feb. 14, 2003.

42. Ball, Jeffrey, Lundegaard, Karen, "Quirk in Law Lets Some SUV Drivers Take Big Deduction," *The Wall Street Journal*, Dec. 19, 2002.

43. See Bradsher, Keith, *High and Mighty: SUVs- The World's Most Dangerous Vehicles and How They Got That Way*, 2002, at 138.

43. NCSA, *Characteristics of Rollover Crashes*, April 2002, at 3.

44. See Bradsher, Keith, *High and Mighty: SUVs- The World's Most Dangerous Vehicles and How They Got That Way*, 2002, at 112.

45. *Id.* at 112. (Financial analysts estimate profits of \$12,000 for Ford's Expedition SUV and \$15,000 for the Ford Navigator.) *Id.* at 84 and 85.

46. See Bradsher, Keith, *High and Mighty: SUVs- The World's Most Dangerous Vehicles and How They Got That Way*, 2002, at 112 ("Auto industry surveys show that one in six SUV owners use their vehicles at least once a year for towing, especially boats. Some owners, no more than one in 10 and perhaps fewer than one in 100, also use their SUVs for off-road driving.")

47. Committee Report on S. 3005, The Traffic Safety Act of 1966, June 23, 1966, at 271, 273-74.

48. See Blincoc, Lawrence J., *et al.*, "The Economic Impact of Motor Vehicle Crashes 2002," May, 2002, at Appendix A, DOT HS 809 446, (A comprehensive cost estimate combines both economic cost and values for "intangible" consequences, by estimating quality-adjusted life years lost. NHTSA estimates that the value of fatal risk reduction lies in the range of \$2 to \$7 million per life saved.)

49. See *Id.* to reach the sum provided, (The death toll from SUV rollovers was 2,142 in 2001, according to NHTSA crash statistics. This figure is multiplied by the cost numbers used by NHTSA in its last annual report.)

50. *Id.*

#### APPENDIX A—BLAMING CONSUMERS FOR SUV DANGERS IS WRONG ON THE FACTS

The Alliance of Automobile Manufacturers has recently highlighted what it calls the "shared responsibility" for safety. But the facts show that it is manufacturers' shoddy designs, and not consumer misbehavior, that is to blame for the elevated deaths in SUV crashes.

In fact, federal government statistics show that the behavior of SUV drivers is actually slightly better than that of passenger car drivers. SUV occupants have higher levels of seatbelt use, and lower levels of speeding and drinking while driving, than do occupants of passenger cars. Its unclear what more Detroit would have consumers do.

#### **SUV occupants are more likely that occupants of passenger cars to wear their seatbelts.**

- In 2002, SUV and van occupants were observed by federal researchers to be wearing their belts 78 percent of the time, a rate slightly higher than the 77 percent of passenger car occupants who were belted.
- The rate at which SUV and van occupant belt use is growing is faster than the rate for passenger cars—between the fall of 1998 and June of 2002, belt use in SUVs and vans increased 11.4 percent while belt use in passenger cars only increased 8.5 percent.

*Source:* National Center Statistics and Analysis, National Highway Traffic Safety Administration, *Safety Belt and Helmet Use in 2002—Overall Results*, Sept. 2002, at 8.

#### **SUV drivers are also less likely to speed in a fatal rollover crash.**

- Fifty-three percent of passenger car drivers were speeding when they got into fatal single-vehicle rollover crashes, while 39 percent of SUV drivers were.
- Speed is an important factor in the fatality of rollover crashes. In 2001, nearly three quarters of all fatal rollovers took place where the speed limit was 55 miles per hour or higher. Yet rollover deaths in SUVs remain disastrously high. *Source:* National Highway Traffic Safety Administration, *Characteristics of Fatal Rollover Crashes*, DOT HS 809 438, April 2002, at 34.

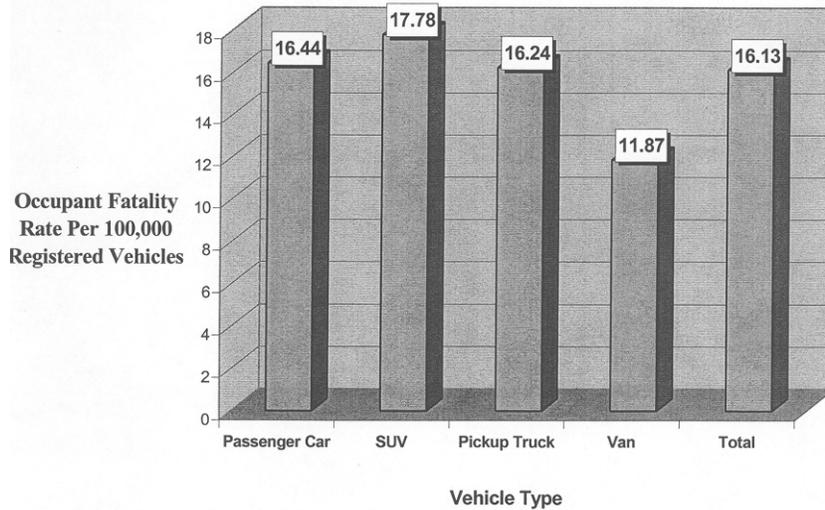
**SUV drivers are less likely to be drunk when they get involved in a fatal rollover.**

- Drivers of SUVs who were involved in fatal rollover crashes were less likely to have a high positive Blood Alcohol Concentration than were drivers of passenger cars. Overall, 39 percent of passenger car drivers had a 0.10 BAC or more in a fatal rollovers while 27 percent of SUV drivers did.

*Source: National Highway Traffic Safety Administration, Characteristics of Fatal Rollover Crashes, DOT HS 809 438, April 2002, at 37.*

Appendix B

**Occupant Fatality Rates  
by Vehicle Type 1999 - All Crash Types**

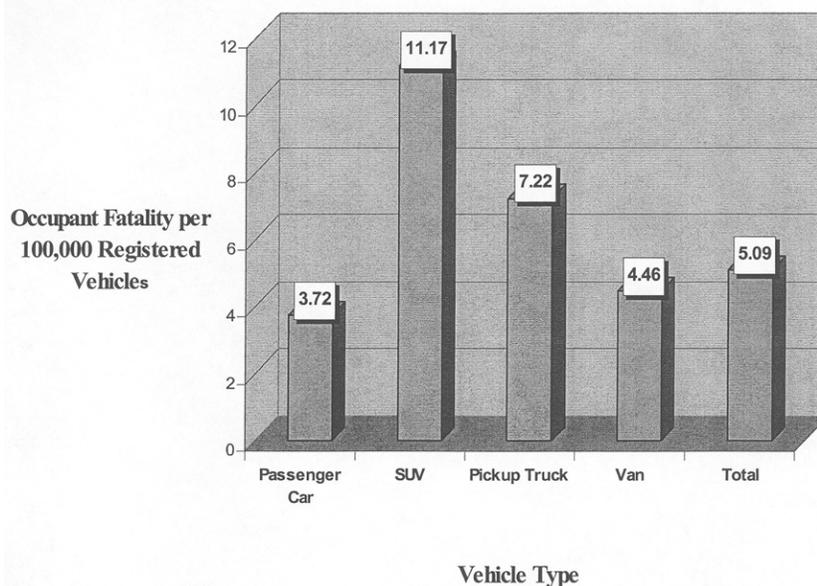


*Source: NCSA, Characteristics of Rollover Crashes, DOT HS 809 438, (Apr. 2002) at 22.*



## Appendix C

### Occupant Fatality Rates in Rollover Crashes by Vehicle Type 1999



Source: NCSA, *Characteristics of Rollover Crashes*, DOT HS 809 438,  
(Apr. 2002) at 14 and 20.



#### APPENDIX D—INDUSTRY FALSEHOODS AND OBSTRUCTION HAVE DELAYED DEVELOPMENT OF MEANINGFUL ROLLOVER CRASH PROTECTIONS FOR THIRTY YEARS

##### **GM Lied to NHTSA About the Need To Test Both Sides of Car Roofs**

On January 6, 1971, NHTSA proposed a roof intrusion protection rule that would test both front corners of the roof on passenger vehicles. General Motors Corporation (GM) and the Automobile Manufacturers Association (which later became the Alliance of Automobile Manufacturers) argued in comments to the docket that testing both sides of the roof was unnecessary because it “in most cases roof structure damage is distributed to only one side of the roof in an actual rollover and that, because the roof is symmetrical it makes no difference which side of the roof is selected for testing.” NHTSA subsequently published a roof crush requirement, which remains in effect today that tests only a single side of the vehicle roof.

Litigation in *Lambert v. GM* subsequently revealed documents showing that in testing following NHTSA’s proposal, in March of 1971, GM tested six production car bodies on both sides of the roof and five of the six failed to meet the test. NHTSA should at a minimum, do as it had initially proposed and require manufacturers to meet a test that applies a more real-world scenario by testing both the leading and following sides of the roof in a rollover crash.

### **Industry Claims Passengers “Dive” Into Roofs, Yet Roof Strength Is Still Key**

The auto industry has tried to obscure the engineering principles which would have emphasized maintaining survival space by arguing in court and to NHTSA that occupants “dive” into the roof. This ignores the obvious fact that if the seat structures and safety belts held occupants in place during a roll, and if the roof was strong enough to withstand the weight of the car, and the roofs were well padded, the head and spine of occupants would be far safer. In addition, safety engineer and attorney Don Slavik has shown through accident investigations that injuries among occupants directly correlates with the location of roof intrusion in the vehicle. Where there is roof crush, occupants are injured, and where someone remains uninjured, there is little or no roof crush.

### **GM Blames Belt Use Rates for Rollover Ejection Deaths and Ignores Safety Belt Design Flaws**

General Motors, in its press release following Dr. Runge’s recent statement, faulted occupant ejections and the lack of safety belt use for the high death rate in rollover crashes, claiming that, “according to NHTSA, of the 9,882 people killed in rollovers in the year 2000, 75 percent perished not because of the vehicle, but because they were unbelted and ejected from the vehicle.”<sup>1</sup> Because decent crash protection could save many lives, this argument sidesteps the industry’s responsibility to better protect the 28 percent of belted occupants who perish needlessly in rollover crashes each year.

Of course, better crash protection, including roofs, doors, door latches and side windows and windshields, along with window curtain airbags, could keep ejection portals from opening in a rollover crash, helping to retain occupants inside the vehicle. GM also confuses causation with correlation: NHTSA never has concluded that those ejected *were killed by the ejection*. On the contrary, safety experts have argued that as many as half of those ejected may have been first injured or killed by roof intrusion within the vehicle prior to being ejected.<sup>2</sup>

Moreover, SUV and passenger car belt-use rates are virtually identical in fatal rollover crashes, proving nothing about the safety of either type of vehicle. Sixty-eight percent of passenger car occupants and 69 percent of SUV occupants killed in fatal rollover crashes presumably were not using restraints.<sup>3</sup> Far from proving that SUVs are safe and fatalities are the occupants’ fault, GM’s assertion shows the continuing failure to install safety design features that could save many lives. According to a major 2002 NHTSA study, 78 percent of SUV and van occupants use safety belts, while 77 percent of passenger car occupants did.<sup>4</sup> Yet, in 2000, a whopping 61.7 percent of SUV occupant fatalities were attributable to rollovers, while 36.5 percent of van fatalities and only 22.0 percent of passenger car fatalities were.<sup>5</sup> Obviously, seat belt use rates do little to explain the high death rates in SUV rollovers.

This statistical discrepancy also raises a question about the effectiveness of current safety belts in rollover crashes. Because most are not constructed to stay tight, or “pretension,” during a rollover crash, safety belts do not offer the same degree of protection to occupants in these type of crashes. Research has shown that passengers may be ejected in a rollover despite the use of safety belts due to “inertial unlatching” during the roll.<sup>6</sup> Despite the possibility of design flaws in most belts, crash investigators often assume that someone ejected in a rollover crash was unbelted, leading to underreporting in the extent to which inertial-unlatching may occur.

Even occupants who are able to remain belted may slide free from their safety belt during a rollover and be injured or killed. In one 1986 NHTSA simulation of a four-roll event at 60 miles per hour using typical safety belt designs, in seven out of seven tests, the test “occupant” slid out of the shoulder belt, permitting extreme

<sup>1</sup>See press release by General Motors, by Jay Cooney, GM Safety Communications. Jan. 15, 2003 (GM notes, “72 percent of those killed in fatal rollover crashes were not using safety belts.”).

<sup>2</sup>See Comments of Public Citizen Regarding 49 CFR Part 571, Federal Motor Vehicle Safety Standards: Roof Crush Resistance at 9–11.

<sup>3</sup>National Center for Statistics and Analysis, *Characteristics of Rollover Crashes*, April 2002, at 47.

<sup>4</sup>National Center Statistics and Analysis, *Safety Belt and Helmet Use in 2002—Overall Results*, September 2002, at 8.

<sup>5</sup>National Center for Statistics and Analysis, *Characteristics of Rollover Crashes*, April 2002, at 14.

<sup>6</sup>See Blick, *et al.*, “Theoretical and Experimental Analysis of Inertial Release of Seat Belt Buckles,” AAAM (1996).

torso flailing to occur.<sup>7</sup> Other research has confirmed that current safety belt design allows far too much movement by occupants to adequately protect them in rollover crashes.<sup>8</sup> Congress should ask NHTSA to conduct further tests to measure the performance of safety belts in rollover crashes, and should require safety belts that will keep occupants in place during a rollover crash.

Of course, GM's decision to blame belt use rates by consumers is far easier—and far less effective—than fixing SUVs through engineering changes available today. The real solution is to impose a meaningful roof crush standard, require rollover crash protection measures in all passenger vehicles, and establish a minimum standard for rollover propensity. Given the survivability of these crashes and the availability of lifesaving and limb-saving technology, NHTSA should have a goal of bringing the fatalities from rollover and roof crush to virtually zero, with the ultimate aim of achieving the same level of protection from injury and death for the public as is now enjoyed by professional race car drivers.

## APPENDIX E

## Ross and Wenzel Top 20 Most Risky Vehicles for Their Drivers \*

Type of Vehicle	Make and Model	Risk to Driver
Pickup Truck	Chevrolet S-10	161
Subcompact Car	Dodge Neon	161
Subcompact Car	Pontiac Sunfire	158
Subcompact Car	Chevrolet Cavalier	146
SUV	Jeep Wrangler	136
SUV	Chevrolet Blazer	122
Pickup Truck	Ford Ranger	118
Compact Car	Pontiac Grand Am	118
Pickup Truck	Toyota Tacoma	111
Pickup Truck	Ford F-Series	110
Pickup Truck	Chevrolet C/K series	104
Midsized Car	Dodge Stratus	103
Pickup Truck	GMC C/K- series	101
Large Car	Lincoln Town Car	100
Subcompact Car	Saturn SC/SL/SW	98
Large Car	Buick LeSabre	96
Subcompact Car	Nissan Sentra	95
SUV	Toyota 4Runner	94
SUV	Ford Explorer	88
Pickup Truck	Dodge Ram	88

\* Risk Ranking includes fatality risk for drivers of these vehicles per 100,000 vehicles sold in 1997–2001  
 Source: Mark Ross and Tom Wenzel *Fatality Risk Chart* printed in the *Los Angeles Times* Article: "Study Questions SUV Safety" Feb. 18, 2003.

## Ross and Wenzel Top 20 Most Risky Vehicles for Other Drivers on the Road \*

Type of Vehicle	Make and Model	Risk to Other Drivers
Pickup Truck	Dodge Ram	137
Pickup Truck	Ford F-Series	128
Pickup Truck	Dodge Dakota	110
Pickup Truck	Chevrolet C/K series	99
Pickup Truck	GMC C/K- series	92
Pickup Truck	Ford Ranger	78
SUV	Chevrolet Tahoe	74
Minivan	Chevrolet Astro Van	61
SUV	Ford Explorer	60
SUV	Chevrolet Suburban	59
Pickup Truck	Toyota Tacoma	59
SUV	Jeep Wrangler	58

<sup>7</sup> See NHTSA Research Paper, SAE 861876 (1986).

<sup>8</sup> Rains, Elias, Mowrey; "Evaluation of Restraints Effectiveness in Simulated Rollover Conditions," 98-S8-W-34 (1998).

## Ross and Wenzel Top 20 Most Risky Vehicles for Other Drivers on the Road\*—Continued

Type of Vehicle	Make and Model	Risk to Other Drivers
SUV	Ford Expedition	57
Pickup Truck	Chevrolet S-10	55
SUV	Chevrolet Blazer	50
Compact Car	Nissan Altima	49
Large Car	Lincoln Town Car	47
Large Car	Dodge Intrepid	45
SUV	Jeep Grand Cherokee	44
Subcompact Car	Pontiac Sunfire	44

\* Risk ranking includes the fatality risk to other drivers per million vehicles sold 1997–2001  
Source: Mark Ross and Tom Wenzel *Fatality Risk Chart* printed in the *Los Angeles Times* Article: “Study Questions SUV Safety” Feb. 18, 2003.

## APPENDIX F—AUTO MANUFACTURERS SPEND BILLIONS MARKETING SUVs TO AMERICAN CONSUMERS

- SUV advertising rose nearly nine-fold from \$172.5 million in 1990 to \$1.5 billion in 2000.<sup>1</sup>
- Automakers and their dealers spent \$9 billion advertising the SUV from 1990 through September 30, 2001.<sup>2</sup>
- General Motors was the #1 advertiser in the U.S. in 2000 and 2001 spending \$3,945,000,000 in 2000 and \$3,374,000,000 in 2001.<sup>3</sup>
- The “Big Three,” ranked #1 for General Motors (\$3,374,000,000), #3 for Ford (\$2,408,000,000), #6 for Daimler/Chrysler (\$1,985,000,000), and spent a combined \$7,767,000,000 in 2001.<sup>4</sup>
- The automotive industry overall spent \$14,490,700,000 in 2001 in total ad spending.<sup>5</sup>

Top Ten Advertisers of 2001 and Revenue per Advertising Dollar Expenditure<sup>6</sup>

Advertiser	Spending	Revenue per Advertising Dollar Expenditure
General Motors	\$3,374,000,000	\$39.20
Proctor & Gamble Co.	\$2,541,000,000	\$8.00
Ford Motor Co.	\$2,408,000,000	\$44.97
PepsiCo	\$2,210,000,000	\$8.20
Pfizer	\$2,189,000,000	\$9.10
DaimlerChrysler	\$1,985,000,000	\$36.60
AOL Time Warner	\$1,885,000,000	\$17.30
Phillip Morris	\$1,816,000,000	\$28.70
Walt Disney Co.	\$1,757,000,000	\$11.90
Johnson & Johnson	\$1,618,000,000	\$12.50

<sup>6</sup> See *AdvertisingAge's Revenue Per Advertising Dollar Expenditure* at <http://www.adage.com/page.cms?pagelId=915>, visited February 19, 2003.

## APPENDIX G—SUVs ARE REGULATORY RENEGADES

SUVs are loophole vehicles across-the-board, but SUVs over 6,000 lbs. collect special exemptions like candy. These wasteful, dangerous vehicles are not held to some of the same crash safety standards as cars and are given outrageously exorbitant tax breaks—creating incentives to churn out more of them while public safety suffers.

<sup>1</sup> See Bradsher, Keith, *High and Mighty: SUVs- The World's Most Dangerous Vehicles and How They Got That Way*, 2002, at 112.

<sup>2</sup> *Id.* at 112.

<sup>3</sup> See *AdvertisingAge's 100 Leading National Advertisers: 47th Annual Report*, June 24, 2002, at 3.

<sup>4</sup> *Id.* at 3.

<sup>5</sup> See *AdvertisingAge's Domestic Spending by Category: Ranked by measured U.S. expenditures in 2001* at <http://www.adage.com/page.cms?pagelId=916>, visited February 19, 2003.

**Special favors for Large SUVs:****Side Impact Crash Protection**

- Large SUVs are held to a less protective side impact standard than applies to cars.

**Roof Strength Protection**

- Large SUVs need not meet *any* roof strength standard.

**Tax Breaks**

- When businesses purchase an SUV (or other light truck) over 6,000 lbs., they can immediately deduct \$25,000 off of the vehicle's price.
- The Bush stimulus package of 2002 granted another 30 percent deduction off of the balance of a vehicle's sticker price.
- The administration's latest stimulus package seeks to raise the initial deduction up to 75,000 dollars.<sup>1</sup> It would pay in full for every vehicle over 6,000 lbs. except the Hummer.
- These special interest tax breaks do not preclude businesses from taking the standard 20 percent deduction annually over five years.

**Above 8,500 lbs., SUVs are also exempt from:****Fuel Economy Standards**

- Vehicles need not comply with the extremely low federal fuel economy standards for light trucks, nor must they report production numbers, miles-per-gallon, or total sales to regulatory agencies.

**Emissions**

- Currently all vehicles over 8,500 lbs are treated as medium duty passenger vehicles, which have *significantly more tax emission requirements*. Under EPA's Tier 2 rules, medium duty passenger vehicles (between 8,500 and 10,000 pounds) will be phased into the passenger vehicle emission requirements over time. Light trucks, as classified by EPA, also are permitted to emit more pollutants than cars, an exemption also currently scheduled for phase out.

**Child Restraint Anchorage Systems**

- Requirements do not apply to vehicles greater than 8,500 lbs., meaning they need not install anchorage systems to accommodate child restraints.

Below is a table of the SUVs eligible for luxury loophole tax breaks:

Sample List of Vehicles that Would Qualify for the SUV Tax Break \*

Vehicle Model	Weight (lbs.)	Sticker Price	2003 Deductions (without Bush tax break)
Cadillac Escalade ESV	7200	\$56,160	\$38,710
Chevrolet Suburban 2500	8600	\$41,280	\$32,160
Chevrolet Tahoe	6800	\$38,530	\$30,955
Dodge Durango	6400	\$33,280	\$28,645
Ford Excursion	8900	\$43,650	\$33,205
Ford Expedition	6650	\$37,185	\$30,360
GMC Yukon XL Denali	7200	\$44,695	\$33,665
Hummer H1	10300	\$111,845	\$63,210
Hummer H2	8600	\$50,590	\$36,260
Land Rover Discovery	6064	\$37,995	\$30,720
Land Rover Range Rover	6724	\$71,865	\$45,620
Lincoln Navigator 4WD	7450	\$51,960	\$36,860
Mercedes M-Class	6283	\$51,970	\$36,865
Toyota Land Cruiser	6860	\$53,915	\$37,725
Toyota Sequoia 4WD	6600	\$38,080	\$30,755

\*Roder, Aileen, Moinster, Lucas, Taxpayers for Common Sense, <http://www.taxpayer.net/TCS/whitepapers/SUVtaxbreak.htm#12>, (visited on February 20, 2003)

The CHAIRMAN. Thank you very much, Ms. Claybrook.  
Mr. Pittle, welcome.

<sup>1</sup>McCarthy, Sheryl, "Eliminate SUV Tax Giveaway Which Helps Rich and Busts Budget," *The Detroit News*, Feb. 14, 2003.

**STATEMENT OF R. DAVID PITTLE, Ph.D., SENIOR VICE  
PRESIDENT, TECHNICAL POLICY, CONSUMERS UNION**

Mr. PITTLE. Thank you, sir.

Mr. Chairman, Members of the Committee, my name is David Pittle. I am senior vice president for Technical Policy at Consumers Union, the nonprofit publisher of Consumer Reports. With me today are David Champion, director of Consumers Union's 327-acre auto test facility in rural Connecticut, and Sally Greenberg, CU's Product Safety Council here in Washington.

Each year, CU conducts comprehensive tests of some 40 to 50 vehicles which we buy anonymously with cash at retail. We have learned, from more than 65 years of conducting unbiased laboratory and consumer-use tests, that while competing products may look alike, they do not always act alike. We see this every day on our test track, in terms of the range of performance and safety of new cars and trucks. Unquestionably, auto safety is a matter of high national importance affecting, as it does, virtually everyone in the country, both in their personal and work lives.

The last time that I presented testimony to a Senate committee, it was during the Ford/Firestone safety crisis in September of 2000. While investigating the thousands of Bridgestone tire failures and Ford Explorer rollovers, the Congress pressed hard to understand how could this situation happen and, further, what could be done to prevent future deaths and injuries from tire failures and SUV rollovers. Ultimately, the Congress passed unanimously a powerful law, the TREAD Act of 2000, that directed NHTSA to protect American consumers by developing new tests for tires, child safety seats, and dynamic tests to assess a vehicle's rollover stability. But the truth is, it never should have taken a tragedy of that proportion to bring about such sorely needed and long awaited changes.

I said it to you then, and I must say it now. The American car-buying public must be able to rely on NHTSA to proactively set adequate safety standards and to ensure that automotive products offered for sale meet those standards. As charged by Congress, NHTSA has the unique authority and the clear mandate to protect the public from unreasonable automotive hazards, hazards often not seen, not measured, and not understood by the average consumer. In short, NHTSA's the only entity empowered by Federal law that can block unsafe vehicles from the marketplace. As a safety agency, its only client is the consumer. And ultimately, we, as consumers, rely on you, the Congress, first, to ensure that NHTSA has the resources and authority it needs to protect the public; second, to use your oversight powers to ensure that the agency is properly fulfilling that mandate; and, third, to insulate the agency and allow it to set safety regulations without being derailed simply because industry raises objections.

I want to recall for you the chilling but all too true words of former NHTSA administrator, Ricardo Martinez. In a recent interview reported in the *Wall Street Journal*, he said, "Any chief of the Safety Agency is always outgunned, outmanned, and outspent by the industry." He went on to say to Dr. Runge, "You have got the regulations and the bully pulpit, and you have got to use both."

The Ford/Firestone safety crisis serves as a vivid reminder that consumers depend on the government to be actively passing laws

to ensure their safety, not passively collecting data on injuries and deaths.

During those hearings in 2000, it became all too clear that NHTSA was an underfunded agency that had lost its way, and ultimately consumers paid the price.

We sit here today, barely two years later, confronting another safety problem whose dimensions we are only beginning to stretch our arms around. It will take our best thinking, our best intentions, and a clear sense of past successes to bring these hazards under control. We applaud Dr. Runge for at least his published outspoken views on behalf of consumer safety. And Mr. Chairman, we appreciate your bringing this hearing together today.

We agree with Dr. Runge's earlier statements that the pattern of injuries and deaths associated with many SUVs on the road is unreasonable and should be addressed promptly. We also believe that the solutions are economically and technologically feasible. But implementing those solutions is going to take strong leadership, leadership from this Committee and strong leadership at the highest levels of NHTSA.

Now, we have provided the Committee with a list of corrective measures that we believe will reduce those risks, particularly SUVs. And rather than going through them now, I want to comment on one last point, and that is on the industry's recent announcement that it would focus attention on the hazards of vehicle incompatibility by placing almost exclusive emphasis on adding protective devices to passenger vehicles. Redesigning SUVs and pickup trucks to be less aggressive would be put off until some undefined later date. This is troubling, to put it mildly. Such an approach, in essence, tells occupants of mid-sized and small vehicles that they must worry about their own safety and virtually all but removes responsibility from manufacturers of SUVs and pickup trucks to start designing these vehicles to be more forgiving. It is like saying to the kids who complain about being battered by the playground bully to wear more protective padding to school.

[Laughter.]

Mr. PITTLE. Equipping passenger cars with head protection is entirely appropriate, but we need to socialize the highway bully. Waiting to address basic design until sometime in the future is fundamentally wrong, and this needs attention now.

So, finally, we question the wisdom that NHTSA is relying on industry to self-regulate by setting its own voluntary standards. While we recognize many of the past benefits of voluntary standards, in this case we believe it would be misguided and inappropriate, and, worse, not likely to bring about the level of change needed to reduce the hazards in a timely manner. Solving broad and serious safety problems is a fundamental reason why NHTSA exists in the first place. This is one of their core responsibilities. We must be very cautious before we agree to let this key safety agency step aside and defer responsibility to the industry. There is no substitute for this safety agency using its authority judiciously to correct safety problem in a timely manner in a way that is accountable to Congress, the courts, and to consumers.

So, Mr. Chairman, Dr. Runge and NHTSA's staff need from you a strong, unambiguous message about its consumer-focus mission

and your intention to vigorously oversee their progress. You did exactly that in the Ford/Firestone case, and it was a success. Lives will be saved as a result. Here, in the light of the serious and rapidly growing risks posed by many SUVs and pickups, we call on you again. We urge this Committee to reject NHTSA's relying solely on voluntary actions by the industry. We urge you, instead, to direct NHTSA to step up to the plate and take the lead in correcting these problems. I lost count how many times Dr. Runge said, "We will be watching to see what the industry does."

Mr. Chairman, Congress set up NHTSA as a watchdog agency to protect the public. This watchdog must do more than watch.

Thank you.

[The prepared statement of Mr. Pittle follows:]

PREPARED STATEMENT OF R. DAVID PITTLE, PH.D., SENIOR VICE-PRESIDENT,  
TECHNICAL POLICY, CONSUMERS UNION

Mr. Chairman, distinguished members of the Committee, good morning. My name is David Pittle, and I am Senior Vice-President for Technical Policy at Consumers Union<sup>1</sup> (CU), the publisher of *Consumer Reports*. We appreciate the opportunity to testify at this hearing to discuss the safety risks of sport utility vehicles. With me are David Champion, Director of Consumers Union's 327-acre Auto Test Center in Connecticut, and Sally Greenberg, CU's Senior Product Safety Counsel here in Washington.

Each year, CU conducts comprehensive tests of some 40 to 50 new vehicles, which we buy anonymously at retail. We provide consumers with objective comparative ratings about performance, routine handling, fuel efficiency, comfort, braking, emergency handling, and safety features of these vehicles. We don't take outside advertising. Our only interest is to provide consumers with unbiased test information. Each month, an estimated 17 million consumers read and consider our published test reports, including product ratings and buying advice, as they ponder their choices.

Since our inception in 1936, auto safety has been an overriding concern for CU. For more than a decade now, surveys have shown that auto safety has become a top priority for the car-buying public as well. We have learned from more than six decades of conducting unbiased laboratory and consumer use tests that, generally speaking, competing products that look alike do not always act alike. This principle holds true for motor vehicles.

Undisputedly, auto safety is a matter of high national importance, affecting, as it does, virtually everyone in the country, both in their personal and work lives. The American consumer relies on the National Highway Traffic Safety Administration (NHTSA) to set adequate safety standards where necessary and to insure that automotive products offered for sale meet those safety standards. If a product is found to be unsafe, it must be recalled promptly and effectively. As charged by Congress, NHTSA has the unique authority and the clear mandate to protect the public from unreasonable automotive hazards—hazards often not seen, not measured, and not understood by the average consumer. In short, NHTSA is the only entity empowered by federal law that can block unsafe vehicles from the marketplace. Ideally, as a safety agency, its only client should be the consumer. As I will discuss, for too long it has not acted assertively to fulfill this role.

With the Committee's help, this can change. Consumers need Congress to insure that NHTSA has the authority and the resources it needs to protect the public in a timely manner from unreasonable risks. Congressional oversight must also insure that the agency is properly fulfilling its public safety mandate. Congress needs to

<sup>1</sup> 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 good, 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.

insulate the agency from inappropriate industry pressures so that important safety regulations are not derailed whenever the industry voices objections.

Auto safety is not a political issue. When someone is injured or killed in a motor vehicle, the pain and grief felt by those consumers and their families is the same regardless of which party is in power or who occupies the White House. Whenever a pattern of unreasonable or preventable injuries occurs, NHTSA must be able to act quickly and decisively—based on the merits of its approach to reducing risks, not on politics or industry pressure.

That is why we are here today. We believe that the pattern of injuries and deaths associated with many of the SUVs on the road today is unreasonable and should be greatly reduced. We also believe the potential solutions are economically and technologically feasible. Implementing those solutions will take strong leadership—leadership from this Committee and strong leadership at the highest levels of NHTSA.

We applaud the bold and very refreshing approach taken by the new NHTSA Administrator, Jeffrey Runge. He is using the leadership of his office to express his informed views on the unreasonable risks associated with certain sport utility vehicles. In so doing, Dr. Runge, whose decades of work as an emergency room physician provided him ample exposure to automobile related injuries and deaths, has enhanced the fast-growing debate on SUVs by placing the public's safety at an appropriately high level. The all-important question remains: How far will Dr. Runge's approach go towards improving the safety of SUVs, and will it occur in a timely manner? I will return to these questions in a few moments.

Consumer Union has long been concerned with the rollover propensity of SUVs, and in recent years with SUV aggressivity. In the November 2002 issue of *Consumer Reports*, in which we rated a group of full-sized SUVs, we offered our readers the following advice:

There are good reasons not to buy a large, full-sized sport utility: They are gas gluttons, create excessive pollution, handle ponderously, and as a class SUVs tend to roll over more easily than passenger cars. Full-sized SUVs can be hard to park and difficult to climb into and out of. And higher, heavier SUVs inflict excessive damage to cars in collisions. For most people, there are better choices.

*Consumer Reports* does not dictate what consumers should buy. We recognize and believe that consumer choice is the cornerstone of our consumer marketplace. Indeed, to meet consumer demand for in-depth product information, we publish annually a special issue on light trucks—which includes SUVs, minivans, pickups, and even station wagons. Our advice, based on our own testing, on crash tests by NHTSA and IIHS, on injury statistics, on market research, and other published data makes clear in an objective manner the advantages and the disadvantages of SUVs. The facts speak for themselves: Too many SUVs get very poor gas mileage, produce greater air polluting emissions per mile traveled, roll over more easily than other classes of vehicles, have large blind spots, and inflict excessive damage on other vehicles in a crash.

These are not newly revealed facts. They have been written about and discussed for many years. A major problem has been that the corrective force in the marketplace, NHTSA, has not acted assertively to bring about the positive changes needed to protect the public. And it's not that consumers have not wanted safer vehicles. For example, a December 2002 J.D. Power survey found that safety continues to be one of the top factors for consumers in the market for new cars. The J. D. Power survey found that nine of the top 10 most desired features are safety enhancing items, including features like vehicle stability control, external surround sensing, adaptive headlight systems, tire pressure monitoring gauges, anti-whiplash seats, and night vision systems topped the list.

#### **Federal Rollover Tests—too Long in Coming**

CU's efforts since 1988 to get NHTSA to either develop a minimum stability standard for all vehicles or develop a dynamic rollover test for SUVs has been a long and frustrating struggle. Preventing rollovers is critical because though rollovers account for a small percentage of crashes overall, they are extremely dangerous when they occur, leading to a disproportionately large number of fatalities. SUVs have the highest rate of fatal crashes involving rollover.

According to NHTSA's 2000 report on vehicle fatalities, 9,882 people were killed as occupants in light vehicle rollover crashes, representing 31 percent of the occupants killed that year. Of those, 8,146 were killed in single-vehicle rollover crashes. SUVs, because they are tall vehicles and have a higher center of gravity than cars or minivans, are more prone to roll over. Statistics bear this out: in 1998, for example, while 10 percent of cars and 10 percent of vans in single vehicle crashes rolled

over, 18 percent of pickups and 27 percent of SUVs rolled over in single vehicle crashes. Some 36 percent of fatal SUV crashes involved rollovers, compared to only 15 percent in cars. According to NHTSA's 2000 fatality data, passenger vehicle deaths in rollover crashes declined slightly from 10,133 to 10,108 in 2000. However, for occupants of sport utility vehicles, rollover deaths increased 2.8 percent from 1,898 in 1999 to 1,951 in 2000.

CU's first experience with rollover began on our test track in 1988. While testing the emergency handling of a group of SUVs, the Suzuki Samurai tipped up suddenly and severely. Based on our repeated testing, including a second sample of the Samurai, we rated the Samurai Not Acceptable. Since 1988, we have evaluated the emergency handling of 134 SUVs, minivans, and pickup trucks and found several models that tipped up severely in those tests and were rated Not Acceptable: the 1995–96 Isuzu Trooper, the 1996 Acura SLX, and the 2001 Mitsubishi Montero Limited.<sup>2</sup> Several other SUVs were rated Poor in emergency handling: 1989 Ford Bronco II, the 1998 Chevrolet Blazer, the 2000 Toyota Landcruiser.

Based on our testing in 1988, we petitioned NHTSA to develop a minimum stability standard for all vehicles. NHTSA granted the petition in 1988 but ceased work in 1994, stating that setting a standard for vehicle stability would be too expensive because manufacturers would have to redesign their vehicles. Based on our testing in 1996, we petitioned NHTSA again, this time to develop a test for assessing the emergency handling and stability of SUVs, to test new models using such a test, and to make the results available to consumers. The agency granted that petition in 1997, but it ended up proposing not a dynamic test but rather the Static Stability Factor in 2000 as the measure for a vehicle's rollover resistance, much to our surprise and our disappointment.

Which brings us to the critical role played by Congress. In response to the notorious Bridgestone/Firestone tire recall controversy, the TREAD act (Transportation Recall Enforcement, Accountability, and Documentation Act), spearheaded by this Commerce Committee, passed Congress unanimously in 2000. NHTSA was directed to develop a dynamic test for rollover, and based on what NHTSA proposed last November, we are optimistic that they have been put on the right track. We believe that consumers will be able to see rollover resistance ratings based on dynamic tests of SUVs and other vehicles sometime this year. This rating system at long last will enable consumers to make rational choices for the safety of their families. There is no question that Congress played the decisive role in bringing this about.

### Vehicle Size Matters

Largely fueled by extravagant industry advertising, consumers have come to believe they are safer in SUVs. Indeed, the automakers have continued to defend SUVs publicly by stating that a larger, heavier vehicle is safer for its occupants than the occupants of a smaller, lighter vehicle in a crash. They promote this message, despite the negative impact such larger vehicles may have on the occupants of smaller vehicles in a crash—and despite data indicating that motorists are not necessarily safer in SUVs than in cars. Researchers Marc Ross and Thomas Wenzel, at the request of the *Los Angeles Times*, just this month updated a survey they completed last March, finding that most mid-size and large cars are as good or better than the average SUV at protecting their own drivers, and much more protective of drivers than the average pickup. Further, Ross and Wenzel found that SUVs have a higher combined risk than mid-size and large cars because of the inordinate damage they can inflict on other motorists in crashes.

Further, the impact of the automotive size race is already seen in highway death tolls, which have seen modest declines over the past 20 years but seem to be stuck at about 42,000 per year for the past decade, despite the ubiquity of safety features like air bags, seat belts, improved vehicle design in some cases, and aggressive anti-drunk driving efforts in the states. One cannot help but wonder how much lower the death rate would be if not for the greater aggressivity of SUVs and pickup trucks in multi-vehicle crashes.

We also fear that the worst is yet to come. Older, larger, more aggressive SUVs will soon be available on the second- and third-hand market in significant numbers, where younger drivers—less experienced drivers with inherently higher accident rates—will be able to afford them. One of the biggest SUVs on the road—the Ford Expedition—weighing 5300 pounds, sold new in 1997 for \$27–33,000. Today, the same 5300 pound vehicle can be bought for a mere \$9,000.

<sup>2</sup>Isuzu and Suzuki raised legal challenges to CU's testing in the federal courts. A California federal jury found for CU in April 2000 and dismissed Isuzu's claims. As the prevailing party, CU was awarded its costs. Suzuki's suit has not yet gone to trial.

Researchers Tom Hollowell and Clark Gabler, in a report prepared for NHTSA and delivered at a conference of the Society of Automotive Engineers in 1997, found that SUVs were nearly three times as likely as cars to kill other drivers in a crash; they also found that when a car crashes into the side of another car, the driver of the struck car is 6.6 times as likely to die as the driver of the striking car. But when an SUV hits a car in the side, the driver of the struck car is 30 times as likely to die.

CU believes that when it comes to affecting other people's health and safety, none of us is completely free of responsibility. Just as we have decided as a society not to permit smoking in most public buildings, workplaces, and restaurants because of the ill effects on the health of our neighbors, we shouldn't encourage consumers to drive vehicles that present unreasonable dangers to others.

Further, while every vehicle has blind spots, the problem is particularly severe behind pickup trucks and SUVs and poses increasing danger, especially to small children. While NHTSA should, but does not, keep these data on children injured or killed in and around cars, a nonprofit safety group in California, KIDS 'N CARS, does. It found that last year alone, a total of 58 small children were backed over and killed, most often by their own parent in their own driveway because they simply couldn't be seen.

CU's Auto Test Division recently measured the blind spots in trucks and SUVs using cones the size of an average two year old to test the extent of this problem. We found a 30-foot blind spot in back of pickup trucks, 14 feet in back of SUVs, compared to only 10 feet for cars. To address this growing safety problem, as the fleet becomes more dominated by SUVs and pickup trucks, we recommend that Congress direct NHTSA to test backover warning devices and require them within the next two years to be standard equipment in SUVs and pickup trucks. We think these devices will not only save lives but also untold millions of dollars in bumper and other property damage.

#### **Vehicle Incompatibility and its Implication for Safety**

What special safety risks do SUVs pose to cars? As Hollowell and Gabler's research notes, the large differential in mass, stiffness, and geometry between cars and SUVs and pickup trucks results in greater injury to car occupants when they are hit by an SUV or pickup truck. Simply put, heavier, stiffer vehicles with higher bumpers are a lethal menace to any passenger car they collide with.

According to a 1999 report from the Insurance Institute for Highway Safety (IIHS), for every million registered cars weighing 3,500 to 3,999, 45 deaths occur in the other cars they collide with. For every million sport utility vehicles in the same weight class, 76 deaths occur in the cars they collide with. The corresponding rate for pickups is 87.

Front-to-side collisions between cars and sport utility vehicles or pickup trucks are among the most deadly because the sides of cars don't offer nearly enough protection against the high battering ram effect of an SUV or pickup truck. Moreover, car doors don't provide the same level of protection that is built into the crumple zone in the car's front end.

#### **To Properly Protect Public Safety, NHTSA Must Lead**

When Dr. Runge began speaking out on his safety concerns about SUVs, the Alliance of Automobile Manufacturers (AAM) and IIHS responded by meeting to discuss what might be done to address the growing problem of more SUVs on the road with their greater potential to injure or kill passengers in cars. After two days of meetings, the two groups wrote to Dr. Runge, saying that the greatest danger to vehicle occupants from incompatibility is in front-to-side crashes, and recommending that the highest priority, "in the short term," should be placed on enhancing "the protection for occupants inside the vehicles struck in the side. Enhanced head protection is one obvious way to improve self protection in side impacts."

The letter, in our opinion, sidesteps the major safety issue by stating that "possible changes to front and side structures to improve compatibility in front to side crashes also need to be explored. However, any specific recommendations on how to implement structural changes are likely to occur in the longer term."

With 20 million SUVs on the roads today, we agree that greater protection for vehicle occupants is critical. But we strongly disagree with the notion that structural changes to SUVs should take a back seat to adding protective safety features inside the struck vehicle, which is the gist of the IIHS/Alliance letter. The problem all along has been that the auto industry has paid too little attention to the safety of other motorists while they designed heavier, high stance SUVs. The approach proposed by IIHS and the Alliance places the lion's share of responsibility on passenger vehicle occupants to equip themselves with devices that protect from a side

collision by a higher, heavier vehicle. This program in essence tells occupants of mid-size and small vehicles that they must worry about their own safety—and virtually all but removes responsibility from manufacturers of SUVs and pickup trucks to design more forgiving vehicles. We think this is one step forward—but two steps backward.

CU believes that NHTSA should have asked Congress for funding to develop compatibility crash tests between SUVs and cars in the mid-1990s, when it became clear that SUVs and pickup trucks were becoming tremendously popular with consumers. Unfortunately, no such test program emerged. Indeed, researchers for NHTSA and other organizations have been concerned about the growing impact of vehicle incompatibility for many years—first between large and small cars and more recently, between cars and SUVs.<sup>3</sup> But it is not too late to start—consumers buy more than three million new SUVs each year.

Congress should direct NHTSA to develop these crash tests, and based on those results, NHTSA should begin to set standards to reduce safety risks posed by vehicle incompatibility and SUV and pickup truck aggressivity. The public's safety cannot rest upon industry self-regulation. Such efforts have not worked well in the past, and it is highly unlikely it will lead to significant changes now. These hazards have been recognized for several years, and little has been done by the industry. The levels of redesign and change needed to reduce the risks are significant—and not likely to flow voluntarily in such an environment. Rather, the situation needs an agency with authority and an unyielding determination to correct the problem—and a strong sense from Congress that anything less is not acceptable.

Based on NHTSA's track record over the last two decades, we have come to believe that the agency has too often had a blurred sense of mission. It was set up to protect the consumer, but it has been a reluctant watchdog. The Bridgestone/Firestone recall revealed all too clearly an agency that had long needed a strong sense of direction. In that instance, Congress responded with an unambiguous message in the TREAD Act. If not for Congress, there might never be dynamic tests for rollover resistance; if not for Congress, there might not be an upgraded federal tire standard; if not for Congress, there might not be an aggressive early warning system for possible defects at NHTSA; if not for Congress, there might not be an upgrading of child safety seats.

We are encouraged by Dr. Runge's public commitment to safety, but we believe he needs help to bring about needed changes. I want to recall the chilling but all-too-true words of former NHTSA Administrator Ricardo Martinez. In a recent interview reported in *The Wall Street Journal* (February 7, 2003):

"Any chief of the safety agency is 'always outgunned, outmanned and outspent by the industry,'" says Ricardo Martinez, a NHTSA administrator during the Clinton administration and friend of Dr. Runge. "You've got the regulations and the bully pulpit, and you've got to use both."

In our opinion, Dr. Runge and the NHTSA staff need from you a strong unambiguous message about its consumer-focused mission and vigorous oversight on results. In the case of the serious risks posed by SUVs and pickups, we urge this Committee to reject NHTSA's reliance on a voluntary approach by the industry.

We recommend the following specific actions:

**Recommendations for Reducing Rollover Risks:**

- NHTSA's plan to conduct rigorous dynamic testing of SUVs and other vehicles and provide that information to consumers, as discussed above, will have a strong impact on SUV design. However, the agency will need additional resources to conduct the testing needed to make the program useful.
- CU's testing of collision avoidance or electronic stability control (ESC) in SUVs indicates that they are very effective in helping drivers to maintain vehicle control. These systems should be standard equipment in all SUVs. Their widespread use is virtually certain to result in fewer rollover-related deaths and injuries.
- Dynamic interior head air bag protection systems have also been shown to reduce occupant ejection during a crash. These systems should be standard on all SUVs to give occupants more side protection in a rollover and also prevent unbelted occupants from being ejected.

<sup>3</sup>See Chillon, "The Importance of Vehicle Aggressiveness in the Case of a Transversal Impact," First International Conference on Enhanced Safety of Vehicles, 1971. Wolfe and Carsten, "Study of Car/Truck Crashes in the United States," Highway Safety Research Institute, University of Michigan, 1982. Monk and Willke, "Striking Vehicle Aggressiveness Factors for Side Impact," National Highway Traffic Safety Administration, 1986.

- NHTSA is currently reviewing comments for an updated standard on vehicle roof crush. This Committee should urge the agency to speed its work on that critical area; even belted drivers in SUV rollovers have been killed or gravely injured as a result of injuries to the spine from impact with poorly designed roofs.

NHTSA should continue its research on improving seat belt usage in all vehicles especially in Pickups and SUVs.

NHTSA should, as part of its rollover information testing, assess the handling capabilities of vehicles. In many cases today vehicle manufacturers equip their SUVs with tires that limit the lateral grip of the vehicle to reduce its instability. However, this compromises the normal handling of the vehicle and can lead to other non-rollover accidents. The handling test proposed by NHTSA would ensure that vehicles are designed to be stable and not “corrected” by fitting a specific low-lateral grip tires. When a consumer is at a tire dealer buying new tires they are not aware of the potentially disastrous consequences of buying the wrong type or size tire. Also the extensive advertising of larger wheels and tires that are likely to improve the lateral grip intensifies the possible consequences. Many SUVs have specific tire types that are permitted, but few consumers are aware of. Many SUVs specify All Terrain type tires only.

#### **Recommendations for Reducing the Risks from Vehicle Incompatibility**

- SUVs should be redesigned to provide lower bumpers and less rigid front frames so that they impart less of the crash energy to the vehicle they hit, and do so at a height that is more comparable to the crumple zones on sedans. Designers should aim for less aggressively designed vehicles, such as the “crossover” vehicles emerging in today’s market.
- Congress should direct NHTSA to develop crash tests to assess crash incompatibility, and NHTSA should begin to set standards to reduce vehicle incompatibility and SUV and pickup truck aggressivity.
- New passenger cars should be equipped with side and head air bags as standard equipment to protect them in a crash with a larger, higher and more aggressively designed vehicle.

#### **Recommendations for Preventing Backover Injuries and Deaths**

- Require NHTSA to begin keeping track of data regarding injury and death to children in and around motor vehicles.
- Require NHTSA to test backup warning devices, set performance standards for these devices, and make them standard equipment on SUVs and pickup trucks in the next 2 years.

Thank you for your attention, and we look forward to your questions.

The CHAIRMAN. Thank you very much, Mr. Pittle.  
Mr. O’Neill, welcome.

#### **STATEMENT OF BRIAN O’NEILL, PRESIDENT, INSURANCE INSTITUTE FOR HIGHWAY SAFETY**

Mr. O’NEILL. Mr. Chairman, as SUV sales continue to climb, there clearly are growing questions about SUV safety. The interest in this hearing illustrates that. The kinds of questions are, Do SUVs provide better protection than cars to their occupants in crashes? Do SUVs have a rollover problem? What about other people on the road? Are SUVs particularly hazardous or aggressive to people in cars with which they collide?

We think that we should be looking at these questions based on some of the real-world crash experience of these vehicles. And there are two kinds of occupant death rates that we can use to address some of these questions. One, death rate summarizes the number of occupants killed in cars, SUVs, or pickup trucks per mission of that vehicle type registered. These death rates can be used to compare the protection these vehicles provide to their own occupants. This is sometimes referred to as “self-protection.”

During 1990 and 1991, occupant deaths per million registered vehicles one to four years old were highest in the lightest vehicles, as you can see from this chart here. Occupant death rates also varied by vehicle type. In each vehicle weight category in 1990 and 1991, occupant death rates were lower in cars than they were in SUVs or pickup trucks.

A decade later, in 2000 and 2001, the patterns have changed somewhat. Most noticeable is as occupant death rates were substantially lower across the board for cars, SUVs, and pickups in every weight category. And in the same weight categories, the death rates are now similar for cars and SUVs.

Although the death rates are similar for recent-model cars and SUVs, the deaths in these vehicles are not occurring in the same kinds of crashes. We have heard already today about rollovers. Single-vehicle rollover crashes consistently account for about 20 percent of car occupant deaths in contrast to corresponding percentages of SUV occupant deaths that occurred in single-vehicle rollovers, which was 52 percent during 1991 and 48 percent a decade later. So it is much more likely that you will die in a rollover crash in an SUV.

But when we look at occupant deaths, it is important to consider not only what happens to occupants inside the particular vehicles, or self-protection, but also what happens to occupants inside other passenger vehicles with which they collide—these other vehicles are sometimes referred to as “crash partners”—and reducing the risks produced by particular vehicle types for the occupants of their crash partners’ vehicles, sometimes is referred to as “partner protection.”

So if we look at the number of occupant deaths in cars that are in crashes with SUVs per million of the SUVs registered, we can use this to look at the risks that SUVs pose to the occupants of crash partner cars. Similar rates can be used to assess crash partner risks from other cars and pickup trucks.

In two vehicle crashes involving SUVs, pickups, or cars in which deaths occur in crash partner cars, the partner death rates varied according to the type and weight of the other vehicle. It should be noted when we look at these comparisons that partner death rates are significantly lower than occupant death rates, because improved crashworthiness or improved self-protection can be effective in all kinds of crashes, while crash partner risks are relevant only in crashes involving two passenger vehicles. And right now, fewer than 35 percent of all car occupant deaths occur in crashes with other passenger vehicles, including other cars.

But when we do look at the partner crash fatality rates, you can see that the heavier the weights of the SUVs, pickups, or cars involved in the crashes in which deaths occur in partner cars, the higher the partner-car death rates. The death rate in partner cars is lower when the other vehicle in a collision is another car than when it is an SUV or a pickup truck. This overall pattern is apparent during both 1990 and 1991, and more recently in 2000 and 2001. So the data do show that SUVs and pickups do inflict more harm to car occupants in crashes than cars in crashes with other cars.

It is interesting to note, however, that between 1990 and 1991, and 2000 and 2001, the death rates in partner cars went down regardless of whether the other vehicle in the collision were other cars, SUVs, or pickups. But obviously, for overall safety, it is important to maintain an appropriate balance between self-protection and the risks for occupants of crash partner cars.

So what is it about SUVs and pickups, beyond their weight, that increases the risk for the occupants for their crash partner cars? A clue is apparent in crash partner death rates by direction of impact. In crashes involving two cars, crash partner deaths are split about evenly between front-to-front and front-to-side impacts, but the split is very different when the other vehicle is an SUV. In these crashes, the occupant deaths in crash partner cars are about 50 percent more likely to occur in side than in frontal impacts.

These self and partner death rates highlight differences between car and SUV safety. Today, the overall fatality rates for occupants of SUVs and cars are about the same, but their fatal crash patterns are different. SUV occupants are about twice as likely as car occupants to be in fatal single-vehicle rollover crashes.

When it comes to deaths in crash partner cars, the partner death rates are when the other vehicle is an SUV, versus another car. And the most important differences are the elevated risks to the occupants of cars struck in the side by SUVs, compared with being struck in the side by other cars.

How can these findings guide us to appropriate countermeasures to improve the protection of all occupants of all passenger vehicles? First, the results presented here demonstrate that progress has been made in self-protection for both cars and SUVs. Occupant death rates today are much lower than they were ten years ago, and there are many factors that contributed to these improvements.

But clearly the issue of SUV rollover crashes still needs to be addressed, and we have some newer designs that have lower centers of gravity, wider track widths, so they should be more stable than older designs. Dynamic rollover rating systems being developed by NHTSA should help prospective SUV buyers choose models with a lower risk of rolling over. Electronic stability systems now available on some SUVs and likely to become more prevalent should reduce the likelihood that SUV drivers will lose control and slide sideways, which often precedes rolling over.

What more can be done to improve the safety of occupants in cars in collisions with SUVs? A high priority should be to address the problem of SUVs striking the sides of cars. The risks are much greater to occupants of cars that are struck in the side by SUVs compared with when you are struck in the side by another car.

The higher ride heights of SUVs mean that their front ends strike cars' relatively weak doors in side impacts. Plus, the higher hood heights on SUVs put car occupants' heads at greater risk.

The first step, and a very important first step, is to improve the side protection offered in all vehicles, because this will work not only in crashes involving cars and SUVs, but in crashes involving two cars.

To promote improvements in this area, the Institute recently began a crashworthiness evaluation program that will provide con-

sumer information on the relative safety of new vehicles in side impacts. For the first time in any crash test program conducted for regulatory or consumer information purposes, the impact heights to sides of the vehicles in these tests simulates the front end of an SUV.

Finally, what can be done to the front ends of vehicles to make them more compatible in two-vehicle crashes? Obviously, one necessary first step is to make sure somehow that the load-bearing structures on the fronts of vehicles, cars and SUVs, are more likely to line up than they do today, because if they do not line up, we have over-ride, under-ride. So a fundamental need is ensure that we have interacting structures in front-to-front crashes.

In front-to-side crashes, the challenge is much greater, because the stiff parts of cars, the door-sill areas, are actually lower than the bumper heights of cars, let alone the bumper heights of SUVs. But, clearly, these issues all need to be addressed in the future.

Thank you, Mr. Chairman.

[The prepared statement of Mr. O'Neill follows:]

PREPARED STATEMENT OF BRIAN O'NEILL, PRESIDENT, INSURANCE INSTITUTE FOR  
HIGHWAY SAFETY

The Insurance Institute for Highway Safety is a nonprofit research and communications organization that identifies ways to reduce motor vehicle crash deaths, injuries, and property damage. I am the Institute's president, and I am here to discuss some aspects of the safety of sport utility vehicles (SUVs) compared with cars.

**PASSENGER VEHICLE REGISTRATIONS  
BY VEHICLE TYPE**

<b>Recent models (1 to 4 years old)</b>	<b>Calendar years</b>	
	<b>1990-91</b>	<b>2000-01</b>
Cars	72%	56%
Minivans	5%	8%
Pickup trucks	17%	18%
SUVs	6%	18%
<b>All models (all model years)</b>		
	<b>1990-91</b>	<b>2000-01</b>
Cars	75%	65%
Minivans	3%	6%
Pickup trucks	17%	18%
SUVs	5%	11%

The increasing sale of SUVs in recent years is well known. They accounted for about 6 percent of all passenger vehicles 1 to 4 years old registered in 1990-91. A decade later the corresponding percentage had tripled to 18. During 2000-01, SUVs and pickups (all model years) accounted for 29 percent of total passenger vehicle registrations.

The increasing number of SUVs on the road has contributed to a growing debate about the safety of these vehicles. Many purchasers say they buy SUVs in part because they believe there is a safety advantage. But do SUVs provide better protection than cars to their occupants in crashes? Do SUVs have a rollover problem? What about other people on the road? Are SUVs particularly hazardous, or "aggressive," to people in the cars with which they collide?

### Concepts of self protection and partner protection

Two kinds of occupant death rates can be used to address these questions and provide insights about the relative safety of cars and SUVs. One kind summarizes the numbers of occupants killed in particular types of vehicles (cars, SUVs, or pickup trucks), per million of that vehicle type registered. These death rates can be used to compare crashworthiness among the different vehicle types—that is, to compare the protection they provide to their own occupants. This is sometimes referred to as *self protection*.

For these comparisons of crashworthiness to be meaningful, it is necessary to isolate the effects of vehicle weight because SUVs and pickups are, on average, heavier than cars, and vehicle weight is an important determinant of occupant death rates. Everything else being equal, lighter vehicles will have higher occupant death rates.

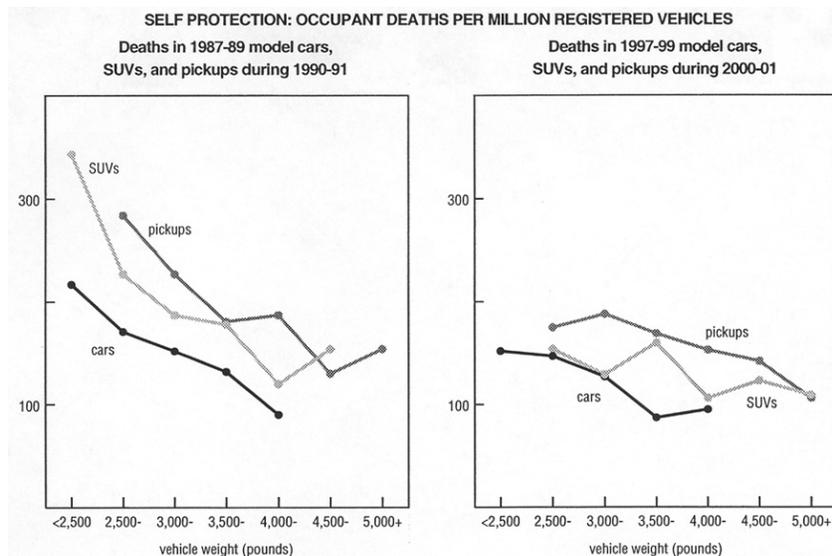
Small and lightweight vehicles have high death rates for their own occupants in all kinds of crashes, single as well as multiple vehicle. However, in crashes between two vehicles the heavier ones can increase the deceleration forces—and the injury risks—for occupants of the lighter ones. So an issue is the extent to which occupants of vehicles such as very large and heavy SUVs have lower risks at the expense of increased risks for occupants traveling in other vehicles. To assess this concern, it is important to consider not only what happens to occupants inside particular vehicle types (self protection) but also what happens to occupants inside other passenger vehicles with which they collide. These other vehicles sometimes are referred to as “crash partners,” and reducing the risks produced by particular vehicle types for the occupants of their crash partner vehicles sometimes is referred to as *partner protection*.

Crash partner risks can be assessed by comparing the numbers of occupant deaths in cars (all model years) in crashes with SUVs, pickups, or other cars (specific model years; per million of the SUVs, pickups, or cars registered). These death rates indicate the risks for occupants of crash partner cars resulting from collisions with different vehicle types. As with crashworthiness (or self protection) death rates, comparisons of crash partner death rates need to isolate the effects of vehicle weight. This allows comparisons of the risks to occupants of partner cars when the other vehicle is, for example, a heavy car versus a heavy SUV.

The combination of self and crash partner death rates considers both deaths inside vehicles in all crashes and deaths in partner vehicles in two-vehicle collisions. This combination provides a more complete assessment of occupant safety.

### Self protection: occupant deaths in cars, SUVs, and pickups

Small and lightweight vehicles afford much less protection to their occupants in crashes than larger and heavier vehicles. This is true regardless of vehicle type (car, SUV, or pickup). During 1990–91, occupant deaths per million registered vehicles 1 to 4 years old were highest in the lightest vehicles. Occupant death rates also varied by vehicle type. In each vehicle weight category, occupant death rates in vehicles 1 to 4 years old during calendar years 1990–91 were lower in cars than in SUVs or pickups. A decade later (2000–01) the patterns had changed somewhat. Most noticeable is that occupant death rates were substantially lower across the board for cars, SUVs, and pickups in every weight category. Consider, for example, vehicles weighing 3,000 to 3,499 pounds. During 1990–91 the self-protection death rate for cars was 152 per million registered cars. The corresponding rate for SUVs was 187 deaths per million, and for pickups it was 227 deaths per million. By 2000–01 these rates had dropped to 127 (cars), 129 (SUVs), and 188 (pickups).



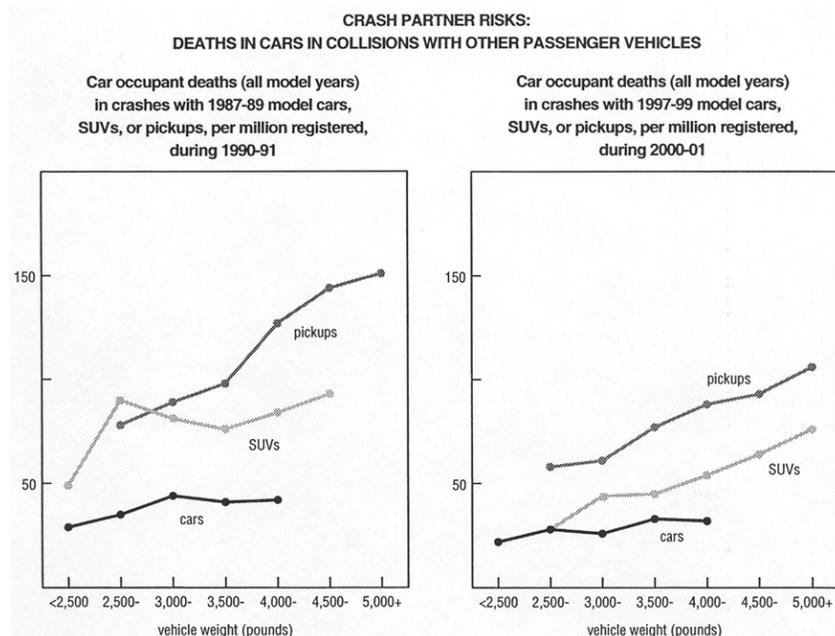
There still were relationships between occupant death rates and vehicle weights during 2000–01, but these relationships were less pronounced than they had been a decade earlier. The biggest changes occurred in the death rates for the lightest cars (those weighing less than 2,500 pounds). This reflects in part the fact that cars in this weight category got heavier. Fifty-four percent of 1987–89 car models in the lightest group weighed less than 2,250 pounds. A decade later, fewer than 9 percent were as light.

Comparisons of death rates by vehicle type reveal other changes from 1990–91 to 2000–01. During the more recent years, cars still had lower death rates than pickups. But in the same weight categories, the death rates were similar for cars and SUVs 1 to 4 years old.

Although death rates are similar for recent model cars and SUVs, deaths in these vehicles are not occurring in the same kinds of crashes. Single-vehicle rollover crashes consistently account for about 20 percent of car occupant deaths. In contrast, the corresponding percentage of SUV occupant deaths that occurred in single-vehicle rollovers was 52 during 1990–91 and 48 a decade later. Consider 1997–99 model vehicles in the 3,000–3,499 pound weight category. Twenty-two percent of the occupant deaths in cars of this weight occurred in single-vehicle rollovers. The corresponding percentage for SUVs was 41 and for pickups 37. Thus, the risk of a fatal single-vehicle rollover crash is about twice as high for SUV occupants as it is for car occupants.

#### **Crash partner risks: car occupant deaths in crashes with other passenger vehicles**

In two-vehicle crashes involving 1-to-4-year-old SUVs, pickups, or cars in which deaths occur in crash partner cars (all model years), the partner death rates vary according to the type and weight of the other vehicle. It should be noted that partner death rates are significantly lower than occupant death rates, which measure self protection, because improved crashworthiness can be effective in all kinds of crashes while crash partner risks are relevant only in crashes involving two passenger vehicles. Fewer than 35 percent of all car occupant deaths occur in crashes with other passenger vehicles, including other cars.



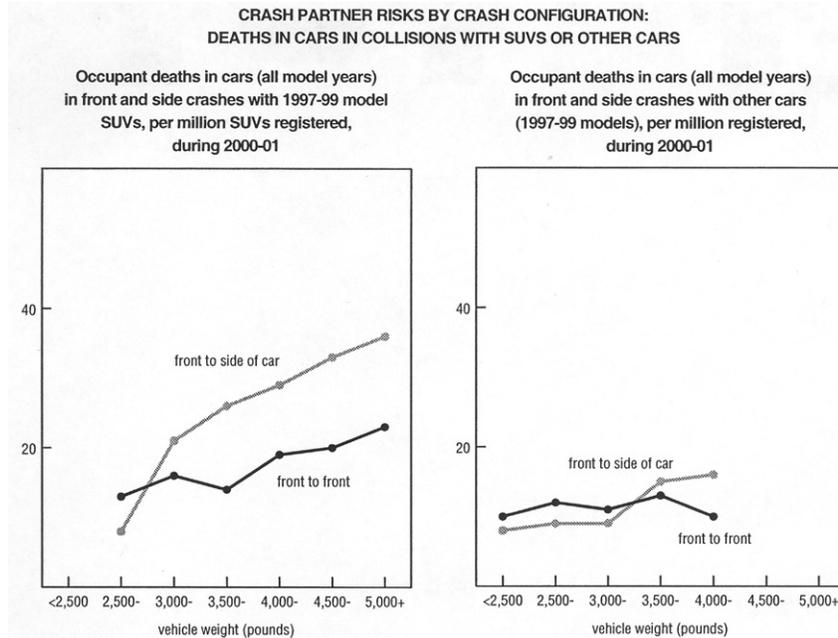
The heavier the weights of the SUVs, pickups, or cars involved in crashes in which deaths occur in partner cars, the higher the partner car death rates. In every vehicle weight group except one, the death rate in partner cars (all model years) is lower when the other vehicle in the collision is another car than when it is an SUV or a pickup truck. This overall pattern is apparent for vehicles 1 to 4 years old during both 1990–91 and 2000–01. However, during the intervening decade the death rates in partner cars (all model years) went down, regardless of whether the other vehicles in the collisions were other cars, SUVs, or pickups. Another change during 2000–01, compared with 1990–91, was that the differences in partner car death rates were smaller when the other vehicles were cars versus SUVs.

#### **Balance between self protection and crash partner risks**

For overall safety, it is important to maintain an appropriate balance between self protection and risks for occupants of crash partner cars. A good example involves vehicle weight. Increasing weight generally increases self protection, but this benefit diminishes as vehicles get heavier and heavier. At the same time, the disbenefits for occupants of crash partner cars do not appear to decrease as the other vehicles get heavier and heavier. So at some point heavy vehicles cost more lives in crash partner cars than they save.

Comparing self and partner death rates for each vehicle type shows that more occupant deaths occur even in heavy SUVs and pickups than in their crash partner cars. Consider the group of SUVs weighing 4,000 to 4,500 pounds. The occupant death rate in these vehicles 1 to 4 years old during 2000–01 was 123, and their car crash partner death rate was 64. Thus there were twice as many deaths inside these relatively heavy vehicles as in their crash partner cars. Compared with cars, both SUVs and pickups have proportionately more car crash partner deaths than occupant deaths, which indicates that SUVs (and pickups) pose greater risks than cars for the occupants of their crash partner cars.

What is it about SUVs, beyond their weight, that increases the risks for occupants of their car crash partners? A clue is apparent in crash partner death rates by direction of impact. In crashes involving two cars, crash partner deaths are split about evenly between front-to-front and front-to-side impacts. But the split is very different when the other vehicle is an SUV. In these crashes, the occupant deaths in crash partner cars are about 50 percent more likely to occur in side than in frontal impacts.



### Conclusions

The self and partner death rates summarized above highlight differences between car and SUV safety, and most of the differences between these two vehicle types also apply to cars versus pickups.

It often has been claimed that overall occupant death rates are lower in SUVs than in cars. The implication is that SUVs are safer. But this results largely from the heavier weights of SUVs compared with cars. For example, only 5 percent of all 1997-99 model cars weighed more than 4,000 pounds, while the corresponding percentage for SUVs was 49. So it is disingenuous for defenders of SUVs to claim they are safer than cars. Most of their advantage in terms of self protection is simply due to mass. It also is undeniable that SUVs, as a group, have a rollover problem. They are about twice as likely as cars to be in fatal single-vehicle rollover crashes.

When it comes to occupant deaths in crash partner cars, the partner death rates are higher when the other vehicle is an SUV versus another car. The most important differences are the elevated risks to occupants of cars struck in the side by SUVs, compared with being struck in the side by other cars.

How can these findings guide us to appropriate countermeasures to improve the protection of all occupants of all passenger vehicles? First, the results presented here demonstrate that progress has been made in self protection for both cars and SUVs. Occupant death rates in 1997-99 models during 2000-01 were significantly lower than corresponding rates for 1987-89 models during 1990-91. Many factors contributed to the improvements. Belt use rates in the United States increased from 49 percent in 1990 to 71 percent in 2000. Only 3 percent of 1987-89 vehicle models were equipped with airbags, compared with 100 percent of 1997-99 models. Average car weights increased about 350 pounds, while SUVs got 650 pounds heavier. Passenger vehicle crashworthiness improved. Alcohol-impaired driving decreased. All of these changes contributed to the significant improvements in self protection, but there is more to be done.

The issue of SUV rollover crashes needs to be addressed. Some of the newer SUV designs have lower centers of gravity and wider track widths, so they should be more stable than the older designs. Dynamic rollover rating systems being developed by the National Highway Traffic Safety Administration should help prospective SUV buyers choose models with a lower risk of rolling over. (The ratings might even—dare I say it?—persuade some consumers that SUVs are not the wisest choice.) Electronic stability systems now available on some SUVs, and likely to be-

come more prevalent, should reduce the likelihood that SUV drivers will lose control and spin sideways, which often precedes rolling over. Volvo has introduced something even newer. Rollover sensors on the new Volvo SUV are designed to deploy inflatable curtains that cover side windows when a rollover begins and remain inflated throughout the rollover to help prevent full or partial occupant ejection.

Just as self protection is improving, crash partner death rates also are coming down. But in this regard it is important to recognize that the risks to car occupants in crashes with SUVs can be influenced by changes to both cars and SUVs. The reductions in partner death rates that occurred between 1990-91 and 2000-01 demonstrate this. They occurred as the numbers and weights of SUVs in the fleet were increasing, and they were due mainly to the many improvements in self protection for car occupants—not to design changes to SUVs to reduce risks to occupants of their crash partners.

What more can be done to improve the safety of occupants of cars in collisions with SUVs? A high priority should be to address the problem of SUVs striking the sides of cars. The risks are much greater to occupants of cars that are struck in the side by SUVs, compared with being struck in the side by another car, even when the other car and SUV weigh the same. This indicates that the problem relates to differences in the configurations of the two vehicle types. The higher ride heights of SUVs mean their front ends strike cars' relatively weak doors in side impacts. Plus the higher hoods of SUVs put car occupants' heads at great risk.

In the short term, the increased risks to car occupants struck in the sides by SUVs should be addressed by improving self protection in cars—specifically by adding inflatable head protection systems like curtains or side airbags that protect both the head and thorax. These should be added to new cars as standard equipment as soon as possible. Improving side airbags that protect the thorax and improving vehicle side structures around the B-pillar also would reduce the risks in side impacts. To promote such improvements, the Institute recently began a crashworthiness evaluation program that will provide consumer information on the relative safety of new vehicles in side impacts. For the first time in any crash test program conducted for regulatory or consumer information purposes, the impactor that hits the sides of vehicles in these tests simulates the front end of an SUV.

Finally, what can be done to the front ends of vehicles to make them more compatible in two-vehicle crashes? In many collisions between cars and SUVs (and in some collisions between two cars) the structures of the two vehicles designed to manage crash forces override or underide, thus negating their crash energy management designs. So a fundamental need is to ensure that such structures interact in crashes. Ford's introduction of so-called blocker-beams on some of its SUVs may signal the beginning of efforts to ensure such interaction. Plus some of the newer car-based SUV designs, often called "crossovers," offer opportunities for improved structural interaction in crashes. Other designs that might reduce structural mismatches in on-the-road crashes are adjustable suspensions that automatically lower ride heights on the highways but allow for upward adjustment and greater clearance off road or, for example, in low-speed driving through deep snow.

These SUV design innovations are promising. However, changes also will be needed to car designs to improve crash compatibility. The occupant compartments of both cars and SUVs need to be strong so they will remain intact in a wide range of serious crashes (frontal offset crash testing is helping to accomplish this). And in the longer term, test procedures and criteria need to be developed to ensure that vehicle front-end stiffnesses match. Future designs should be driven by good data from research and testing as well as real-world crash experience. The evidence tells us that crash compatibility and partner protection improvements are needed, but the highest priority in the short and even medium term should continue to be self protection for people in both cars and SUVs.

The CHAIRMAN. Thank you very much.  
Mr. Lange, welcome.

**STATEMENT OF ROBERT C. LANGE, EXECUTIVE DIRECTOR,  
VEHICLE STRUCTURE AND SAFETY INTEGRATION, GENERAL  
MOTORS CORPORATION**

Mr. LANGE. Thank you, Senator McCain.

Good morning. I am Bob Lange. I am the executive director for Vehicle Structure and Safety Integration at General Motors Corporation. I started work with GM in 1994, and each day since I

have been able to work with thousands of GM's engineers to improve vehicle safety. We appreciate the opportunity to be here today to discuss the safety of sport utility vehicles.

The issues this Committee has inquired about have recently attracted increased public attention. For some time, however, GM has been researching, designing, and adding features to our SUVs to help make them safer. GM currently offers many SUVs in various sizes and price ranges. They all provide utility, performance, functionality, and other key attributes, including occupant safety, that millions of our customers value and need. They also help to generate the resources that enable us to reinvest in our business and to continue research on advance safety, hybrids, and fuel-cell-equipped vehicles.

SUVs are useful for many purposes. According to a 2002 Polk survey, almost 80 percent of SUV owners frequently or sometimes drive their SUVs during harsh weather. And our research shows that, on a weekly basis, more SUVs than vans are used to transport children.

Sport utility vehicles are safe. The most recent government data show that today's SUVs are at least as safe as passenger cars overall, and safer than cars in the vast majority of crashes. As Administrator Runge noted in a recent speech, there is a 97 percent chance that if a crash occurs, it will involve a front, rear, or side impact, and the safety record for SUVs in these types of crashes is exceptional. In particular, the occupant fatality rate for SUVs during 2001 was about half that of cars in such crashes.

Government data do show proportionately more fatalities in roll-over crashes for light trucks, including SUVs, than for passenger cars. And Senator, as you know, you have had several comments about that already this morning.

GM has been working to reduce rollovers by designing its products for good, dynamic stability and by helping drivers to maintain control of their vehicles in extreme conditions with the application of vehicle stability enhancement systems. GM first introduced this technology in 1997. The system activates when the computer senses a discrepancy between a driver's intended path and the direction the vehicle is traveling. The unit then selectively applies braking pressure to help steer the vehicle in the appropriate direction. It is now on over 2 million GM vehicles that are on the road today.

Another emerging technology that could significantly reduce the potential for rollover injury is the side curtain airbag. We are developing new rollover sensors that will trigger deployment of these bags in rollovers and other types of crashes, thereby minimizing the potential for a head injury and reducing the possibility of ejection.

GM has also been working on collision compatibility for nearly a decade. Our primary focus to date has been on structural alignment between cars and trucks and improved car side structures, reference the testimony given by Mr. O'Neill already. GM is now working with our competitors, the Insurance Institute for Highway Safety, and NHTSA to develop industry-wide to SUV collision compatibility and rollover. We expect within months these efforts will yield a common industry standard for these SUV safety challenges.

The most effective and immediate way to improve light-truck safety is to improve safety-belt use and discourage impaired driving. In 2001, 77 percent of those who suffered a fatal injury in an SUV rollover crash were not wearing a safety belt, and 35 percent of these crashes involved an impaired driver. These problems provide our greatest and most immediate opportunities to improve the safety performance of SUVs in rollover crashes.

GM is involved in public policy efforts to reduce drunk driving and increase seatbelt use through our partnerships with Mothers Against Drunk Driving, the National Council's Airbag and Seatbelt Safety Campaign, also supported by other vehicle manufacturers and Nationwide Insurance and the National Safe Kids Campaign in which we partner with the UAW, as well.

Congress can also play an important role in promoting motor vehicle safety by encouraging more States to adopt primary enforcement seatbelt-use laws. If seatbelt use were to reach the 90-percent-plus levels that have already been achieved in some States, we can save several thousand lives each and every year.

In the meantime, General Motors will continue to do its part in developing and implementing technologies to improve motor vehicle safety.

Thank you very much.

[The prepared statement of Mr. Lange follows:]

PREPARED STATEMENT OF ROBERT C. LANGE, EXECUTIVE DIRECTOR, VEHICLE  
STRUCTURE AND SAFETY INTEGRATION, GENERAL MOTORS CORPORATION

I am Robert Lange, Executive Director for Vehicle Structure and Safety Integration at General Motors Corporation. We appreciate the opportunity to be here today to discuss the safety of our sport utility vehicles (SUVs) and related matters.

The issues the Committee has inquired about have recently attracted increased public attention. However, GM has been researching, designing and adding features to our SUVs to address these issues and to help make our SUVs even safer for some time. I will discuss those efforts and our future direction with the Committee, and will talk about the way we approach motor vehicle safety at GM.

**Sport Utility Vehicles are important to us and our customers**

Sport utility vehicles are very important for General Motors and our customers. GM offers a range of SUVs. Among them are full-sized utilities, such as the Chevrolet Suburban, Chevrolet Tahoe and the GMC Yukon; mid-sized utilities, such as the Pontiac Aztek, Buick Rendezvous, GMC Envoy, Oldsmobile Bravada and Chevrolet TrailBlazer; and smaller sport utility vehicles, like the Saturn VUE and the Chevrolet Tracker. These SUVs are among our most popular models. They provide utility, performance, functionality and other key attributes—including occupant safety—that millions of our customers value and need. They also help to generate the resources that enable us to reinvest in our business, and continue research for advanced safety and alternative fuel development.

Importantly, SUV sales in the United States provide American jobs—roughly 450,000 of them.

During the past decade and a half, sport utility vehicles and other light duty trucks have become increasingly popular among American vehicle purchasers. SUVs represented 24 percent of all new vehicle sales in the U.S. last year. SUVs now represent nearly 12 percent of all registered vehicles here in the U.S.

According to a 2002 R. L. Polk survey, almost 80 percent of SUV owners “frequently” or “sometimes” drive their SUV during harsh weather. In Detroit, we received reports of the recent winter storm here in Washington. The coverage included footage of emergency workers and even the President of the United States traveling in SUVs, while most of the area was paralyzed. According to reports, TV and radio pleas during the storm included appeals for those with SUVs and other four-wheel drive vehicles to help transport hospital and other emergency personnel to work.

These vehicles are useful for many other purposes as well. The 2002 R. L. Polk survey also shows that half of SUV owners use their vehicles to haul tools, appli-

ances or other bulky items. Twenty-four percent use their SUV to carry bikes, kayaks, canoes or skis, or to tow boats, snowmobiles or other items that require a trailer. Fifteen percent of SUV owners have driven their vehicle off road. Significantly, our research shows that on a weekly basis, more SUVs transport children than vans.

Americans choose to buy SUVs because no other type of vehicle provides the same level of safety, capability, comfort and convenience. As a J.D. Power and Associates survey put it: “. . . the notion that these vehicles are only being used to go back and forth to work or grocery shopping is false. The owners of these vehicles lead very active lifestyles and enjoy the level of comfort and convenience that they cannot receive in a traditional car product.”

#### **Sport Utility Vehicles are safe**

Some are drawn to purchase SUVs, at least in part, because of the safety they provide. The most recent government data show that today's SUVs are at least as safe as passenger cars overall, and safer than cars in the vast majority of crashes. Just a few months ago, the Insurance Institute for Highway Safety completed a study of driver fatalities in crashes involving one-to-three year old vehicles. The study shows that in 2001, driver deaths per million registered passenger vehicles was 73 for SUVs, 83 for passenger cars, and 130 for pickup trucks. These data indicate that, overall, the fatality rate for SUV drivers is 12 percent lower than the fatality rate for passenger car drivers. From 1981 to 2001, driver fatality rates for one-to-three year old SUVs declined 69 percent, while driver fatality rates for one-to-three year old passenger cars and pickups declined 53 and 40 percent, respectively.

As Administrator Runge recently noted, there is a 97 percent chance that a collision will involve a front, rear or side impact. The safety record for SUVs in these crashes—the vast majority of all vehicle collisions—is exceptional. In 2001, the occupant fatality rate per 100,000 registered vehicles for passenger cars in front, rear and side crashes combined was 12.17. The fatality rate for SUVs was approximately half that of cars—6.34. For pickup trucks, the rate was 9.25. So, as drivers head out on this country's roads today, in the rare event they become involved in a crash, there is an overwhelming likelihood—a 97 percent likelihood—that the crash will involve a frontal, side or rear collision. In simple terms, the chance of a fatality in an SUV in those crashes is roughly half of what it is in a passenger car.

#### **Rollover rates and what GM is doing about it**

Government data show proportionately more fatalities in rollover crashes for light trucks, including SUVs, than for passenger cars. General Motors has recognized this concern and has been addressing it.

GM utilizes specific performance measurements to assess vehicular stability in the design of new SUVs. These measurements are intended to help ensure that the acceleration necessary for an unaided “tip over” is significantly greater than the maximum lateral acceleration the vehicle model can generate on the road. GM has applied these performance measurements to all new GM products since 1999.

Vehicle rollover collisions are overwhelmingly associated with a driver loss of control. This may be caused by inattention, inexperience, or anxiety. After losing control, drivers tend to steer too fast and/or too far for the prevailing road conditions. The vehicle can exceed its adhesion limit; the vehicle response is no longer predictable and recovery can be difficult. If control cannot be recovered, the vehicle may go off-road; this is the way in which most rollover events take place.

GM and other manufacturers are attempting to help drivers maintain control in such extreme conditions and thereby keep the vehicle on the road. At GM, such systems have various trade names, but all fall into a single category: “Vehicle Stability Enhancement Systems.”

The Vehicle Stability Enhancement System (VSES) is an emerging technology that can help reduce rollover frequency. GM introduced this system in 1997. It is on over two million GM vehicles that are on the road today. Vehicle Stability Enhancement is an advanced computer controlled system that assists the driver with directional control of the vehicle in difficult driving conditions. The system activates when a computer senses a discrepancy between the driver's intended path and the direction the vehicle is actually traveling. The system then selectively applies braking pressure at any one of the vehicle's wheels to help steer the vehicle in the appropriate direction.

Another emerging technology that could significantly reduce the likelihood of rollover injuries is the side curtain air bag. In the event of a rollover, the air bag deploys and occupies the space between the occupant and the inside of the vehicle, thereby minimizing the potential for a head injury and reducing the likelihood for

a partial ejection. This feature also has much promise for those of us who are concerned about larger vehicle collision with smaller vehicles: the collision compatibility challenge.

#### **Compatibility**

GM, like the Committee, is concerned with vehicle crash compatibility between passenger cars and SUVs. These crashes are a relatively minor, but still significant portion of fatal passenger car crashes—six percent. GM has been working to address the compatibility challenge for some time; however, we wish to do so without degrading the overall safety of SUVs or diminishing the popular attributes of SUVs. For example, we have tried to better align the structural elements of SUVs with the passenger car fleet. We have added vehicle structure to spread collision forces broadly across the front of SUVs and thereby reduce point loading on the impacted car structure. These design features also help to reduce the potential for intrusion injury to passenger car occupants. GM is also working to improve passenger car safety by improving side structures and making side curtain air bags available in passenger cars.

In addition to its own SUV safety initiatives, GM is working with industry competitors, the Insurance Institute for Highway Safety, and NHTSA to develop industry wide approaches to SUV collision compatibility. Within months, these efforts are expected to yield common industry standards for SUV collision compatibility and rollover mitigation. GM is eager to cooperatively address these issues with our industry and government.

#### **Promoting safe driving**

It is important to observe that the data clearly point to the most effective and immediate way to improve light truck safety: encourage safety belt use and discourage impaired driving. In 2001, 77 percent (or 1258 of 1639) of those who suffered a fatal injury in a SUV rollover crash were not wearing a safety belt. For pickups, 85 percent (or 1782 of 2100) who suffered a fatal injury during a rollover crash were unbelted. Safety belts have been shown to be 80 percent effective in preventing fatal injuries in light truck rollover crashes. The data on driver impairment are equally eye-opening: 35 percent of fatal SUV rollover crashes, and 85 percent of fatal pickup truck rollover crashes, involved an impaired driver in 2001. This is our greatest and most immediate opportunity to improve the safety performance of SUVs and other vehicles in rollover crashes.

GM is involved in three major public policy efforts to reduce drunk driving and increase seat belt use.

First, we are entering the fourth year of a five-year, \$2.5 million commitment to Mothers Against Drunk Driving to help convey the message that drivers should never operate a vehicle while impaired.

To increase seat belt use, GM has joined its competitors, NHTSA and others to support the National Safety Council's Air Bag & Seat Belt Safety Campaign. The Campaign's signature program, the Operation ABC Mobilization enlists thousands of law enforcement agencies for highly intensive education and enforcement activities in May and November each year. Since the start of the Mobilizations in 1997, the national seat belt use rate has increased from 61 percent to the current all-time high of 75 percent. The Campaign has worked for passage of primary enforcement seat belt use laws in more than twenty states.

Another major commitment, along with the UAW-GM Center for Human Resources, is to an extensive child passenger safety program with the National SAFE KIDS Campaign. This program, which began in 1996, involves public education and the inspection of child safety seats for proper installation at GM dealerships and community events. We have donated 81 mobile child seat inspection vans to SAFE KIDS coalitions around the country. In addition, the UAW and GM have given 212,000 child seats free of charge to at-risk populations and to those who need new seats. More than 327,000 child seats have been inspected to date.

GM has met the challenge presented by Dr. Runge to improve seat belt use with additional technology. GM will soon start to install additional seat belt reminder technology to encourage higher seat belt use. Our new vehicle fleet will be equipped with these new features to remind all drivers to buckle up on every trip.

#### **Looking to the future**

Congress could play an important role in enhancing motor vehicle safety in the short term by encouraging more states to adopt primary enforcement seat belt use laws. Only 18 states and the District of Columbia currently have laws that allow police to enforce seat belt requirements in the same way that they enforce every other traffic law. But since Chairman McCain discussed state action on primary belt

laws at this Committee's hearing on air bag safety in early 1997, only seven states have upgraded their seat belt laws.

If seat belt use could be raised to the 90 percent-plus levels that have been achieved in some states, NHTSA estimates several thousand lives—from rollovers and other types of crashes—can be saved each and every year. There is no technological solution that has nearly the potential for such large-scale injury mitigation. Increased seat belt use would be a meaningful complement to the technology initiatives already being undertaken by the industry.

The last twenty-plus years have taught us that public policy initiatives can improve safe driving. Drunk driving fatalities have been reduced by about 40 percent since 1980—although recent experience is not positive. In a similar time frame, seat belt use has increased by 60–65 percentage points. Congressional assistance in this area would be greatly appreciated and strongly supported by those of us in the motor vehicle safety business, and could be quite significant in contributing to our shared goal of a safer roadway environment.

In the meantime, GM will do its part in continuing to develop and implement technologies to improve vehicle safety.

Thank you.

The CHAIRMAN. Thank you very much.

Senator LAUTENBERG. Mr. Chairman, if I might ask a question? Will the record be kept open for this hearing so that I can submit some questions? Because I have to leave.

The CHAIRMAN. Absolutely. Absolutely.

Ms. Cischke?

**STATEMENT OF SUSAN M. CISCHKE, VICE PRESIDENT,  
ENVIRONMENTAL AND SAFETY ENGINEERING, FORD MOTOR  
COMPANY**

Ms. CISCHKE. Thank you for the opportunity to testify.

The CHAIRMAN. Pull the microphone closer.

Ms. CISCHKE. Sorry.

Thanks for the opportunity to testify regarding the safety and design of sport utility vehicles. My name is Susan Cischke, and I am vice president of Environment and Safety Engineering for Ford Motor Company. Our automotive brands include Ford, Lincoln, Mercury, Volvo, Jaguar, Land Rover, Aston Martin, and Mazda.

For the past one-hundred years, Ford Motor Company has recognized its responsibility to provide our customers with vehicles that have the utility they require and the safety they demand. We have been leaders in the introduction of safety features across all our vehicle lines and continuously strive to improve the safety of all our vehicles. We also believe that safety is a shared responsibility between the vehicle manufacturers and the drivers.

In our written testimony, we have described the excellent safety performance of SUVs in general. It is my privilege to now highlight our efforts at Ford to advance safety technology.

Ford believes the single most important safety technology in a vehicle is the safety belt. Ford developed the BeltMinder system which chimes on and off for several seconds over the course of five minutes when the driver is not buckled up. It is standard equipment on all Ford vehicles since 2001. We pursued our BeltMinder feature not because of regulation, but because it was the right thing to do, and we now have data to show it is working.

While safety belts are the best means for keeping passengers safe, new side curtain airbags and rollover sensing technologies supply additional occupant protection during certain types of crashes, including rollover. Ford was the first auto maker to feature roll-

over sensors and special side curtain airbags on our SUVs, and we call that the “safety canopy,” which debuted on the 2002 Ford Explorer and Mercury Mountaineer.

The safety canopy is designed to remain inflated for an extended period of time to provide protection, especially during rollover events. It also helps reduce the risk of head injuries for SUV occupants involved in side impacts. The Ford Escape and the Ford Excursion have seat-mounted side airbags to protect the occupant’s head and thorax in a side crash. Customers buy our SUVs for the excellent protection they provide in front and side crashes. Ford has more four- and five-star rated SUVs in the Federal Government Crash Test Program than any other auto maker. And five of our top-selling SUVs also has Ford’s personal safety system, which is capable of tailoring the deployment of airbags based on crash severity in order to enhance the protection for front-seat occupants.

But it is important to look at more than crashworthiness. We need to look at ways to avoid accidents in the first place. And Ford does this through extensive vehicle tests that ensure our vehicles have consistent handling and predictable vehicle dynamics. Ford is a leader in developing emerging technologies that show great potential for helping the driver.

Ford first introduced an electronic stability control system called AdvanceTrac in August of 2000, later adding it to the majority of SUVs. It monitors the driver’s steering, throttle, and braking inputs to determine the driver’s intended course, and then monitors how the vehicle is responding. When it detects a deviation, it can react in milliseconds by applying the brakes to one or more wheels and, if necessary, adjusting the engine power to help the driver get back on path.

In addition, Ford is the first auto maker to develop and patent a roll stability control system, which debuted this year on the Volvo XC90. This system is designed to assist the driver under severe handling situations and help reduce the likelihood of a rollover accident by using gyroscopic sensors to determine roll speed and roll angle. Once engaged, the system reduces power and/or uses the brake until driver control is regained.

The issue of vehicle compatibility has also drawn much attention. Ford has been working to improve vehicle compatibility by adding structure and lowering rail heights of SUVs. For example, the Expedition, Explorer, and Mountaineer bumper beam and frame rails are compatible with the height of bumpers on a typical passenger car, such as the Ford Taurus. Also, for the 2000 model year Excursion, Ford introduce a blocker beam that lowers the point of engagement for a frontal impact and helps prevent the SUV from riding over smaller vehicles.

Ford will continue to build vehicles with utility and safety that our customers require. Nevertheless, we view vehicle safety as a partnership, and where vehicle design ends, customer responsibility begins. The sad fact is, roughly 50 percent of those who die annually in traffic crashes do not use safety belts. And in rollover crashes, some 72 percent of the occupants who died were not belted. Their chance of survival would have been ten times greater had they buckled up.

As I mentioned earlier, we developed the belt-minder system to remind them to do so. And studies show that it has increased safety-belt usage by five percentage points. NHTSA was so encouraged by this significant increase, they have requested all auto makers to add this feature. Dr. Runge stated, and I quote, "I applaud Ford for showing the initiative, leading the way to go beyond the minimal Federal requirements and voluntarily using technology to increase seatbelt use. The American people win when vehicle manufacturers demonstrate good corporate citizenship by going beyond the minimums required under safety standards." Ford is making its technology available at no cost to all other auto makers that are interested in it.

Governments have a unique role, too. Primary seatbelt-use laws combined with highly publicized enforcement are key to increasing safety-belt usage. No other technology has the capability to save so many lives as quickly at no cost.

In conclusion, Ford will continue to offer our customers the products and features that they desire, as well as the improvements in safety, versatility, and compatibility. During the recent snowstorm that affected Washington, D.C., and the East Coast, many hospital and other essential government services relied upon volunteer SUV owners to transport critical personnel during the adverse weather. These circumstances dramatically demonstrated the value and the utility of SUVs and helps explain the strong customer demand for these vehicles.

I thank you for the opportunity to testify before the Committee, and I would be happy to answer any questions.

[The prepared statement of Ms. Cischke follows:]

PREPARED STATEMENT OF SUSAN M. CISCHKE, VICE PRESIDENT, ENVIRONMENTAL AND SAFETY ENGINEERING, FORD MOTOR COMPANY

Thank you Senator McCain for the opportunity to testify before your Committee regarding the safety and design of Sport Utility Vehicles (SUVs). My name is Susan M. Cischke and I am Vice President of Environmental and Safety Engineering for Ford Motor Company. As you may know, Ford Motor Company is the world's second largest automaker with approximately 350,000 employees, and operates in more than 200 markets on six continents. Its automotive brands include Aston Martin, Ford, Jaguar, Land Rover, Lincoln, Mazda, Mercury and Volvo.

For the past 100 years, Ford Motor Company (Ford) has recognized its responsibility to provide our customers with vehicles that have the utility they require and the safety they demand. We are committed to continuous improvement in the safety of all our vehicles and have been leaders in the introduction of safety features across all our vehicle lines. We also believe that safety is a shared responsibility between vehicle manufacturers and vehicle operators. We will continue our long-standing efforts to promote increased safety belt usage and to encourage responsible driving.

It is my privilege to share with this Committee the rest of the story, about the efforts that Ford takes to ensure the safety of our SUVs, areas of Ford safety leadership, our efforts to continuously improve our vehicles, and our initiatives to encourage our customers to buckle up.

Americans value freedom—especially the freedom to make choices for themselves and their families based on what meets their individual needs. When Ford introduced the Explorer in 1991 in response to customer needs, it struck a cord with the American public. Since then the Explorer has become the SUV that more Americans have chosen than any other SUV to carry their families, friends and various types of cargo millions of miles across every kind of terrain in the country.

Customers weigh many factors when choosing a family vehicle—cost, capability and safety, to name a few. In 2002 alone, 4 million customers worldwide have found that SUVs fit the bill in these areas and more. While there are more vehicle choices in the market than ever before, the SUV segment is the fastest growing in the in-

dustry, accounting for 25 percent of all vehicles sold in the United States in 2002, up 6.3 percent from 2001.

As the leader in the SUV segment, Ford takes seriously the commitment to continuously improve these vehicles through the development of new technologies. As we move forward, we will continue our philosophy of 'no compromise' when it comes to designing features that customers want. We will give our customers the products and features that they desire—as well as improvements in safety, versatility and compatibility.

#### **Safety Facts**

SUV owners demand an exceptional safety record from their vehicles—and they get it. According to data from the National Highway Traffic Safety Administration (NHTSA):

- SUVs are among the safest vehicles on the road and have contributed to the dramatic decline in our nation's fatality rate over the last decade.
- SUVs are protective of occupants in all crash modes. In 2001, roughly 3,500 SUV occupants died in crashes, compared to more than 20,000 passenger car occupants. When these numbers are normalized for the number of registered vehicles on the road, there is no discernable difference in overall fatality rates between SUVs and passenger cars. Both have been declining, but SUV fatality rates have been declining faster than those of other vehicle segments.
- SUVs are twice as protective of their occupants than any other passenger vehicle in frontal, side and rear-impact crashes, which make up 97 percent of all crashes. Ford's family of SUVs is a leader in this area, with all our vehicles scoring either four or five stars in frontal and side impacts.
- The fatality rate in the Explorer in all crash types is 27 percent lower than passenger cars overall and 17 percent lower than other SUVs, according to our analysis of data from the U.S. Department of Transportation.

#### **Rollover Safety**

While SUVs do experience a higher rollover rate than passenger cars, rollovers are rare events and the rates are declining:

- Rollovers account for only 3 percent of all vehicle crashes.
- Despite the over 103 percent increase in the number of registered SUVs since 1996, rollover fatality rates per 100,000 registered passenger vehicles have declined for all vehicle body types, with SUVs exhibiting the largest decline.
- Given a rollover, SUVs are more protective of occupants in rollovers than are passenger cars. Compared to passenger cars involved in rollovers, SUVs lower the occurrence of injury by almost 20 percent. And SUV occupants incur the fewest number of rollover fatalities occurring annually, compared to passenger cars or pick-up trucks.

#### **Safety Technology**

Safety technology is what keeps Ford vehicles at the forefront of protecting our customers on the road. We are proud of the fact that Ford Motor Company SUVs have the most advanced technology available today. Ford investigates both crash avoidance and crashworthiness opportunities to help improve vehicle safety for our customers.

##### *Vehicle Crashworthiness:*

Customers buy our SUVs for their many attributes including the excellent protection they provide in front and side impact crashes. In general, Ford has more four and five star rated SUVs in the federal government's crash test program than any other automaker. The need for a vehicle to provide self-protection is important for all types of crashes including those with cars, other SUVs and light trucks as well as single vehicle crashes, including rollover accidents.

Ford believes the single most important safety technology in a vehicle is the safety belt. If a belted occupant is in a rollover accident, their chance of survival is ten times higher than unbelted occupants. For that reason and more, Ford developed the BeltMinder™ system to remind drivers to buckle up. Ford's BeltMinder™ system repeatedly chimes on and off for several seconds over the course of 5 minutes when the driver is not buckled up. It is standard equipment on all Ford vehicles since 2001. It was somewhat controversial for Ford to introduce this feature since it could be considered annoying to our customers. But we also knew how important it is to buckle up and that some of our customers needed a gentle reminder to wear their safety belt. We pursued our BeltMinder™ feature, not because of regulation,

but because it was the right thing to do, and we now have data to show it is working! A recent study by the Insurance Institute for Highway Safety (IIHS) determined that occupants of vehicles equipped with BeltMinder™ were buckling up at a rate 5 percentage points higher than similar vehicles without BeltMinder™. NHTSA was so encouraged by this significant increase in safety belt usage that they have requested all automakers to add this feature.

While safety belts are the single best tool for keeping passengers inside the vehicle during a rollover, new side curtain air bags and rollover sensing technology supply additional occupant protection during certain types of crashes, including rollover. Ford was the first automaker to feature rollover sensors and special side curtain air bags on its SUVs, called the Safety Canopy™, which debuted on the 2002 Ford Explorer and Mercury Mountaineer.

The Safety Canopy™ air bags are designed to remain inflated for an extended period of time to provide enhanced protection especially during rollover events. The air bags have fixed attachment points at the front and rear ends of the curtain to help reduce both partial and complete ejection of vehicle occupants during rollovers. The inflatable curtain system also helps reduce the risk of head injuries for SUV occupants involved in side impacts. This feature is also currently available on the Ford Expedition, Lincoln Aviator and Lincoln Navigator. It will also be available later this year on the 2003 Ford Explorer Sport Trac.

To reduce the risk of injuries in a side impact, the Ford Escape and Ford Excursion have seat mounted side airbags that cover both the occupant's head and thorax.

In addition, the Explorer 4-door, Expedition, Mountaineer, Aviator and Navigator have Ford's Personal Safety System™ that tailors restraint deployment to crash severity and other factors. The system comprises several features working together to help protect the driver and right-front passenger in the event of a collision. The system is able to adjust the deployment of the air bags to enhance protection for front seat occupants, depending on a number of factors. It does this with the help of several components:

- Electronic crash severity sensor
- Personal Safety System™ restraint control module
- Dual-stage driver and right-front passenger airbags
- Driver's seat position sensor
- Front outboard safety belt energy management retractors
- Front outboard safety belt pre-tensioners
- Front outboard safety belt usage sensors

#### *Vehicle Crash Avoidance:*

The first step in protecting vehicle occupants, after getting them to buckle up, is to find ways to reduce the likelihood that the driver will lose control of the vehicle, keeping the vehicle on the road and avoiding the crash altogether. Ford does this through extensive vehicle tests that ensure our vehicles have consistent handling and predictable vehicle dynamics. Ford is a leader in developing emerging technologies that show great potential for helping the driver, such as Electronic Stability Control (ESC) and Roll Stability Control (RSC) systems.

Every Ford SUV goes through a proprietary set of vehicle dynamics and handling characteristics testing. We design our vehicles to handle predictably even in severe handling maneuvers. This is the vehicle handling foundation on which our vehicle performance is based. We believe that advanced technologies such as ESC and RSC have the potential to further assist drivers when conditions change suddenly or unanticipated events occur.

Ford first introduced an electronic stability (yaw) control system, called AdvanceTrac™, in August 2000. This system monitors the driver's steering, throttle and braking inputs and from the steering angle and vehicle speed determines the driver's intended course. AdvanceTrac™ also constantly monitors the vehicle's response, including vehicle motion, inferred from a yaw rate sensor, lateral accelerometer and wheel speed sensors. If the system detects a deviation of the vehicle's motion from the driver's intended path, in milliseconds it briefly brakes one or more wheels—and if necessary, retards spark timing and cuts back fuel delivery—to help the driver get the vehicle back on its desired path. AdvanceTrac™ is available on the following vehicles: Explorer 4-door, Expedition, Mountaineer, Aviator (late availability) and Navigator.

Most ESC systems are based on yaw control—the ability to maintain control of the vehicle in a rear slide or in front plowing. Recent advances in electronic technology have made it possible to also monitor wheel lift and reduce the potential for rollover, during an extreme limit-handling maneuver such as avoiding an obstacle. Ford is the first automaker to develop and patent a Roll Stability Control system,

which debuted on the new 2003 Volvo XC90 SUV. Our RSC system is designed to assist the driver in maintaining control during an obstacle avoidance event and to help reduce the likelihood of the SUV rolling over.

Ford's RSC system is an active stability enhancement system utilizing gyroscopic sensors to determine roll speed and roll angle. Terminal angle—the angle in which a rollover is imminent—is instantly calculated, thus triggering the XC90's standard electronic stability control system, called Dynamic Stability Traction Control™ (DSTC™). Once engaged, the DSTC™ system reduces power and/or brakes the necessary wheels to induce an understeer situation until driver control is regained.

Electronic stability control systems, and the added feature of roll stability control, are emerging technologies that we believe will help drivers avoid crashes. However, not all electronic stability control systems are equivalent and actual performance may vary due to different threshold strategies. Several years of careful development and untold resources have gone into creating these systems. They require careful implementation on individual vehicle platforms and must be configured to provide assistance to the driver, without being intrusive or compromising the base handling of the vehicle. While we remain cautiously optimistic as to their effectiveness, we will closely monitor the performance and actual benefits of these systems in the field.

#### *Vehicle Crash Compatibility:*

Cars, as well as motorcycles and bicycles, have always shared the road with large commercial trucks, buses, cargo vans and pick-up trucks. Historically, size differences among vehicles were more pronounced in the 1970s than they are today.

While the vehicle fleet in the U.S. is changing to include more and more light trucks and vans over the last ten to fifteen years and the number of vehicle miles traveled has continued to increase, the total number of crash fatalities has stayed relatively constant.

Ford continues to be a leader in researching the factors that contribute to crash safety and compatibility, including weight, geometry and stiffness and in translating that research into enhancements to vehicle design. Ford is working with NHTSA to assess whether vehicle compatibility can be predicted by measuring average height of force, to evaluate not just "bumper alignment", but also the load path that would transmit force by the striking vehicle. By aligning the load path, it is possible to reduce harm to the struck vehicle. The industry is working cooperatively with NHTSA and the Insurance Institute for Highway Safety to develop test methodology to address this concern.

Ford has been working to improve the safety of cars in collisions with SUVs by adding structure and lowering rail heights of SUVs. For example, in the 2003 Expedition and Navigator, the bumper beam is attached directly to the front of the frame rail, instead of being bracketed to the top. This allows the rails to more directly engage a struck object and manages the crash forces more efficiently. For example, the Expedition bumper beam and rail are compatible with the height of the bumper on a Ford Taurus or Mercury Sable. Also the frame of the 2003 Explorer and Mountaineer was lowered to be more compatible with other vehicles on the road.

In addition, Ford introduced on the 2000 Excursion, Ford's BlockerBeam™ that offers front bumper underride protection for crash compatibility with smaller vehicles. The BlockerBeam™ lowers the point of engagement for a frontal impact with an SUV to the same level as a Taurus. This helps prevent the SUV from riding over the passenger car, and transfers crash forces to engineered crumple zones on both the striking and the struck vehicles where they can be best managed.

The automotive industry in general and Ford in particular will continue to build vehicles with the utility and safety that our customers require. Nevertheless, we view vehicle safety as a partnership and where vehicle design ends, customer responsibility begins.

#### *Safety is a Shared Responsibility*

Safety is an interaction between the customer, the vehicle and the environment. It is a shared responsibility and one Ford does not take lightly. We must continue efforts to increase safety belt use and encourage responsible driving. In terms of vehicle safety, the most effective technology to protect occupants is already in every vehicle on the road—a safety belt. In seconds, customers can protect themselves and their loved ones by buckling up.

Data from 2001 show that there were 42,116 fatalities, of which 31,910 were vehicle occupants and the additional 10,206 were pedestrians and bicyclists. The current belt use rate nationwide is 75 percent. It is estimated that increasing belt use from 75 percent to 90 percent would save 6,600 additional lives each year. Moreover, safety belts are 45 percent effective in preventing fatalities in passenger car crashes;

they are 60 percent effective in preventing fatalities in light truck crashes and 80 percent effective in preventing fatalities in light truck rollovers. In 2001, safety belts saved over 12,000 lives. Despite the increased use of safety belts in recent years, the sad fact is that roughly 50 percent of those who die annually in traffic crashes do not use them. And in rollover crashes, some 72 percent of occupants who died weren't wearing their safety belt. The ramifications of not wearing a safety belt are clear when nearly three-quarters of those killed in rollover crashes were completely ejected from the vehicle.

Ford supports efforts to increase safety belt usage through its ongoing membership in the Air Bag and Seat Belt Safety Campaign, which provides high profile air bag education, seat belt mobilizations and promulgation of primary seat belt laws.

Ford also provides our customers with a Safety Advice Card to educate occupants regarding the important safety features included in their vehicle. The card reminds occupants that the safety belt is still the number one safety device and to buckle up properly for vehicle occupants of all ages.

Every Ford owner's guide states "All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag (SRS) is provided." And "In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a safety belt."

If a belted occupant is in a rollover accident, his chances of survival are ten times higher than unbelted occupants. For that reason and more, we developed the BeltMinder™ system to remind drivers to buckle up. NHTSA Administrator Dr. Jeffrey Runge recognized Ford last year in a letter to all vehicle manufacturers where he states,

"I applaud Ford for showing the initiative, leading the way to go beyond the minimum Federal requirements, and voluntarily using technology to increase seat belt use . . . The American people win when vehicle manufacturers demonstrate good corporate citizenship by going beyond the minimums required under safety standards. Innovation beyond the standard allows greater flexibility in product design, while allowing those products to reach consumers faster and keep them safer."

A 2001 study by the IIHS on Ford's BeltMinder™ safety belt reminder system found that the BeltMinder™ increased belt use by 5 percentage points, which they describe as a significant increase. This increase puts belt usage in Ford vehicles close to 80 percent. It has been estimated that this 5 percent point increase in belt use would prevent more than 1,000 deaths and more than 20,000 injuries annually if it were achieved in all vehicles. BeltMinder™ is now being expanded to also include the front passenger seats, which will be phased in across all new Ford vehicles beginning with the 2004 MY.

Ford is also making this technology available at no cost to all other automakers that are interested in it. Upon request, Ford will grant automotive manufacturers and suppliers a license to use the BeltMinder™ technology so long as any enhancements made to the technology are freely granted back to the automotive industry.

### **Conclusion**

Ford strives to provide the very best personal transportation choices for our customers. We will offer our customers the products and features that they desire—as well as improvements in safety, versatility and compatibility. We take seriously our commitment to continually improve our vehicles through the development of new technologies.

When it comes to encouraging people to buckle up, governments have a unique role to play. Primary enforcement safety belt use laws combined with highly publicized enforcement are the keys to high safety belt usage levels. No other technology has the capability to save so many lives this quickly at no cost.

Ford has taken a holistic approach to vehicle safety—and specifically SUV safety—because drivers can't choose the accidents they may experience. To further ensure the safety of all drivers on the road, Ford recommends:

- Always wear your safety belt. Research shows that for every 1 percent increase in safety belt use, 270 lives would be saved immediately.
- Never drink and drive. NHTSA estimates that alcohol was a factor in 41 percent of all fatal crashes in 2001, which resulted in 17,448 fatalities.
- Always place your child passengers in the backseat, and always use child safety seats correctly.
- Obey the speed limit, and take into account road conditions. Speeding is one of the prevalent factors contributing to traffic crashes. In 2001, speeding was a factor in 30 percent of all fatal crashes.

- Finally, read your owner's manual for SUV safe driving tips. SUVs have a higher center of gravity than passenger cars and thus require different driving techniques. Drivers should be careful not to carry more passengers than there are safety belts.

Thank you for the opportunity to testify before the Committee today. I would be happy to answer any questions.

The CHAIRMAN. Thank you very much.  
Mr. Tinto, welcome.

**STATEMENT OF CHRISTOPHER TINTO, DIRECTOR, TECHNICAL AND REGULATORY AFFAIRS, TOYOTA MOTOR NORTH AMERICA**

Mr. TINTO. Thank you, Senator.

Good morning, Mr. Chairman. My name is Chris Tinto. I am director of Technical and Regulatory Affairs for Toyota Motor North America. On behalf of Toyota, thank you for this opportunity to testify on these important vehicle safety matters.

Toyota is the third-largest auto manufacturer in the world, and the fourth in the United States with a collective investment in the U.S. totalling more than \$12 billion. Together with our dealers, we employ 112,000 Americans.

Toyota's philosophy regarding safety is to exceed the safety standards in every market around the world in which we sell vehicles. Consistent with Toyota's philosophy of continuous improvement, or kaizen, we do not wait for Federal requirements before incorporating safety technologies. As automotive technology had advanced, Toyota has integrated world-class safety features into our vehicles, and we are proud of the accomplishments we have made in their application.

In our written statement, we explain some of the safety improvements that are specific to the eight SUVs we market in the United States. They include anti-lock brakes, brake-assist systems, high-strength body structures and crumple zones, pretensioning and load-limiting seatbelts, front cross beams for improved compatibility, electronic vehicle stability control, side airbags, and side curtain shield airbags. Also we are one of the first to offer a production rollover sensing system where sensors provide an additional trigger for our side curtain airbags.

In addition, Toyota is ahead of schedule in meeting all voluntary industry guidelines to help reduce injury to children from side airbag deployment with full implementation across our entire fleet by 2003.

In 1996, Toyota invented a new category of compact sport utility vehicles, otherwise known as "crossover vehicles," which are based on passenger-car platforms and typically perform more like passenger cars than the traditional truck-based SUVs.

It is important to note that sport utility vehicles, as a class, are designed to do things that other vehicles simply cannot. They offer the utility, ground clearance, and all-wheel-drive capability demanded by our customers, and we are confident that these features were appreciated by the people who needed to get around during our recent heavy snowstorms in the D.C. area.

However, we also recognize that the higher ground clearance of these vehicles contributes to a higher incidence of rollover, when

compared to passenger cars as a broad class. But we would also note that the vehicles with the highest rollover rate is actually not an SUV, but it is a sports car. Published data shows that rollovers are rare events and account for about 3 percent of all crashes. Nevertheless, we must try to reduce that number even further.

To this end, we are working with government agencies and other organizations, like the IHS, around the world in cooperative research efforts. For example, we have worked very closely with the NHTSA, and we are happy to share with the agency our experience and knowledge for assessing rollovers. As a result, NHTSA's new dynamic rollover NCAP test program will include a variant of Toyota's own test commonly known as the "fishhook." We also recognize that crash compatibility is of growing concern, and we have been conducting internal testing in R&D in this area for many years.

Toyota is an active member of the industry's International Compatibility Working Group, which gathered industry experts from around the world earlier this month. We join the industry in calling for voluntary adoption of improved head-impact protection systems such as the curtain shield airbags found on many of the vehicles in our lineup.

Finally, Toyota believes that automotive safety is a shared responsibility among government, industry, and consumers. We are moving with the industry to improve the safety of SUVs and are implementing the latest innovations, but we also need the government's help. Too many Americans ignore the single most effective safety system in the vehicle, the safety belt. It is essential that primary seatbelt usage laws go on the books in all 50 States. The data shows that the usage rates in States with primary belt laws average 80 percent, versus only 69 percent for States without these laws. Improving belt-usage rate currently found in California, for example, could save thousands of American lives per year, far exceeding any technological advances that we could now envision. This would be especially valuable in rollovers to keep the occupants in the vehicle, where it is safest.

Toyota has been doing its part since 1997, when we introduced our belt-reminder technology that warns the driver—both the driver and the front passenger—when they are not buckled. Today, almost 100 percent of Toyota's fleet has this technology. But without enforcement, we cannot hope to realize the full safety benefits that seatbelts and their integrated systems can provide.

In summary, Toyota is confident in the design of our SUVs. We continually strive to maintain the flexibility and utility that our customers demand, but we will not sacrifice safety to reach that goal. We never forget that our own families ride in these vehicles each and every day.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Tinto follows:]

PREPARED STATEMENT OF CHRISTOPHER TINTO, DIRECTOR, TECHNICAL AND REGULATORY AFFAIRS, TOYOTA MOTOR NORTH AMERICA

Mr. Chairman and distinguished Members of the Committee;  
Good morning. I am Chris Tinto, Director of Technical and Regulatory Affairs, for Toyota Motor North America. Thank you for this opportunity to testify on the im-

portant safety matters that the Committee is considering and to present Toyota's record in improving vehicle safety.

Toyota is the third largest automotive manufacturer in the world, and the fourth largest in the United States.

In 2002, Toyota produced nearly one million vehicles and a wide variety of components at its six U.S. facilities. More than half of our sales in the U.S. are of vehicles manufactured in this country.

Toyota directly employs more than 30,000 American workers in manufacturing, marketing, and distribution, and our dealers employ another 82,000. Toyota's cumulative investment in the United States totals more than 12 billion dollars. That number will only grow as our new engine plant in Alabama and our new truck plant in Texas come online.

With respect to safety, Toyota's internal corporate philosophy is not only to meet, but to exceed, the motor vehicle safety standards in every global market in which we sell vehicles. Consistent with Toyota's philosophy of continuous improvement—or kaizen—we do not wait for Federal requirements before incorporating safety technology. Vehicle design is an evolutionary process and, as automotive technology has advanced, Toyota has integrated new safety features in all of our vehicles. We are proud of the accomplishments our people have made in development, application and improvement of these world-class safety technologies.

We introduce significant safety improvements with every major model change. Recognizing that the focus of today's hearing is SUVs, let me outline some of those safety improvements that are specific to the eight models of sport utility vehicles Toyota markets in the United States. These include, but are not limited to:

- Antilock brake system, available on all of our SUVs;
- Brake Assist systems that help drivers to apply full braking in an emergency situation, available in most of our SUVs;
- Crumple zones which help to absorb energy and dissipate loads in collisions;
- High strength body structures to help lessen intrusion into the occupant compartment in a crash;
- Front cross beams for improved partner protection in frontal and side crashes;
- Vehicle Stability Control, which is an active safety system to help reduce skids and maintain driver control. Toyota was first to the market with this technology in our 1997 Lexus passenger car models, and today leads the industry in its adoption across a wide variety of vehicle types. In fact, we plan to have Vehicle Stability Control technology available on 100 percent of our SUV fleet by next year;
- Side airbags to protect an occupant's torso, now available on most of our SUV models;
- Toyota was one of the first in the world to offer a side curtain shield airbag in 1998 in a passenger car for improved head protection, which is now available in the majority of our SUV fleet;
- Rollover sensors, to provide an additional trigger for the side curtain shield airbags. Toyota was one of the first in the world to adopt a production rollover sensing system that is now featured in the 2003 Toyota Land Cruiser and the Lexus LX 470.

In addition, Toyota is ahead of schedule in meeting all voluntary industry guidelines on side airbags to help reduce injury potential to children, achieving full implementation across our entire SUV and passenger car fleet by the 2003 Model Year.

In 1996, with the introduction of the RAV4, Toyota invented a new category of compact sport utility vehicles based on passenger car engineering. In 1998, Lexus created the template for mid-sized luxury utility vehicles with the immensely popular RX 300. Based on a passenger car/SUV "crossover platform," these vehicles typically perform more like passenger cars than the traditional, truck-based SUVs.

To use just one model as an example of our philosophy of constant improvement, consider these safety advancements in the design of the Lexus RX 330, successor to our most popular luxury SUV, the RX 300. In this new model, we added these available features:

- An air suspension system that automatically lowers the entire vehicle at high-way speed to improve vehicle response and ride comfort;
- A high-strength body structure in anticipation of NHTSA's proposed upgraded standards for 50 mph rear impact;
- Front and rear curtain shield side airbags;

- Front-seat mounted side airbags, which cover a larger area, including the torso, abdomen and pelvis;
- Driver's side knee airbag;
- An adaptive laser cruise control system that controls following distances;
- An Adaptive Front lighting System (AFS) that helps illuminate a turn or curve as the driver steers into it;
- A tire pressure monitor that alerts the driver in the event of tire under-inflation, in advance of Federal requirements; and,
- A rear back-up camera that enhances visibility when reversing.

The RX 330 also contains the safety features found in the present generation RX, including Vehicle Stability Control, and a Brake Assist feature to automatically provide additional assistance to a driver attempting emergency braking.

These, Mr. Chairman, are just a few examples of the safety improvements we have been able to add to one of our sport utility models in a single model change.

We want to note that sport utility vehicles, as a broad class, are designed to do things that other vehicles simply cannot do. They offer utility, ground clearance, and all-wheel drive capability demanded by our customers—and which we are sure was appreciated by those who used them to move about during our recent heavy snowstorm in the DC area. However, we also recognize that, due to their inherent design, and notably their higher ground clearance, these vehicles have a higher incidence of rollover in accidents, when compared to passenger cars as a broad class. Nevertheless, it is also important to note that the vehicle with the highest rollover rate in published data is in actuality not an SUV, but a sports car.

It is also important to note that, while published accident statistics suggest that fatality rates are declining for all vehicles—cars, SUVs, minivans and pickups the biggest improvements have occurred in the SUV category. We believe the improvements that Toyota and our industry have introduced can be credited with some of that progress.

Published data show that rollovers are rare events, accounting for about three percent of all crashes. But Toyota's philosophy of continuous improvement requires that we continue our efforts to reduce them even further. In this regard, we're also working with government agencies around the world in cooperative research efforts to improve all aspects of vehicle performance.

For example, we have worked very closely with the National Highway Traffic Safety Administration as it meets its new rulemaking responsibilities under the TREAD Act. We have met numerous times with NHTSA engineers to help them develop the best procedures for assessing rollover, and were happy to share with the agency our experience and knowledge in this area. As a result, NHTSA's new dynamic rollover test in its New Car Assessment Program includes a variant of Toyota's internal test commonly known as the "fishhook" test.

We also recognize that the issue of crash compatibility is one of growing concern. Toyota has been conducting research and development, including internal testing, in this area for many years. We have used the results of this research and development to help us design better structures; to improve our front and side airbags and side curtains; to consider frame design; and to develop front beams and reinforcements that help distribute crash loads.

Toyota is an active member of the industry's international compatibility working group, which held its first meeting of industry experts from around the world earlier this month. We contributed a proposal for additional compatibility tests, and committed to seeing changes made to improve both occupant protection and geometric compatibility in future models. We join the industry in calling for voluntary adoption of improved head protection systems such as the curtain shield airbags currently installed on many of the vehicles in our lineup.

As part of our commitment to public education, Toyota also is a significant contributor to the industry's Air Bag and Seatbelt Safety Campaign. The Campaign uses a three-pronged approach of education, enactment and enforcement to heighten public awareness about the benefits and risks of airbags and the importance of keeping children buckled in the back seat. The Campaign sponsors Operation ABC Mobilization twice a year in partnership with NHTSA and over 12,000 law enforcement agencies nationwide. The Mobilization highlights enforcement of seat belt laws currently on the books and advocates enactment of primary seat belt legislation in states without those laws.

Toyota also is an active member of a side impact voluntary standards working group, where new standards were drafted to afford protection for children from airbag-induced injuries. Toyota led the industry in adoption of these new standards, and this year has 100 percent compliance with the strict new guidelines.

Finally, Toyota believes that automotive safety is a responsibility shared by industry, government, and consumers. Toyota and other automakers are moving to improve the overall safety of SUVs, and we are implementing the latest innovations. But we also seek government's help on the Federal, State, and Local levels to improve the safety of drivers and passengers in vehicles of all types.

It is of the utmost importance that primary seat belt usage laws go on the books in all 50 states. Data shows that the usage rates in states with primary belt laws average 80 percent vs. 69 percent for states without these laws. Just improving belt usage to the 90 percent rate currently found in California, for example, could save thousands of American lives per year—far exceeding any technological advances that we could now envision. This change could be implemented quickly, with an immediate result in lives saved. This would be especially useful in rollovers, in which most fatalities and serious injuries occur to those who are unbelted at the time of the rollover.

In this regard, Toyota has been doing its part to improve belt use rates since 1997, when we introduced our belt reminder technology that warns both the driver and the front passenger when they are not buckled. As of 2003, almost 100 percent of Toyota's fleet has this technology. But without enforcement, we cannot hope to realize the full safety benefits that seat belts can provide.

In summary, Toyota is confident in the design of our SUVs. We continually strive to maintain the flexibility and utility that our customers demand, but we will not sacrifice safety to reach that goal. We never forget that our own families ride in these vehicles every day.

Thank you, Mr. Chairman.

The CHAIRMAN. Well, thank you. And I want to thank the witnesses.

Mr. Tinto, since you have the microphone, in your written testimony, you state Toyota has been working with government agencies around the world to discover ways to improve all aspects of vehicle performance. What are some of the measures that other countries have taken to improve vehicle safety and performance? And which measures could be adopted by the United States?

Mr. TINTO. I think a lot of the research has been somewhat parallel. Several of the governments around the world have been looking at improved crash testing, offset frontal crash testing. Some have been looking at, for example, in Europe, in the Euro NCAP system they have been looking improved rating systems for consumer information. I know in Canada they are working on side impact protection. I believe NHTSA has been cooperating with those governments, as well, and we feel like similar paths are being undertaken.

The CHAIRMAN. Mr. O'Neill, what is the difference between the vehicle safety tests conducted by NHTSA and those that the Insurance Institute for Highway Safety performs?

Mr. O'NEILL. In frontal crash tests, the Federal Government does what is called a "full-width barrier test" at 35 miles an hour. That means the whole front end of the vehicle impacts rigid barrier. This is generally considered a reasonably good test of the restraint systems in the car, because it produces a very high deceleration inside the occupant compartment.

For frontal crash testing, we conduct an offset deformable barrier test, which involves an impact with part of the front end of the vehicle hitting a barrier that has a deformable face. This test is now used in Europe and Australia and Japan and is considered a good complementary test to the government's frontal test because it is a measure or a good way to measure the structural design of the car, how strong the compartment is, and how effective the crush

zone is in managing—the crush zone or crumple zone—in managing the energy of the collision.

When it comes to side crashes, the Federal Government is impacting the sides of vehicles with a barrier that has a deformable face on it, a moving barrier that hits the side of vehicles. That barrier represents the front end of a passenger car of about the 1980s vintage. We have just begun a side-impact test program where we are also impacting the sides of vehicles with a moving barrier, but the deformable face on our barrier represents the front end of an SUV or a pickup truck.

So one big difference between our side test and the government's test is that to do well in our test, manufacturers will have to provide some form of head protection for side impacts. Whereas, in the government's test, the head does not get involved because the impacting barrier is so much lower.

The CHAIRMAN. In your opinion, which should be of greater concern when addressing vehicle safety issues, vehicle rollover or crash compatibility?

Mr. O'NEILL. I think we should move forward on reducing rollover, reducing the risk of a rollover occurring in the first place, then reducing—also putting some attention on reducing the consequences if a rollover happens. We will not be able to prevent all rollovers. I think some of the new technologies promise to prevent some, perhaps many. But we should also be working for features that operate and protect people during the rollover event, features such as inflatable curtains that deploy, as we have heard in the Volvo SUV, and making sure that we have roofs with adequate strength.

The CHAIRMAN. Ms. Claybrook and Mr. Pittle, what role should Congress undertake while NHTSA conducts rulemakings and industry develops voluntary standards?

Ms. CLAYBROOK. Well, at this point—

The CHAIRMAN. You have got to pull the microphone—

Ms. CLAYBROOK. I am sorry. At this point, the National Highway Traffic Safety Administration is not conducting any rulemakings on these issues. It has a pending—

The CHAIRMAN. Your view, they should.

Ms. CLAYBROOK. And in my view, they should, on rollover prevention, which is just a consumer information rule, on protection in the crash, which is—they have an advance notice, and on compatibility, which they have no rules pending at this moment.

The CHAIRMAN. Mr. Pittle?

Mr. PITTLE. Yes. We believe, as you heard earlier, there are no real rulemakings underway. And I want to point out that when Congress said, in the TREAD Act, that there must be a dynamic rollover test, they did it, and they did a pretty good one.

Ms. CLAYBROOK. By a date certain.

Mr. PITTLE. By date certain. There was a November 2002.

When you said that there should be an upgraded tire standard that was decades old, they have come out with a very good proposal. When you have given direction about child safety seats and other aspects of the work, they followed your direction.

The problem is, they have trouble setting their own direction, but they are very good at following your direction, and I believe that

you should be specifying on the date certain that you want to see the roof crush standard finished.

You know, when people wearing a seatbelt—and nobody could argue against trying to get more seatbelt usage. We certainly try that ourselves. But when a car rolls over and you are in a car that has got a weak roof, you are in place—you are stuck in place while this car crushes down on top of you. You need to have a stronger roof, and that standard has been languishing and needs to be finished. You are the only one that can set that. There is too much going on in which they are—you know, I am sitting here reading my quotes earlier. “We do not design vehicles. We hope they do a good job. We depend on their research. We are watching to see what they do.” That is not the voice of an agency that you gave the responsibility to protect the public; that is the voice of someone who, as Dr. Martinez says, “What can we do? We are out-manned, we are out-gunned, we are out-spent.” You need to get involved.

The CHAIRMAN. Thank you.

Again, for both of you, you heard GM testify that recent government data shows that, overall, today’s SUVs are at least as safe as passenger cars and safer than cars in the vast majority of crashes. Do you agree with that statement? And does your data support such a statement?

Mr. Pittle and then Ms. Claybrook.

Mr. PITTLE. Well, we buy cars and test them. We are “car guys.” And so what we see is that the cars that we are testing today are—some of them are coming through with improved safety features, like electronic stability control. We see that as a positive benefit, and we do not see any reason why that should become a luxury add-on feature. We think of that as a core safety feature for anyone in an SUV. So we see that improvement.

We see vehicles coming through that are increasingly put on car frames. In fact, in the—our sport utility vehicle special which just came out, we compare the performance of SUVs that are on car-base frames and truck frames, and the handling and the performance characteristics, right down the line, are always better with car-based vehicles. So we know that they know how to make cars that are going to be more forgiving and, we believe, safer for consumers. So we see that improvement coming along.

The question is not whether people are not doing anything, it is are they doing it in a timely way and who is setting the priorities. You said NHTSA should set the priorities. We believe you were right.

The CHAIRMAN. Do you want to comment, Ms. Claybrook. And also, along with that, do you believe that there are any SUVs that are as safe as passenger cars?

Ms. CLAYBROOK. Yes. There is a listing of—list by make and model that has been developed by two excellent researchers who I mentioned before. They are documented in my testimony, Ross and Wenzel. I would say that the—some large cars and some mid-sized cars and some compact cars actually in that in that analysis are safer than SUVs. The Toyota Camry, the Volkswagen Jetta, the Honda Accord, the Honda Civic, even, are safer than the Ford Expedition, for example. So that is for—in terms of the driver deaths.

The key issue to me here is that you should not measure the safety of these vehicles just by the safety of their own occupants. I think that is unethical. I think you have to look at the overall performance of these vehicles and measure not only how they protect their own occupants, but whether they do horrendous damage to other occupants in other vehicles. And—

The CHAIRMAN. Which is the subject of this article this morning.

Ms. CLAYBROOK. Yes, that is correct. And an excellent article was done in the L.A. Times, which I would like to submit for the record, that describes this. And also—

The CHAIRMAN. Without objection.

[The information referred to follows:]

Los Angeles Times, February 18, 2003

STUDY QUESTIONS SAFETY OF SUVs; RESEARCHERS FIND THAT PICKUPS AND SPORT UTILITIES ON AVERAGE ARE LESS PROTECTIVE OF THEIR DRIVERS THAN MOST LARGE OR EVEN MID-SIZE CARS.

By Myron Levin, Times Staff Writer

Which is safer, a Honda Accord or the nearly one-ton- heavier Ford Expedition? Chances are that the brawny SUV would hold up better in a wreck.

Yet drivers of Accords and Expeditions have about the same risk of suffering a fatal accident, new research shows. And when the risk to other drivers is factored in, the Accord is safer by far.

Or consider the massive Chevrolet Suburban, identified by the research as safest among popular SUVs. But according to the data, drivers of Suburbans and shrimpy Volkswagen Jettas have about the same fatality rates.

The novel study's bottom line: Sport utility vehicles and pickups aren't as protective as many of their owners believe, while they are also uniquely dangerous to everyone else.

The auto industry maintains that SUVs have contributed to a decline in the rate of highway deaths because heavier vehicles are safer for their drivers. "SUVs have an excellent safety record, and they're as safe as cars," said Eron Shosteck of the Alliance of Automobile Manufacturers, a leading industry group.

But Marc Ross of the University of Michigan, co-author of the study with Lawrence Berkeley National Laboratory scientist Thomas Wenzel, contends that a hard look at the data indicates otherwise.

Indeed, the study takes a contrarian jab at an iron maxim of highway safety: that heavy is good and heavier is better.

"We need to . . . move away from the idea that bigger and heavier vehicles are automatically safer," said Ross, a physicist. "Quality is a bigger predictor of safety than weight."

Ross and Wenzel's research is believed to be the first to assess fatalities among both drivers of various vehicles and the people they collide with. It comes amid a growing backlash against SUVs and other light trucks, among the most popular yet polarizing of consumer products.

Flying off dealers' lots, light trucks now account for more than half of vehicle sales and are responsible for a steady decline in fuel economy and growing dependence on foreign oil. Many consumers consider the gas-slurping vehicles to be safer than cars. That, in turn, has relieved pressure on automakers to produce more fuel-efficient vehicles.

Riding high behind the wheel of her silver Expedition, Angie Garcia of Sylmar said the SUV looks great and provides a sense of security she would not have in a car. "I definitely feel it's safer . . . no questions about it," Garcia said.

Feeling outgunned in a vehicular version of the arms race, other drivers have simply resigned themselves to SUVs.

"I was getting mowed down by the larger SUVs and trucks," said Jennifer Mulcahy of Simi Valley, who dumped her small car in favor of a Nissan Xterra. "It just felt intimidating . . . It was survival of the fittest."

Despite such sentiments, Wenzel and Ross say, SUVs and pickups on average provide less protection for their drivers than most large or even mid-size cars.

A primary reason: Unlike cars, which tend to slide sideways when they go out of control, SUVs and pickups, with their high center of gravity, are more likely to flip

over. That's important because rollovers are the most lethal accident type, accounting for only about 3 percent of wrecks but 30 percent of deaths to vehicle occupants.

Originally published last March, Wenzel and Ross' little-noticed study assigned a "combined risk" number to each vehicle—defined as the fatality rate for drivers of the model plus the death rate for drivers they crash into. The study used the Fatality Analysis Reporting System, a federal database, to compute death rates for drivers of 1995 through 1999 model-year vehicles. Their research was funded by the Energy Foundation, which includes the Pew Charitable Trusts, the MacArthur Foundation and the Rockefeller Foundation.

At the request of *The Times*, Wenzel and Ross updated the analysis for model years 1997 to 2001.

Although they did not dispute the numbers, other experts said they may not tell the whole story.

In "all the studies we have done . . . weight has a very substantial protective effect," said Priya Prasad, a senior technical fellow for safety at Ford Motor Co. "Heavier is better, especially when you get into two-way accidents."

Wenzel and Ross acknowledged that driver-related factors could account for some differences in risks of various models. For example, if a certain vehicle attracts drivers who tend to wear seat belts, obey speed limits and get into fewer accidents, that car or truck could appear to be safer than it really is.

But they said driver characteristics couldn't account for their most important finding—that light trucks' reputation for safety is overblown and that their combined risks are greater than those of most cars.

Specifically, their data show that:

- Despite giving up considerable size and weight, most mid-size and large cars are as good as or better than the average SUV at protecting their own drivers, and much more protective of their drivers than the average pickup.
- Particularly dangerous to other motorists in two-vehicle wrecks, SUVs have higher combined risks than mid-size and large cars. Their combined risks are similar to those for compacts and subcompacts.
- The safest compacts and subcompacts—the Volkswagen Jetta, the Mazda 626, the Subaru Legacy and the Nissan Altima—have driver death rates as low as or lower than that of the average SUV. Still, compacts and subcompacts have higher driver death rates than SUVs overall. The reason: The most unsafe small cars have extremely high driver fatality rates, two to three times worse than the best cars in the group.
- Minivans, and luxury import cars with their advanced safety features, have lower driver death rates than all other vehicle types. Minivans, like SUVs and pickups, are considered light trucks but are not as top-heavy and therefore are less susceptible to deadly rollovers. Along with design differences, minivans often are used to transport children, perhaps leading people to drive more conservatively.
- Driver death rates for pickups are higher than for all other vehicle types, except for sports cars. The risks are markedly higher than for large and mid-size cars, minivans and SUVs; somewhat higher than for compacts; and similar to those for subcompact cars. Below-average use of seat belts by pickup drivers may be a contributing factor.
- Pickups also are more lethal to other drivers than are SUVs, minivans or any class of cars. Their combined risk is about twice that of large and mid-size cars and about 50 percent higher than that of SUVs, compacts and subcompacts.
- In all classes of cars, Japanese and European models did better on average than their American counterparts, especially in protecting their own drivers. This was particularly striking among compacts and subcompacts. The six safest models (the Jetta, the Altima, the Legacy, the 626, the Honda Civic and the Toyota Corolla) bear Japanese or European nameplates. By contrast, American cars (the Pontiac Sunfire, the Dodge Neon, the Chevrolet Cavalier, the Pontiac Grand Am) had the highest driver death rates in those categories.

The Ross-Wenzel study has emerged at a time of growing concern about the social costs of SUVs, which have long been attacked as harmful to the environment and U.S. energy goals.

Coining the slogan "What would Jesus drive?" a religious group calling itself the Evangelical Environmental Network launched an ad campaign seeking to shame drivers out of their SUVs. The Detroit Project, spearheaded by columnist Arianna Huffington, has run its own ads linking the gas-guzzling vehicles to the funding of terrorists.

More recently, questions have been raised about the safety of SUVs. For instance, an article in the December issue of the Boston University Law Review brands SUVs as “probably the most dangerous products (other than tobacco and alcohol) in widespread use in the United States.”

No expert contends that, all other things being equal, heavier vehicles aren’t safer for their passengers than are light ones.

“If you put the same technology and the same design concepts into the small vehicle and the large vehicle, the large vehicle is going to protect its occupants better,” said Adrian Lund, chief operating officer for the Insurance Institute for Highway Safety.

Still, Lund acknowledged, at some point that weight becomes a negative in the total equation—killing a larger number of other motorists than are saved in the heavier vehicles. According to Lund, this threshold is crossed at roughly 4,000 pounds, a little less than the weight of a Ford Explorer or other small to mid-size SUVs.

With this idea in mind, Wenzel and Ross say, the goal should be to make the biggest models more compatible in size and weight with the rest of the fleet.

Meanwhile, prompting great concern in the auto industry, the chief of the National Highway Traffic Safety Administration also has taken aim at SUVs, saying they pose unacceptable risks to their own passengers as well as to other drivers.

Addressing a gathering of industry executives in Detroit last month, Jeffrey W. Runge said he had appointed a panel of NHTSA officials to consider new safety regulations for SUVs—though it’s clear that it would take years for such rules to be adopted.

Responding to Runge’s blast, General Motors Corp. said that SUVs “have contributed to the dramatic decline in the nation’s fatality rate over the last decade.”

In fact, there have been modest declines in fatality rates—as measured by deaths per total vehicles and vehicle miles traveled. But the death toll has been stuck at about 42,000 a year—despite wider use of seat belts, stricter vehicle safety standards and better automotive designs.

One reason for this, experts say, is that safety advances have been partly negated by a growing mismatch in size between light trucks and cars. When light trucks collide with cars, the high-riding vehicles can override bumpers and door sills and strike occupants in the chest or head.

Faced with Runge’s threat of new regulations, the Alliance of Automobile Manufacturers said last week in a joint letter with the Insurance Institute for Highway Safety that the organizations would work together to make SUVs safer.

Some manufacturers already have begun taking steps to reduce the danger to cars posed by certain light-truck models.

For example, Ford and GM have lowered bumper heights on some models to reduce the risk of override. And in response to safety and fuel efficiency concerns, manufacturers are increasingly pushing “crossover” models—smaller, more car-like SUVs that inflict less damage in collisions.

The CHAIRMAN. Next time bring bigger printed boards, please.

[Laughter.]

The CHAIRMAN. At my age, it is very difficult to——

Ms. CLAYBROOK. We do not have as much money as everyone else does, Senator.

[Laughter.]

Ms. CLAYBROOK. But anyway, we will. We will do it bigger.

The CHAIRMAN. Thank you.

Ms. CLAYBROOK. But I would also like to submit a public opinion poll conducted by Harris for the Advocates for Highway and Auto Safety that shows the public wants safer vehicles, and they want them safe on both counts, not only for themselves, but also for others on the highway.

I would also like to just mention this wonderful book called “High and Mighty.” I do not know whether you have had a chance to——

The CHAIRMAN. Yes, I have seen it.

Ms. CLAYBROOK.—look at it——

The CHAIRMAN. Yes.

Ms. CLAYBROOK.—by Keith Bradsher, from the New York Times. Excellent book that really does lay out many of these issues.

So SUVs can be made safer. We are not opposed to SUVs. We want to see the public have a wide variety of choices, as Senator Allen said. But the public does not have access to information when they go into the car dealership to determine whether or not their car is overly—that SUV is overly aggressive, whether it is prone to roll over. They can look on the NHTSA Web site, but most people do not know to do that. And so it is like a pig in the poke for the consumer in the marketplace. And people care deeply about safety, as the industry has finally admitted after many years of saying it was not true.

The CHAIRMAN. Go ahead, Mr. Pittle.

Mr. PITTLE. Yeah, I hate to keep doing this, because you think I have just got one note to play, but I am just reading the latest issue of Consumer Report. And it is—

[Laughter.]

Mr. PITTLE.—it is quite a fine magazine—I was supposed to try to sell this—

The CHAIRMAN. You can go on the Web site to find out how you subscribe to it.

Mr. PITTLE. It is the April issue, and it really does not go on the newsstand until March the 10th, but you are going to see an advance copy. And I would like to submit it for the record, because in it we have—this is the 50th year of our testing cars, and there is a—they have a special article in it about which cars are safer. And we try to evaluate, in rated fashion, objectively, combining crash tests from both IHS and NHTSA, and also our own performance tests on braking and handling and all the other things we think contribute to how well you can avoid an accident. There are cars that literally do better in these tests than others. You cannot guarantee, because you do not know who is going to be driving and under what conditions, et cetera. But you can pick—you can start off with a safer vehicle.

And on page 81, just for the record, for Senator Snowe, we calculate—I have to correct an earlier statement—the maximum load capacity for a vehicle is not available to the consumer. What they tell you is the gross vehicle weight, how much does the entire thing weigh when it is fully loaded. That is their design criteria. You would have to take it to some station and weigh it empty, and then you would know how much you can put in it.

Well, we weigh them all empty. That is what we do. And then we list how much you can put in the vehicle in order to live within the designed recommendations of the manufacturer. So when you see a vehicle that says, as well tell you, the maximum load is 800, 900 pounds, by the time you put four or five people in it, you cannot put any luggage in it. And you look at this big cavernous back of the vehicle and you find yourself saying, “Why can I not put stuff in there?” Well, get the people out, put the stuff in, but you cannot have both.

[Laughter.]

Mr. PITTLE. And we do stress over and over again not to put loads on the roof, because that does raise—and that is a vehicle that people think of as going on vacation, going on vacation and

loading the top with their family stuff. That is a mistake. That raises the center of gravity and increases the risk.

Ms. CLAYBROOK. That would be a perfect example for a consumer information rule out of the National Highway Traffic Safety Administration, to have a label that is on every single vehicle that says how much cargo, including people, in weight you can put into this vehicle. And that is a very simple one. It is mathematical calculation. They could do it tomorrow.

Senator I would like to just mention one thing. This issue of the driver responsibility? In terms of SUV drivers, the National Highway Traffic Safety Administration studies show that in rollover crashes, that SUV drivers are driving slower speeds, they are drinking less, and they are wearing their belts as much as car drivers. So I think that the emphasis on getting people to behave better is not going to solve our problem. Absolutely we favor that. We have fought for .08 and all the rest. But the vehicle itself needs to be redesigned.

The CHAIRMAN. Go ahead.

Mr. PITTLE. One last thought. I did not put this in the speech, but for nine years I was a commissioner at the Consumer Product Safety Commission, from 1973 to 1982. And for my entire professional engineering life, for more than 30 years, I have spent either developing standards, assessing standards, editing standards, trying to change standards, and the difference between a mandatory standard and a voluntary standard is not so simple, and you have to assess the environment.

If the industry, any industry, and I do not care which one it is, spends its time telling you there is not a problem, but if there is one they are going to work on it, you have to question what is the motivation and how hard are they going to push to get an adequate result?

You know, there are a lot of—there are hundreds and hundreds of voluntary standards that have served this country well, both in the automotive industry, appliance industry, across the board. And they are not, per se, bad. They are good. But you have to look at each on a case-by-case basis.

This is not a situation, from my experience, a long experience, that is conducive to getting the kind of change that is needed. What is needed is for NHTSA to take responsibility, set the pace, set the tone, get an answer.

The CHAIRMAN. Thank you.

Ms. CISCHKE AND MR. Lange and Mr. Tinto, before I ask specific questions, I know you would like to respond to some of the statements that have just been made, and we would be glad to hear from you, beginning with you, Ms. Cischke.

Ms. CISCHKE. Yes. I would like to comment on the—

The CHAIRMAN. By the way, in your remarks would you include your views on this labeling of how much cargo can be put into an SUV? Please go ahead.

Ms. CISCHKE. Right. Well, I will start with the labeling. We would support giving consumers information regarding what loads they could carry in SUVs. It is true, it is very confusing and it is something that would be helpful to the consumers. And I think that is part of the TREAD Act. One of the requirements that

NHTSA's looking on is SUV labeling for load reserve. And so that is something that we think would be a good addition.

But I would like to talk about roof crush a bit, because I think there is some misunderstanding of how injuries really occur. Intuitively, you would think that injuries occur when the roof crushes in and hits the occupant. But the data does not show that. In fact, what it shows is in the first few milliseconds of the crash when the vehicle is rolling in a rollover accidents the occupant is actually striking the roof, and so the injury occurs as his head is basically contacting the ground with the roof being in the way, not the roof coming in on the occupant.

And what is important to note on that is that if you look at systems where you want to cinch down the seatbelt, like the pretensioners, they are only going to be effective if occupants are wearing their safety belts. And we can make roofs stronger, but in the case where people are not wearing their safety belt, it probably will not be effective.

And one of the things that Volvo has on the XC90 is a bore-on roof, but it also has, in combination, pretensioners that will cinch down the belts. And Volvo felt confident in offering these combined safety systems, because they have such high seatbelt use in their vehicles. And we will be able to monitor the actual real-world safety performance as this vehicle become available on the road.

But I just wanted to clarify, because there is a misunderstanding that roof crush itself is causing neck and possibly fatal injuries.

The CHAIRMAN. Would you comment on the—before we move to Mr. Lange—the assurance that all interested parties would play a role in the development of voluntary standards?

Ms. CISCHKE. I think voluntary standards have been very effective. It allows us to get implementation ahead of a rule that would require four years for NHTSA to be able to take action on. A good example of that is the side airbag voluntary standard that the industry worked on for occupant protection. We agreed on injury criteria for occupants that would give us a guideline in terms of what to do for side airbags, and it was very effective, and we were able to that very quickly. We have been working with NHTSA—

The CHAIRMAN. My question was, how do you ensure that all interested parties—

Ms. CISCHKE. Participate?

The CHAIRMAN.—participate? Yes.

Ms. CISCHKE. The meetings can be open to allow other participation. The very first meeting was a kickoff with the Insurance Institute and NHTSA to define possible research programs and what we could do to gather information. And it is certainly appropriate for others to participate in that, and we will be happy to have those meetings more open to allow other inputs.

The CHAIRMAN. Mr. Lange?

Mr. LANGE. Yes, sir. Thank you, Senator McCain.

Let me just begin by addressing the question that you, I think rightly, have focused on here, that is, is rollover more important, or is compatibility more important? I think it is important to understand that, in our view, the two issues are not mutually exclusive. They are both significantly important. And work is now ongo-

ing, has been ongoing, and will continue on both areas of motor vehicle safety.

There is a happy coincidence between the benefits that can be gained vis-a-vis compatibility by the installation of side curtain airbags and the benefits that can be gained vis-a-vis rollover with the application of rollover-sensitive side-impact airbags, as well, or side curtain airbags. We believe that it is important to move forward on all of those aspects.

With respect to the question of the relative balance between the value of industry or voluntary standards as compared to government standards or regulations, I think that our country has managed that balance relatively well. There clearly is a role for government regulation to set just what Dr. Runge suggested, a base standard of performance for those areas that are extremely important to motor vehicle safety. We think that is incredibly important.

But—and the caveat is an important one—we know that consumers demand from each manufacturer sitting here and from each manufacturer that sells products in the United States not represented here a far greater involvement in the safety mechanism than simply meeting government standards.

The comment that one of the witnesses made here today, that it is the objective of the company to exceed government standards, applies to all of us everywhere. And you see that reflected in the nature of the safety contenting that all three manufacturers provide that are represented here today. Ford tries to beat GM, GM tries to beat Ford and Toyota, and so on. We each are working very, very hard to capture each and every incremental sale. Safety is important to consumers, and that is why we do what we do in addition to the fact that safety is important to us. The safety to our consumers is at the core of many, many decisions we make every single day by thousands of engineers.

The CHAIRMAN. How do you ensure that outside parties are involved in the formulation of voluntary standards?

Mr. LANGE. As Ms. Cischke has already suggested, I would be pleased to take back a suggestion to the technical working group for the potential to expand participation. With respect to the side impact airbag work that was done, at the conclusion of that work, the industry held an open meeting to which Public Citizen and Center for Auto Safety had been invited. They chose not to attend.

The CHAIRMAN. Well, maybe it is because they thought they were in on the landing and not on the takeoff.

[Laughter.]

Mr. LANGE. Well, I think that is—they may have felt that, but I do not think that is an appropriate way to approach that particular kind of problem.

The CHAIRMAN. Thank you, Mr. Lange.

Mr. Tinto?

Mr. TINTO. Thank you, Senator.

I can speak to the voluntary standard question if you would. I would first note—

The CHAIRMAN. And any other comments you have.

Mr. TINTO. Okay, thank you.

I would first note that Congress has encouraged Federal agencies to consider whether voluntary consensus standards are appropriate

to meet Federal policy objectives before developing new regulations. At the risk of being repetitive, our own experience with the Voluntary Side Airbag Out-of-Position Working Group, as well as the Driver Distraction Guideline Working Group, was that—kind of proved that wisdom in that this policy was—

The CHAIRMAN. Do you not think this is a much larger issue than those?

Mr. TINTO. Pardon me?

The CHAIRMAN. Do you not think this is a much larger issue than those?

Mr. TINTO. Well, in the side airbag issue, the out-of-position issue, we had a risk of injury to children which was, at the time, certainly one of the most important issues we were facing with the frontal airbags and the side airbags. So we felt that—I would think it would be on the same order of magnitude.

We were able to get these standards out much faster than if we had gone through rulemaking. And in fact, I noted in my testimony that, speaking for Toyota, we were able to adopt all of those standards, across the board, with about a year and a half, two years for implementation. So with a rulemaking process and a phase-in process, you would have seen that come into the fleet a lot later.

As Mr. Lange pointed out, this is an open process, in that we first get the experts together who understand the particulars about vehicle design and about technology and manufacturing. They put together a draft, and then that draft is circulated to outside interested parties for comment, including NHTSA, including IHS, including the NGOs. And we look and encourage their participation in that. And then we take that document, incorporate where appropriate, and come to a final draft document. NHTSA was very involved in that process. And when NHTSA has the document, obviously it is a public process.

I would also point out that it is somewhat similar to NHTSA's process, in that NHTSA's folks get together, they think about what needs to be addressed, they put out a notice, we comment on that notice, and then NHTSA goes to its internal deliberations, which we are not privy to. And we are welcome to come in and explain what we know about the subject, but NHTSA does not share with us what they are working on, their internal deliberations, until a notice comes out. And at that point, we are free to comment, and they make changes to the draft.

I guess, finally, I would say that I heard some comments about there is really no—we do not know if you are going to adopt these standards or not. I know in the voluntary side airbag work, NHTSA is looking to put that information into its "Buying a Safer Car" brochure. And that is going to be added.

And in addition, we have a bond with our customers. They buy our vehicles based on faith in our products, and I believe our reputation speaks for itself. So we would encourage this process and believe it is the fastest way to get safety improvements into the field.

Mr. O'NEILL. Mr. Chairman—

The CHAIRMAN. Thank you, I would like the witnesses to make a final comment on what has been discussed.

Mr. O'Neill, go ahead.

Mr. O'NEILL. Yes, I would just like to make a point on the voluntary standards or voluntary initiatives. The Insurance Institute for Highway Safety, my organization, played a key role in the working group that set the voluntary standards for out-of-position risks for side impact airbags. We anticipate playing a key role in the issues involving compatibility, and we do so recognizing that our credibility is at risk. We are not involved in these things to provide the manufacturers a fig leaf to hide behind. If we see that these initiatives are not moving forward at very rapid pace, we will not be part of it.

The one big advantage of the voluntary approach, which does not preclude standards coming at some later time, is that it can be a much, much faster process than the rulemaking process. We can get, I believe, inflatable curtains and other head-protection systems in cars and SUVs much faster through this voluntary initiative than we can get them in through rulemaking. That does not, however, mean that eventually we cannot have a rule that, in effect, mandates them. But our objective at the institute is to get these technologies and these improvements in vehicles as fast as possible. That is why we are putting our credibility on the line in involving ourselves in these activities.

The CHAIRMAN. Thank you.

Ms. Claybrook?

Ms. CLAYBROOK. Thank you, Mr. Chairman.

I think that you said it well. When Dr. Martinez asked the industry to do the side curtain out-of-position occupant study, he asked that the consumer groups be included. We were not included. We were told we could not participate in the early part of this discussion, that we would be given a draft to review and that would be our role.

And just recently there was a meeting, I believe, this past week, of this group, and one consumer group was represented and then told to leave at the end of a certain point in time so that the industry could go into its own discussions.

The key issue that I would like to mention, though, is that this does not mean that side curtain airbags are being put in cars. In fact, I would like to submit for the record a news article from April 9, 2002, where General Motors included those, as well as other safety provisions that are not mandated, as part of their \$1.5 billion savings plan that they were removing, because these are things that they were putting in voluntarily, and now there were going to remove them.

I do not know the end result of all—whether they all were removed, but surely side impact air curtains are not mandated. What this voluntary group was doing was just designing a test for whether or not out-of-position occupants were going to be harmed.

Voluntary standards have played an important role in our society, but most of the time they have been for very narrowly designed issues that require compatibility among industry, and there were no government bodies to do this. But where you have a major, huge issue like this and lives are being lost unnecessarily, I think that that is where there is a requirement for Federal standards.

I would like also to mention, on the issue of roof crush, that if you look at—and there is a lawyer named Donald Slovik who has

done this—at where people have head injury, and you look at the vehicle, it is where the roof crushed in. And so while I agree that when you have pretension belts, if belts are not being used, it is not going to do any good, the fact is that those people who do wear belts should be better protected. And hopefully more people will wear belts.

I also believe that there is an inaccurate collection of data on who is wearing belts, because belts sometimes loosen up in the rollover, and then people are partially ejected, and police are the ones who report this. They see someone partially ejected, they may assume that someone did not have the belt on to begin with. So I think the numbers are very low. How could you have 78 percent use of belts on the highway and a very small percent, in the 30s, I guess, 30-some percent, in rollover crashes? People do not take their belts off if they are about to go into a rollover. So I believe that there is inadequacy in the data. But that does not also mean that we should not have a pretension to belts and a requirement for that.

And then the last thing I would like to say is that I agree with Brian O'Neill that it is very useful to have the industry do some initial work in this area, but I believe that the independent decision-making process with the public participation of consumers and industry and researchers and people who are not included in the little enclave that met the other day—there are some fabulous engineers and researchers who are excluded from that and who do not have time to sit through endless meetings, but can participate in the government rulemaking process—that, I believe, should be the process that is followed for these critical safety features.

Thank you.

The CHAIRMAN. Thank you.

Mr. Pittle?

Mr. PITTLE. Yes. But when you read back over this record, I predict that you will see various elements in which we are talking about how to approach this problem and trying to reduce the death rate by improving the seatbelt usage, which gets a checkmark certainly by us, by side curtain airbags, which would get—but you do not see any effort, any discussion, about how do we get these aggressive vehicles less aggressive.

I want to go back to that playground analogy that somebody brought up. We are padding the victims. We are not trying to tame the bully.

Now, I do not want to overstate this, but the fact is, as long—and we are not trying to say let us get the impact structures more to line up, let us get that down, let us get the aggressivity out of it. That is not the focus. So I am saying, and this is why I am sounding like a broken record, this does not feel to me like the place to rely on voluntary action.

When people agree to do things because they want to do things, they are willing to do things, that is great. Well, how do you get people to make adjustments to meet a higher goal that they are unwilling, at present, to adjust? That is why I think you need—this is the time—this is the time that Dr. Runge should reach to his statute and pull out the authority you gave him and use it.

The CHAIRMAN. Thank you.

Ms. Cischke?

Ms. CISCHKE. I would like to just conclude by saying that we believe that SUVs are very safe vehicles, and we are data driven, and the data does show that in all types of crashes, including self-protections, SUVs are very effective.

We know our customers are savvy. They know what they want and they need. Consumer data helps them make the decision, and certainly what NHTSA does and NCAP testing and what the Insurance Institute does with their ratings help consumers make those choices and help pull demand for safety features, which we think is important.

We have advanced the state-of-the-art when it comes to safety and technology for rollover protection and prevention, such as electronic stability control and side curtain bags, and also in compatibility where we have lowered front rails and added bumper beams. And we will continue to do things to improve rollover and compatibility issues, but we do want to remind consumers that they can dramatically improve their safety by wearing their safety belts, and that is the most important safety device in the vehicle.

The CHAIRMAN. A device that you originally opposed.

Ms. CISCHKE. Not me, personally.

The CHAIRMAN. No, your industry originally opposed.

Go ahead, Mr. Lange.

Mr. LANGE. Thank you, Senator McCain. I do not want to take up much of you time, so I will be very brief.

With respect to GM's installation of side impact airbags, in the cost reduction efforts we have undertaken in the last several years, we have not removed side impact airbags from our fleet portfolio. And so far as I can tell, I believe GM is the first manufacturer that has engineered every one of our side impact airbags to be child safe according to the industry standard. We have tested every car and truck in which we install them, and they meet those standards.

Secondly and importantly, with respect to the issue of compatibility, there are many technical reasons why the analogy that Mr. Pittle has used concerning a schoolyard bully is not apt. They are too numerous to go into here in the time that we have available, and I think also they are quite deep in terms of technical understanding.

I want to go back, very briefly, to a point that Dr. Runge made, "It is the car manufacturers that know how to build cars and trucks." And the notion that is, I think, outdated by at least decades that car manufacturers are not interested in the safety of everyone of our consumers is simply wrong.

When I and the people who work for me and the people whom we deal with come to work every day, our objective is, what can I do today to make cars and trucks safer, not what can I do today to make them less safe?

The CHAIRMAN. Thank you, Mr. Lange, and I certainly accept that and also understand how critical what you do is and the other witnesses. It is important to our economy as well as to the American way of life.

Mr. Tinto?

Mr. TINTO. I will be even more brief than Mr. Lange.

I want to thank you, Mr. Chairman, for this opportunity here today. And I just want to assure you that our engineers work every

day to innovate and improve our vehicles, the way they are designed, and how they are driven. We know that safety sells, and we are doing everything we can to make the best vehicle we possibly can, because we do know that our wives and children drive our vehicles.

The CHAIRMAN. Thank you very much.

I thank the witnesses. This hearing is adjourned. It has been very helpful. Thank you.

[Whereupon, at 11:55 a.m., the hearing was adjourned.]

## A P P E N D I X

PREPARED STATEMENT OF HON. ERNEST F. HOLLINGS,  
U.S. SENATOR FROM SOUTH CAROLINA

Three years ago Americans started buying more sport utility vehicles (SUVs) and light trucks than regular passenger cars—and the percentage has increased each year since. There are now 76 million SUVs and light trucks on the road, or about 35 percent of all registered vehicles in the United States.

This change in the makeup of America's driving fleet demands that we look at the safety ramifications. Not only do these larger vehicles pose a risk to passengers in regular cars, the rollover risk to SUV occupants is too high. While rollover crashes in 2001 represented only 3 percent of all auto collisions, they accounted for 32 percent of all passenger vehicle occupant deaths.

Some automakers have taken the lead in building SUVs that are less prone to rollover and that better interact with other cars during a collision. But we are still waiting for the rest of the industry to match those safety improvements. If the entire industry does not take the initiative to build safer SUVs, then the public will rely on us to force the issue in order to protect America's families.

Dr. Runge has been a strong, articulate voice in this debate. While Dr. Runge is likely giving some in the Administration a little heart burn, I applaud the courage he has shown in speaking out on this important safety issue.

Automakers have the ability to produce safe and profitable SUVs. I look forward to hearing the ideas that will lead us toward that goal.

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PREPARED STATEMENT OF HON. JOHN F. KERRY,  
U.S. SENATOR FROM MASSACHUSETTS

The safety of SUVs is an important issue for the millions of American families that travel not only in these vehicles but on the road next to these vehicles each day. I commend our Chairman, Senator McCain, for holding today's hearing. I believe the cars and SUVs Americans drive must be as safe as we can possibly make them.

We know that today there are 76 million SUVs and light trucks on the road. But what we don't fully comprehend are the safety implications of those vehicles.

Recent crash data shows that passengers inside SUVs may be much more vulnerable to injury and death than conventional wisdom has held. As this Committee has heard from safety advocates, engineers and at least one automaker at previous hearings, being big does not necessarily make a vehicle safer. And now the National Highway Traffic Safety Administration is stepping forward to express its concern with data showing that SUVs are three times as likely as cars to kill their occupants in a rollover accident because of the height and the rigidity of their frames.

At the same time, the height, weight and rigidity in SUVs appears to be contributing to the rising number and severity of injuries to passengers in cars hit by SUVs. According to the Insurance Institute for Highway Safety, during fatal front-to-side crashes between two cars, an occupant death is 7 times as likely to occur in the struck car as the striking car. But when the striking vehicle is a pickup truck or SUV, an occupant death is 26 times more likely to occur in the side-struck car.

So whether you are driving a passenger vehicle or an SUV, finding solutions to these safety concerns is imperative. I am encouraged by the ongoing dialog between the auto industry, the NHTSA and the insurance industry to develop safety standards for SUVs and light trucks to address these issues, but I remain highly skeptical that a voluntary program is going to get the job done.

To that end, I appreciate the Chairman's commitment to investigate SUV safety, my guess is that this is not the last time we will discuss this matter. As members of the Commerce Committee, I believe we have an obligation to see that measures are taken both in the short-term and the long-term in order to provide the safer vehicles American families deserve.

PREPARED STATEMENT OF HON. MARIA CANTWELL,  
U.S. SENATOR FROM WASHINGTON

Thank you Mr. Chairman for holding this hearing today on Sport Utility Vehicle safety, and for allowing me to add my concerns to a debate that affects the health and safety of the millions of Americans traveling our streets and highways every day.

Automobile safety has come quite a ways since the Model T was the car of choice. The chrome and steel of cars and trucks has been molded and shaped into new designs to make driving a more pleasurable and safer experience. Congress has traditionally taken a lead in ensuring the safety of the American public on the motoring highway, using data and research to drive our decisions.

When tests showed that seat belts would increase passenger safety in a collision, we mandated seatbelts be standard equipment on all vehicles. When the benefits of airbags were demonstrated in a head-on collisions, we required airbags be used in vehicle design. When shown the data, we've mandated better designs for child safety seats and have upgraded tire standards, all in an effort to make driving safer. Today, we are presented with more data that demands we take another look at vehicle safety, this time as it relates to SUV's.

One need only take a look down any American street to see how our nation's driving fleet has changed. SUV's now account for more than one-third of all registered vehicles in the United States and their popularity shows no signs of slowing. SUV's had previously been considered the preference for those who needed the cargo and towing capacity. However, the safe feeling that many drivers experience behind the wheel of an SUV that is bigger and sits higher has made them a must-have for families looking for a comfortable and stylish way to transport children, groceries and soccer balls.

My home state of Washington illustrates the growth in the SUV market. One out of every seven passenger cars on the road in Washington is an SUV. In 1997, there was one SUV for every 15 Washingtonians; today, that figure is one for every eight people. Out of all fatal crashes that occurred in Washington state in 2000, 37 percent involved SUV's, light trucks and vans. The popularity of SUV's, particularly among families, makes SUV safety a primary concern for me.

And, the data is telling us that SUV's are not any safer than traditional passenger cars. In fact, the risks may be greater because of the false sense of security the larger, heavier and higher off the ground SUV provides. Government and insurance industry studies show that SUV's are almost three times more likely to rollover than a regular passenger car. And, while rollovers make up only 3 percent of all collisions, they account for 32 percent of all passenger deaths. These statistics are not acceptable.

With its higher bumpers and more rigid frame, SUV's also are contributing to the death and injury rate in car collisions. For the driver of a passenger car, colliding with an SUV is similar to hitting a brick wall—the car crumples and absorbs much of the shock of impact while the SUV's rigid frame provides little give. An insurance industry study found that in front-to-side crashes between two cars, an occupant of the struck car is seven times as likely to die as an occupant in the striking car. When the striking vehicle is an SUV or light truck, death in the passenger car is 26 times more likely. Again, these statistics are simply not acceptable.

Some would have us believe that much of the blame for these increased risks rests with careless or inattentive drivers but the data does not bear that out. Injury and fatality statistics related to car crashes have held steady in recent years, despite an ever increasing number of cars on the road. If anything, that fact proves that safety efforts to increase seat belt use and improve drivers' skills are paying off. Seat belt use is up and drunk driving is down. Drivers are doing their part. Now it is time for the industry to do its part and improve the design of popular SUV's.

In the past, mandates from Congress have drawn harsh criticism from the automobile industry. Job losses, manufacturing cutbacks and cuts to profits are all cited as reasons not to force SUV redesigns. Similar arguments were raised when Congress mandated seatbelts, air bags and greater fuel efficiency, and yet the industry continues to grow. While some SUV manufacturers are taking some initiative to address these safety issues, more aggressive design changes are needed to make SUV's safer, both for those who drive them and those who drive alongside them.

First, NHTSA must continue to improve upon its rollover resistance rating to give consumers better information about the safety of SUV's. Several surveys show that consumers want this information and past experience has demonstrated that poor ratings are a stronger motivator for manufacturers to improve a design. Such a standard would also encourage manufacturers to utilize new technologies that give SUV driver's a helping hand in stabilizing the vehicle and avoiding a rollover.

Second, NHTSA must continue its efforts to look at ways to mitigate the inequities between passenger cars and SUV's. One approach would be the standard use of side and head airbags in passenger cars to protect occupants in case of a collision with a larger and heavier SUV. Similar airbag requirements of SUV's would lessen the risk of death in a rollover accident. The recent introduction of smaller-sized SUV's also provide a good model of how to give drivers the size, space and luxury of an SUV with fewer safety risks than come with a full-size SUV.

Finally, information about safety risks must be easily available to consumers. Safety is cited as a top consideration when purchasing a new car, and individuals and families need the best information possible to select a vehicle that fits their life-style and protects them. This Committee and this Congress have a responsibility to make sure that American consumers have that information.

I thank the Chairman and look forward to working with him and this Committee on legislation to achieve these important goals.

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PREPARED STATEMENT OF THE ASSOCIATION OF INTERNATIONAL AUTOMOBILE  
MANUFACTURERS (AIAM)

AIAM appreciates the opportunity to submit this statement with regard to the issue of the safety of sport utility vehicles (SUVs). AIAM members include American Honda Motor Co., American Suzuki Motor Corp., Aston Martin Lagonda of North America, Inc., Ferrari North America, Inc., Hyundai Motor America, Isuzu Motors America, Inc., Kia Motors America, Mitsubishi Motors North America, Inc., Nissan North America, Peugeot Motors of America, Saab Cars USA, Renault, SA, Subaru of America, and Toyota Motor Sales, U.S.A. AIAM also represents original equipment suppliers and other automotive-related trade associations. AIAM members have invested over \$26 billion in production and distribution capacity in the United States, creating tens of thousands of highly-skilled, high-wage jobs across the country in manufacturing, supplier industries, ports, distribution centers, headquarters, R&D centers, and automobile dealerships. Our member companies produce a variety of SUV models and components for SUVs.

SUVs have achieved broad public acceptance in the United States due to their flexible capabilities. They are used for a broad range of purposes, from serving as principal family vehicles to commercial use. Vehicles of this class typically provide high ground clearance and enhanced traction features such as four-wheel drive or all-wheel drive, which facilitate driving in bad weather, on unimproved roads, or in off-road environments. The vehicles have substantial cargo-carrying capacity, which is valued by purchasers of the vehicles in performing their daily tasks.

The SUV class encompasses a broad range of vehicles, and we urge the Committee to resist considering the vehicles as a homogeneous set. SUVs originated as enclosed versions of pickup trucks, based on a common truck frame. However, many recently designed SUVs are of unibody construction, frequently sharing major structural elements with passenger car lines. These differences in construction are significant, and cause SUVs to have differing handling characteristics from each other and from passenger cars. The safety performance and features of vehicles in the class also vary. For these reasons, one should be cautious in "painting" these vehicles with a broad brush in describing their performance characteristics.

Nevertheless, when the SUV category is considered as a whole, accident data demonstrates that SUVs are as safe as passenger cars. However, due in part to their size, different handling characteristics, and high ground clearance, SUVs as a class perform differently than passenger cars with respect to certain crash modes. In particular, SUVs tend to have a higher rollover rate, while performing better than passenger cars in other crash modes. In crashes involving SUVs and passenger cars, accident data shows that the passenger cars tend to sustain greater damage and their occupants greater injuries.

The National Highway Traffic Safety Administration has undertaken a variety of initiatives to address the issues of vehicle rollover and crash compatibility. Under NHTSA's Consumer Information Regulations, the agency has required vehicle manufacturers to install a warning label on some SUVs to alert drivers to the different handling characteristics of these vehicles and urge drivers to avoid making sharp turns at high speed. The labels also point out the importance of wearing seat belts. Seat belt use is a critical factor in the level of injuries that are incurred in rollovers, and government and industry efforts to increase seat belt use rates are of great importance in improving occupant safety.

The agency has implemented another consumer information program to provide data on the relative rollover propensity of vehicles. Data based on a static calculation involving the vehicle's center of gravity height and track width is now provided,

and the agency is in the process of developing dynamic tests to provide data that reflects differences in handling, suspension features, and stability control technology that are not reflected in the static-based data. AIAM strongly supports the enhancement of the rollover consumer information program to include dynamic test data, and we have participated in the agency process for developing this data.

NHTSA recently established an "Integrated Project Team" to consider a series of new initiatives to address the rollover concern. The recommendations of this Team are expected to be made public this spring, and may include recommendations for enhancements to several safety standards in the crashworthiness and crash avoidance areas as well as initiatives to promote improved highway design and safer driver behavior. AIAM intends to work cooperatively with the agency in considering these initiatives when they are made public, and we expect to offer our recommendations to the agency as well.

In the vehicle compatibility area, the safety of SUVs must be viewed within the context of the entire vehicle fleet. Consideration should be given both to reducing the aggressiveness of vehicles when striking another vehicle and to improving the occupant protection of vehicles when being struck. NHTSA researchers are working to identify methods to enhance the safety of occupants of all vehicles in crashes. NHTSA has established an Integrated Project Team in this area, as well. Our member companies also have active programs to address this issue. AIAM members are investigating a variety of designs and features to enhance occupant protection for all vehicles. Several AIAM members are also participating in the recently announced joint program involving some vehicle manufacturers and the Insurance Institute for Highway Safety to develop counter-measures to address the crash compatibility concern. We urge the Committee to give these efforts a fair chance to produce results and believe they have the potential to achieve enhanced vehicle safety more quickly than could occur through a rulemaking process.

AIAM supports the efforts of the government and the industry to improve safety in all crash modes. Therefore, we recognize the value in pursuing enhancements in vehicle stability characteristics and addressing the crash compatibility concern. As noted above, we intend to continue to work as an industry and in cooperation with the government and other organizations to achieve enhanced safety performance in these areas.

