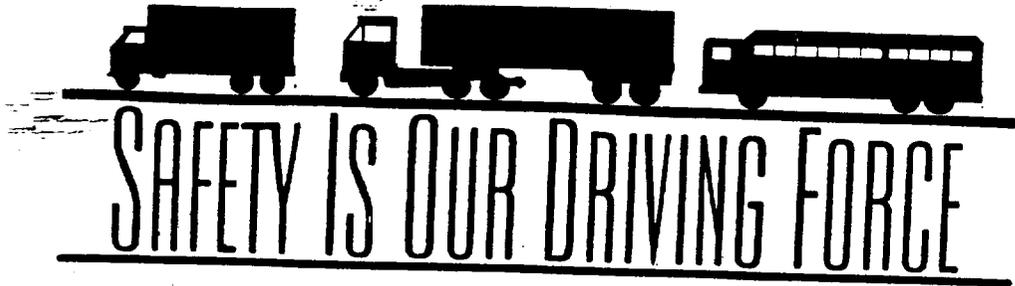


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1995 TRUCK AND BUS SAFETY SUMMIT

REPORT OF PROCEEDINGS



U.S. Department of Transportation
Federal Highway Administration
Office of Motor Carriers

Kansas City, Missouri
March 12-15, 1995

**1995 National Summit
on
Truck and Bus Safety**

Report of Proceedings

**U.S. Department of Transportation
Federal Highway Administration
Office of Motor Carriers**

**March 12-15, 1995
Kansas City, Missouri**

ACKNOWLEDGMENTS

The first National Truck and Bus Safety Summit could not have been a success without the contributions and support of many organizations and individuals. In particular, the participants, facilitators and coordinators are to be acknowledged for their substantial donation of time, talent and effort that have provided a clear understanding of the major safety issues facing the motor carrier industry. Without this commitment, there would not have not been a Summit.

A number of organizations worked diligently behind the scenes to ensure that Summit objectives were achieved and that its participants were provided with all the support needed to guarantee their deliberations were a success. This report wishes to acknowledge the roles these organizations played in achieving the success of this Summit.

The Office of Motor Carriers' Analysis Division and Planning and Policy Division for overseeing the design, plan and implementation of the Summit.

Global Exchange, Inc. for conducting the public opinion focus groups and coordinating press and media activities.

Star Mountain, Inc. for its analysis of crash data and logistical support for the Summit.

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**SECTION I
OVERVIEW**

OVERVIEW

Over the July 4, 1994 weekend there were over sixty fatalities on Texas highways. Three crashes involving commercial vehicles accounted for thirty-one of those fatalities. U.S. Department of Transportation Secretary Federico Peña and FHWA Administrator Rodney Slater were extremely concerned about the weekend's horrendous occurrences and sent Associate Administrator George Reagle to Texas to investigate the crashes. Administrator Slater then called a meeting of many of OMC's partners, not to cast blame on any group or industry but to discuss and plan pro-active approaches to problems in highway safety.

The meeting was very positive and the group agreed that a major, national forum highlighting data, data analysis and the results of focus groups should be held. Thus, the foundation was laid for the Truck and Bus Safety Summit.

The Summit's Goals

The overriding goals of the Summit were to identify the major safety issues facing the motor carrier industry today and to establish a partnership for addressing these problems among the diverse organizations involved in motor carrier safety. It was the intent of the Summit that these goals be achieved by developing within these various communities:

A Safety Vision for the Industry -- The goal of a crash free environment can only be achieved if all of the constituencies involved in motor carrier safety work together under a shared vision. The Summit provided an opportunity for developing this shared vision.

Section I: Overview

An Understanding of the Role of Analysis -- The crash experience of motor carriers contains important clues to what must be done to improve the safety of this industry. Understanding this crash experience is critical to developing effective programs which move motor carriers toward the goal of a crash free environment.

A Recognition of the Importance of Human Factors -- Paramount among the many factors which affect the safety of motor carriers is the driver. To demonstrably improve safety, most of the effort must concentrate on the human factor.

Agreement as to Focus -- Without agreement as to those issues on which resources should be focused, it will not be possible to demonstrably affect the safety of this industry. To be successful, we must reach agreement among the various facets of the motor carrier industry, government organizations responsible for developing safety policy, and the wider highway safety community.

The Summit's goals were achieved because of the willingness of individuals representing the many facets of the motor carrier industry and highway safety community to give of their time and energy with the full knowledge that everyone, regardless of their particular interests, benefits from a safe and efficient motor carrier industry.

The Summit Process

The Summit was designed to identify critical safety issues from a wide range of perspectives representing, among other groups, the manufacturers of large trucks, shippers and carriers, drivers, highway safety advocates and government agencies including law enforcement. For the purpose of the Summit, these communities were defined as:

- Commercial Vehicle Drivers
- Government Organizations Involved in Motor Carrier Operations

- Enforcement/Legal Community
- Manufacturers/Suppliers of Truck and Bus Parts or Equipment
- Highway Safety Research Community
- Shippers/Carriers
- Highway Safety Community
- Professional Associations with Interests in the Motor Carrier Operations
- International Truck and Bus Community (including Canada and Mexico)
- Safety Management Systems

Participants representing these various communities were invited to attend the Summit on the basis of their background, particular expertise, reputation and willingness to work hard for three days to develop a shared vision of motor carrier safety.

Leadership Groups were organized around these various communities to serve as a focal point for identifying safety issues from each group's perspective. That is to say, the Drivers' Leadership Group concentrated on identifying motor carrier issues as viewed from the driver's perspective, the Manufacturers/Suppliers Leadership Group identified issues as seen from the manufacturers' and suppliers' perspective, etc. These groups were facilitated by nationally recognized experts familiar with each of the groups represented at the Summit. These facilitators were assisted by coordinators from the Office of Motor Carriers who possessed subject matter expertise in areas germane to the particular Leadership Group.

During the course of the Summit, each Leadership Group identified and prioritized the five most important motor carrier safety issues as they saw them. The issues of all ten groups were combined, and each Leadership Group participated in the voting and prioritization of the top safety issues developed from all the Leadership Groups. These rankings constitute the Summit's Motor Carrier Safety Issues. These issues are explained in Section IV of this report.

Section I: Overview

Plenary sessions were interspersed among daily working group sessions to provide information for further deliberation and to share findings from Leadership Groups. At the initial plenary session, participants heard from a number of government officials responsible for motor carrier safety.

Mr. Rodney Slater, Administrator of the Federal Highway Administration, reminded participants that:

The solid improvement in safety we have experienced in the past decade has been due in large part to a refocusing of commercial vehicle safety efforts nationally, beginning with the enactment of the Surface Transportation Assistance Act of 1982. The act launched an era of close federal-state and industry cooperation that has resulted in such new milestones as the creation of national testing and licensing standards for commercial drivers, nationally standardized roadside safety inspections of an average of 5,000 drivers and vehicles every day, standards for transporting hazardous materials and a safety rating system for motor carriers.

It is time to build on this achievement and this is reflected as a goal of this Summit. We want to BUILD A SHARED SAFETY VISION which will take into consideration all aspects of the motor carrier safety equation. This Summit provides a significant opportunity to do just that.

Secretary Peña spoke of his commitment to safety, the Department of Transportation's work to ensure safety through partnerships and sensible initiatives, and the threat that pending legislation poses to reasonable measures to protect the public and transportation industry workers. The Secretary noted that:

President Clinton ordered all federal agencies to review their regulations by June 1 to determine which are obsolete or counterproductive, and to look for better alternatives.

As one example of the products of this review process, the Secretary encouraged Congress to repeal the requirement for pre-employment alcohol testing.

The repeal of this rule would save all affected modes an estimated \$28 million annually.

Mr. George Reagle, Associate Administrator of the Office of Motor Carriers reminded participants that:

In this room are assembled the top highway safety experts in the nation, representing government, private associations and groups that may not all agree with one another nor with the Office of Motor Carriers. Our collective goal is to build a consensus as to the truck and bus safety issues to be faced. If we can agree on the issues, it will direct us toward solutions.

Our task at this Summit is to work together to combine the various facts, opinions and experiences each of us has to begin the process of developing a shared vision of motor carrier safety. To do this, it is critical that we respect the value of this information and of our beliefs, but work together to decide where we must go from here.

Presentations of motor carrier crash data and the public's opinion of motor carrier safety were provided by Ms. Jill Hochman, Chief of OMC's Analysis Division and Ms. Sue Morris who directed

Section I: Overview

the opinion survey. In her remarks, Ms. Hochman pointed out that the motor carrier industry is as safe today as it has ever been. Her analyses of crash data indicate that the vast majority of fatal crashes involving the motor carrier industry are a result of collisions between cars and trucks and that preventing these collisions is the key to any real gains in motor carrier safety.

She stressed the importance of utilizing crash data to identify motor carrier safety issues advising the audience that:

Whatever direction we develop to focus on for the future and for deciding what actions to take, we must define and understand problems based on what we know about perceptions and on what the data show us about large truck and bus safety and the causes of crashes. We can better define our problems by learning how the data and our perceptions are similar, where they may contradict, and how they may be completely different. This all helps us understand and know what our problems are.

In summarizing findings from her study of the driving public's opinions of large trucks and buses, Ms. Morris pointed out that:

In spite of the real gains that have been made, car drivers are concerned about their safety and sharing the road with larger vehicles. Most passenger car drivers have considerable respect for the skill and training of professional truck drivers. They like truckers but dislike trucks because they are so big, so heavy and obscure their view of the road. Commercial drivers, on the other hand, resent car drivers who cut in front of them or take other actions that create a hazard for them. Commercial drivers generally believe that "four-wheelers" make mistakes because they are ignorant of the capabilities and limitations of these large vehicles.

Summit participants utilized this information and the comments of other speakers as background for their discussions. After more than a day of deliberation, each Leadership Group identified and prioritized what it considered, to be the most important safety issues from its perspective. These findings were shared with all participants in a plenary session. Subsequently, each Leadership Group evaluated the complete list of issues and voted on them to determine the most important issues. The outcome of these votes defined the Summit's views on the most important safety issues facing motor carriers.

SECTION II
PREPARING THE GROUNDWORK

PREPARING THE GROUNDWORK

In preparation for the Summit, a number of activities developed information for use by the participants during their deliberations. These activities included:

An Analysis of the Crash Experience -- of large trucks and buses addressing recent trends in the safety of their operation and major characteristics of their fatal crash experience.

An Examination of Opinions -- held by the general driving population, commercial vehicle drivers and police as to the factors influencing the safety of large trucks and buses.

Training Facilitators and Coordinators -- in their Summit roles, facilitation skills, techniques to be employed in identifying and prioritizing safety issues and the background for the Summit.

Interviewing OMC Leadership -- to identify safety issues they felt would be perceived by each Leadership Group as important to motor carrier safety and operations.

The underlying purpose of all of these activities was to provide participants, facilitators and coordinators with a common foundation of knowledge and a uniform process for carrying out deliberations. In this way, Leadership Groups were more certain of reaching objective decisions on which safety issues were important. In turn, this helped ensure that activities undertaken by the motor carrier community as a result of this Summit would, indeed, positively impact motor carrier safety.

Highlights from each of these activities are presented in the following pages.

Motor Carrier Crash Experience

Crash data were analyzed to establish the significance and major characteristics of fatal crashes involving large trucks and buses. Collectively, these analyses indicated that:

- The motor carrier industry is as safe today as it has ever been.
- The number of fatal crashes involving motor carriers has decreased 40 percent in the last decade.
- As opposed to fatal crashes involving only passenger cars, almost all fatal crashes involving motor carriers result from collisions with other vehicles.
- Large trucks, not buses, dominate the fatal crash statistics for large vehicles.
- In fatal crashes involving a light passenger vehicle and a large truck, passenger vehicle drivers are more likely to be cited by police.
- Almost half of all single vehicle fatal crashes involving large trucks are the result of a collision with a pedestrian.
- Forty percent of truck driver fatalities in single vehicle crashes result from ejection.
- Alcohol use by the commercial vehicle driver is rarely a factor in fatal crashes involving large trucks and buses.
- Most fatal crashes occur in the forward field of view of the truck driver.

A more detailed summary of findings from the analysis of crash-data are presented in an appendix to this report.

Public Perceptions of Large Truck Safety

A sampling of the public's perceptions of motor carrier safety issues was obtained from a series of focus groups conducted in Atlanta, Georgia; Kansas City, Missouri; and Portland, Oregon. Separate sessions were conducted with automobile drivers, commercial vehicle operators and police. Among the opinions expressed by these groups were:

- Automobile drivers are a far more frequent cause of highway safety problems involving trucks than the driving environment, vehicle conditions or truck drivers.
- Commercial vehicle drivers are superior to car drivers in the utilization of safe driving practices.
- Truck drivers and passenger car drivers feel antagonism toward each other on the highway.
- Car drivers know very little about trucks and buses and this ignorance may be a factor in crashes involving these vehicles.
- Commercial drivers are concerned about regulations they regard as unworkable, out of date or hazardous.

A detailed summary of the focus groups' findings on the public's perceptions regarding motor carrier safety issues is presented in an appendix to this report.

Facilitator/Coordinator Training

While some materials were provided to facilitators and coordinators prior to the Summit, their actual training took place during the two days before the Summit began. Topics addressed during training included:

- Background and rationale for the Summit
- Roles and responsibilities of coordinators and facilitators
- Techniques of facilitation
- An overview of the OMC Strategic Plan, the results of focus group interviews and the analysis of fatal crashes
- The results of interviews with OMC leadership
- Summit schedule and expected outcomes
- Techniques to be used in prioritizing issues

Interviews With OMC Leadership

Informal interviews with the senior management of the Office of Motor Carriers were performed to assist facilitators and coordinators in understanding the issues that were likely to be considered relevant to motor carrier safety by each of the Leadership Groups. Interviewees were asked their opinions on the most important issues associated with each Leadership Group; the results of these interviews were shared with facilitators during their training immediately before the Summit.

Among the more important issues identified for each of the ten Leadership Groups were:

Drivers

- Inadequacies in driver qualifications, testing and training
- Differences in qualification requirements for drivers licensed in other countries
- Lack of any standards or methods for determining if drivers are "physiologically fit for duty"
- Effects of financial incentives, scheduling and other "business" aspects of trucking industry on safe operations
- Lack of public awareness about the operating characteristics of large vehicles and how these characteristics limit drivers' abilities to adjust to the conditions of traffic

Enforcement

- The apparent low priority traffic law enforcement assigns to motor carrier regulations and its general unfamiliarity with motor carrier issues, operations and enforcement techniques
- Focus of enforcement activities on vehicle rather than the driver
- Inconsistency in training programs for law enforcement which could improve their impact on motor carrier safety
- Variations in fines and fees and the unwillingness of the judicial system to enforce violations of safety regulations by commercial vehicle operators

Shippers and Carriers

- Need for regulations to guide the behavior of shippers and their impact on motor carrier safety
- Limited awareness by shippers and carriers of their role in motor carrier safety
- Cumbersome and inconsistent enforcement techniques for attaining compliance with safety regulations

Shippers and Carriers (cont.)

- ~~Difficulty of obtaining and training drivers which produces a shortage of qualified drivers from which to draw~~

Highway Safety

- Need to improve the public's understanding of its role in sharing the road with commercial vehicles as a means of improving safety
- Lack of data for identifying motor carrier safety issues, developing countermeasures and managing motor carrier safety programs
- Unequal and insufficient enforcement of motor carrier safety regulations among states thereby motivating drivers to avoid "tough" states
- Inability of present driver qualifications and training programs to produce safe and capable drivers
- Differences in traffic regulations for passenger vehicles and commercial vehicles which produce different operating rules on road systems shared by both groups

Highway Safety Research

- Lack of objective processes to: determine how research funds are spent, establish motor carrier safety priorities, identify problems and operate programs
- Deficiencies in present data systems which inhibit their use for statistical analysis and for directing OMC's research programs
- Lack of sufficient crash data problem identification, countermeasure development and program management
- Lack of a viable process for disseminating the results of research important to motor carrier safety

Professional Associations

- Over-regulation of the motor carrier industry
- Need for partnering among elements of the motor carrier industry as a means of developing more effective and efficient regulations
- Formality of rule making process and the undue influence on the outcomes of this process by small segments of the motor carrier industry

International Community

- Difficulty in getting full consideration of international issues by U.S. and the lack of a process for resolving safety issues among Canada, Mexico and the U.S.
- Need for harmonization of regulatory and enforcement programs

Safety Management Systems

- Bureaucracy created by SMS legislation which, in effect, lessens funding and allows for undue involvement of federal government in state/local safety initiatives
- Lack of communication among all groups involved in motor carrier safety
- Tendency of SMS initiatives to focus on engineering improvements, rather than behavioral approaches, as the preferred approach to improving motor carrier safety

Government Organizations

- Many regulations unrelated to safety; tendency to establish regulations which constrain the profession of truck driving under the guise of improving safety
- Inconsistency of regulations among states and countries
- Difficulty in increasing voluntary compliance with motor carrier safety regulations
- Incapacity of states and local communities to respond to hazmat spills
- Effects of economics on industry behavior as it relates to safety

Manufacturers/Suppliers

- Difficulty of regulating manufacturers in present government structure
- Inadequacy of standards regarding motor carries and equipment sold internationally
- Trade-off between regulations and economic viability of the industry

SECTION III
FOSTERING A PARTNERSHIP

FOSTERING A PARTNERSHIP

The Summit was structured to foster an understanding of major safety issues from the viewpoints of various facets of the motor carrier industry, the organizations responsible for motor carrier safety, and the general public. For the first time, individuals representing the many and diverse aspects of the motor carrier community were brought together for the chance to voice their concerns about safety and address those raised by others. Each person brought his or her own understanding to the table, integrated these understandings with information presented on data analysis and public perceptions and, together, began developing a shared vision on the safety issues facing the motor carrier community.

Leadership Groups were the building blocks of the Summit. They were facilitated by some of the most knowledgeable and prominent persons in highway safety today. These individuals, along with coordinators representing OMC, were trained on consensus building, familiarized with OMC's strategic plan, educated as to the crash experience of motor carriers and the public's concerns with respect to their safety, and trained in the specific method for achieving consensus used at the Summit. They were well equipped to address issues that might be raised in the Leadership Groups they were to direct. A list of the Leadership Groups, their facilitators and coordinators can be found in an appendix to this report.

Chronology of Proceedings

The Summit alternated between plenary and working group sessions throughout its two and a half days.

Plenary Sessions

The plenary sessions were open to all individuals who attended the Summit. At these sessions, prominent members of the transportation community addressed participants and shared their thoughts with the audience on safety as well as on the impact that the Summit's deliberations would have on the future of transportation in general and motor carriers in particular.

Working Group Sessions

The working group sessions were closed to everyone but the members of each particular Leadership Group. Alternating with the plenary sessions, each Leadership Group met, prioritized its issues, and responded to the issues presented by the other groups. Their findings were the result of blending their experiences in motor carriers with the public's perception about safety issues presented in the focus groups, the data presented on crash experience, and their knowledge of OMC's programs and highway safety. The following is a summary of the events of the Summit.

Day One

The first full day of the Summit opened with a plenary session. George Reagle, Associate Administrator for Motor Carriers, greeted the participants and introduced the Honorable Emanuel Cleaver II, Mayor of Kansas City, who welcomed Summit participants to the city. Mr. Reagle then introduced Thomas J. Donohue, President and CEO of the American Trucking Associations, who stressed the importance of partnerships and pledged to continue the support of his organization's efforts to enhance the safety of motor carrier operations.

After a short recess, Rodney E. Slater, Administrator of the U.S. DOT Federal Highway Administration, spoke to the participants about the importance of developing a shared vision of motor carrier safety. Mr. Slater was followed by Mr. Reagle who outlined his goal of a crash free environment and discussed the importance of the task about to be undertaken by participants.

Mr. Reagle's remarks were followed by a presentation on *Facts, Perception, and Reality* by Jill Hochman, Chief of the OMC Analysis Division and Sue Morris of Global Exchange, Inc.

Following this presentation, Mr. Reagle closed the morning's session by charging the Summit to answer this question: *What do we really need to examine and understand if our goal is to make a significant impact on safety--to achieve a crash free environment?*

That afternoon, the participants were convened in another plenary session to hear Secretary Peña share his desire to develop only those safety regulations which are sensible and to eliminate those that are not. At the conclusion of his speech, Secretary Peña announced an extension of the present moratorium on pre-employment alcohol testing.

Immediately following the Secretary's speech, the working groups met for several hours to begin identifying and discussing safety issues that must be addressed in order to achieve a crash free environment. After their initial identification of issues, each group assigned smaller groups to work on the justification for the selection of each issue.

Day Two

The working groups continued their meetings on the morning of the second day. By the end of their discussions, each group voted to determine their top five or six issues and agreed on the justification for each.

Section III: Fostering A Partnership

After lunch, a second plenary session was held at which the facilitators of the Leadership Groups presented the results of their discussions for review by the rest of the participants. The findings of each group (as they were presented during the plenary session) can be found in an appendix to this document.

At the conclusion of the plenary session, each participant returned to his or her Leadership Group to review and comment on the findings presented by each of the other nine Leadership Groups. Near the end of the working group session, participants began voting on and ranking the issues to determine the most important ones.

Day Three

The working group sessions continued into the final morning of the Summit. At the conclusion of the sessions, the facilitators reported his or her group's voting on the top safety issues. These votes were tallied and the results provided to Mr. Reagle.

The final plenary session began when Mr. Reagle introduced speakers representing various parts of the motor carrier community: Rita Bontz from Independent Truck Drivers Association; Jim Johnston from OOIDA; John Collins from the American Trucking Associations; Gene Bergoffen representing the National Private Truck Council; Arthur Fox representing CRASH; and Terry Gainer representing law enforcement. At the conclusion of their comments, Mr. Reagle presented the Summit participants' consensus findings on the top safety issues in rank order. These findings are discussed in the next section of this report.

SECTION IV
THE PARTNERSHIP'S FINDINGS

THE PARTNERSHIP'S FINDINGS

The process used to develop the ranked safety issues was designed not only to reach a conclusion, but also to gradually develop a consensus among Summit attendees and, consequently, among constituencies of the motor carrier community. With the consensus came an understanding that the issues originally thought to be unique to each constituency were actually common to almost every constituency. The participants found that, rather than resulting in division, the process and Summit design promoted unification and the development of a partnership between different constituencies and a greater partnership among all constituencies.

After two and half days of discussion, the Leadership Groups completed their discussions and voted to determine what they believe are the top safety issues affecting the safety of motor carriers. They identified 17 issues. These issues, in priority order, are:

Fatigue. There are multiple factors associated with fatigue that are inherent in existing operations. Drivers, dispatchers, trucking company management, and OMC need more factual information about fatigue, and how factors under their control affect fatigue impairment risks.

Data/Information. There is a lack of comprehensive data on trucks and buses, specifically a lack of information regarding truck and bus crashes and their related causes. There is an insufficient exchange of data among Canada, the U.S. and Mexico.

Driver Training (Professional and Public). It is necessary to ensure adequate and continuing education for all drivers—both commercial drivers and motorists.

Technology. The development and deployment of emerging, practical, safety technologies are key to improving truck and bus safety.

Uniform Regulations. The lack of uniformity across states in safety regulations and procedures causes non-compliance, a perception of inequity and a poor attitude toward safety. Included in this issue are concerns about uniformity among Canada, Mexico and the U.S.

Enforcement. A crash-free highway system depends on effective testing and licensing, traffic enforcement and adjudication of all highway user violations.

Carrier/Shipper Responsibility. Carriers, shippers and receivers must share responsibility for the effects of their demands on drivers which result in driver violation of laws and regulations.

Communications/Public Information. There are needs to: develop a comprehensive national marketing campaign for motor carrier safety; expand and enhance motor carrier public information education efforts; and educate motor carriers and the public about techniques for sharing the road with large vehicles.

Partnership. Motor carrier safety activities cannot be effective in isolation--coordination and communication among all players lead to effective use of resources.

CDL Deficiencies. Current CDL testing and licensing procedures do not always ensure a qualified driver and allow some unqualified drivers on the road.

Funding. Adequate funding promotes safety. Government at all levels has the lead in developing alternative funding sources.

Size and Weight. Standards must take into account the impact of different vehicle sizes and configurations, as well as the impact of road design on the safety of commercial vehicle operations.

Working Conditions. The working conditions of drivers can affect safe operations. Standards and industry practices need to account for the total workload demands on the driver.

Regulatory Reform. Regulations to ensure safety and efficiency must be based on common sense and science as well as be consistent across government agencies.

Infrastructure. The infrastructure is part of a system which serves a variety of modes, organizations and needs. Close coordination is critical.

Safety Management Systems Resource Allocation. Safety management systems must be used to set priorities and allocate scarce resources. Motor carrier safety must be elevated in SMS decision-making.

Accident Countermeasures. Research must be targeted to seek and define proactive and non-punitive countermeasures that prevent accidents.

The identification of these issues is key in completing the third part of the needs analysis for OMC. OMC now has feedback on the identification of issues from three major sources: statistical analysis of data on the crash experience of motor carriers; findings of the focus groups conducted with CDL holders, law enforcement officers, and adult, non-commercial drivers in the general populace; and, the opinions of individuals representing the motor carrier community. With this information, OMC will further develop its analytic capability and measure the effectiveness and appropriateness of its programs and standards.

SECTION V
NEXT STEPS

NEXT STEPS

The results from this Summit provide the entire motor carrier industry and highway safety communities with consensus on new strides toward improvements in safety witnessed in the past decade. OMC has already begun the task of organizing its activities in response to the priorities identified in this Summit. These actions include the following:

- Immediately following the Summit, OMC issued a pamphlet outlining the motor carrier safety issues that were identified.
- On March 24, George Reagle appeared before the National Press Club's transportation round table to provide members of the press with an overview of the Summit's findings and the Office of Motor Carrier's response to them.
- OMC is modifying its strategic plan for improving motor carrier safety to reflect the Summit's findings.
- The Analysis Division has renewed its focus to implement a strategic analysis plan which includes establishing new crash information systems and methods for integrating analysis results in OMC's overall program for enhancing motor carrier safety.
- OMC has assigned Mr. John Grimm the responsibility for coordinating the Office's efforts to improve safety with its many partners in the motor carrier industry and highway safety community.

Section V: Next Steps

- To enhance the public's understanding of the safety issues identified at the Summit, OMC will develop an expanded series of issue papers which explain in more detail the Summit's findings from OMC's perspective, the state of OMC's knowledge with respect to each issue's impact on safety and how the issue relates to OMC's mission.

These actions represent only the first of many steps that will move OMC and its partners toward the ultimate goal of a crash free environment for motor carriers.

APPENDIX A
LEADERSHIP GROUPS

LEADERSHIP GROUPS

Following is a list of the Leadership Groups and the facilitators and coordinators assigned to each:

Commercial Vehicle Drivers

Facilitator Robert Nicholson
Coordinator Linda Taylor

Robert Nicholson is a Human Factors Engineer who in his career with the National Highway Traffic Safety Administration directed much of the contemporary driver performance oriented research including the initial studies of truck driver fatigue.

Government Organizations Involved in Motor Carrier Operations

Facilitator Larry Neff
Coordinator Dale Siemicki

Larry Neff directs planning and budgeting for FHWA's Information Resources Management program and information management reviews of agency-wide functions as well as conducts workload, workflow, organization, and program effectiveness reviews for Headquarters and field offices.

Enforcement/Legal Community

Facilitator Terrance Gainer
Coordinator Ronald Havelaar

Terry Gainer is the Director of the Illinois State Police (ISP) where he has introduced a number of innovative enforcement programs including motorcycle and Wolfpack patrols, seat belt blitzes, mobile command vehicles, and a forensic science laboratory. Prior to his ISP appointment, Mr. Gainer served as special assistant to the U.S. Secretary of Transportation in charge of drug policy.

Manufacturers/Suppliers of Truck and Bus Parts or Equipment

Facilitator James Kolstad
Coordinator Larry Minor

James Kolstad is the former Chair of the National Transportation Safety Board and was responsible for many of the ongoing recommendations for improving motor carrier safety developed by that organization.

Highway Safety Research Community

Facilitator Patricia Waller
Coordinator Robert Davis

Dr. Waller is Director of the University of Michigan's Transportation Research Institute and one of the more experienced researchers in highway safety and driver performance.

Shippers/Carriers

Facilitator William Coyle
Coordinator Donald Harris

Bill Coyle's long history of working with motor carriers ranges from operating a truck fleet to developing hazardous material regulatory improvements during his tenure as special Assistant to the Associate Administrator for Motor Carriers.

Highway Safety Community

Facilitator Jim Swinehart
Coordinator Judy Van Luchene

Before becoming President of Public Communication Resources, Jim Swinehart served a 17 year tenure at the University of Michigan in the Survey Research Center and the Highway Safety Research Institute.

Professional Associations with Interests in the Motor Carrier Operations

Facilitator Noel Bufe
Coordinator Kenneth Rodgers

Dr. Bufe is a former Deputy Administrator of the National Highway Traffic Safety Administration and is presently Director of the Northwestern University Traffic Institute. He has been responsible for developing highway safety policies and programs for more than two decades.

International Truck and Bus Community (including Canada and Mexico)

Facilitator Carole Bedwell
Coordinator Robert Kelleher

Ms. Bedwell is Chief of the Program and Policy Administration Division of the California Department of Motor Vehicles where she is responsible for program and policy issues involving vehicle registration, driver licensing and the department's research program.

Safety Management Systems

Facilitator John Zogby
Coordinator Frederick McGraw

John Zogby is the former Deputy Secretary of Transportation for Pennsylvania and is now actively engaged in educating states in the Safety Management System process.

**APPENDIX B
FINDINGS OF EACH
LEADERSHIP GROUP**

DRIVERS

ISSUE 1 EDUCATIONAL NEEDS

- **LACK OF ENTRY-LEVEL DRIVER TRAINING**
- **LACK OF PERIODIC IN-SERVICE TRAINING**
- **LACK OF MANDATORY STANDARDS OR CURRICULUM FOR SUCH TRAINING**
- **LACK OF MANDATORY STANDARDS OR CURRICULUM FOR LAW ENFORCEMENT OFFICIALS CONDUCTING TRUCK INSPECTIONS**
- **LACK OF ADEQUATE EDUCATION FOR AUTOMOBILE DRIVERS REGARDING SHARING THE ROAD WITH TRUCKS**
- **LACK OF TRAINING AND LICENSING REQUIREMENTS FOR RECREATIONAL VEHICLE DRIVERS**

Justification

Training is essential to operating a motor vehicle but it is also essential that drivers as well as law enforcement officials are aware of the requirements and limitations of others we share the road with as well as changes in rules and technology. Therefore we feel that training at all levels is necessary.

ISSUE 2 FATIGUE

- **INTERRUPTIONS DURING TOUR OF DUTY**
- **IRREGULAR SCHEDULES**
- **SAFE REST PLACES**

Justification

The current 15 hour on-duty time should be 15 consecutive hours. Drivers are forced to drive when tired, forced to sleep when rested. There is a lack of fair compensation for non-driving functions. Tend to push drivers beyond the limit thereby compelling drivers or allowing employers to violate current regulations. There are inadequate rest areas especially on state highways. Drivers are disturbed to participate in road-side inspections. When fatigue strikes, drivers have limited options between rest areas which can be fatal.

ISSUE 3 ENFORCEMENT--SHIPPERS/CONSIGNEES/BROKERS ARE PRESENTLY NOT HELD JOINTLY ACCOUNTABLE FOR VIOLATIONS OF THE REGULATIONS BY DRIVERS.

Justification

Presently, according to the regulations, the driver is held solely responsible for violations, even when ordered to violate by shippers, carriers, consignees, and/or brokers. The present system of non-standardized audit procedures is some of the cause of this overwhelming problem. The driver is the most powerless individual in the equation.

ISSUE 4 HOURS OF SERVICE/WORKING CONDITIONS

Justification

- Scheduling of runs does not take circadian rhythms into account.
- Drivers are not subject to the Fair Labor Standards Act (time required to be spent isn't compensated)
- The hours of service don't meet the needs of owner-operators and company drivers or today's working environment.
- Drivers don't have legal protection when they refuse to do anything illegal or unsafe without fear of reprisal.
- Drivers are subject to split time off...i.e., breakdowns, waiting for loads, etc.

ISSUE 5 INCONSISTENCIES IN VEHICLE AND HIGHWAY REGULATIONS

Justification

- Two-tiered speed limits
- Inconsistencies in penalties and fines for minor safety violations (unjust and unfair in the driver's perception)
- Inconspicuous railroad car markings
- Non-uniformity of lighting on private vehicles

Speed limits which require different vehicles to travel at different speeds cause fluctuations in traffic flow as well as frustration on the part of the faster traveling vehicle driver. Current regulations require unfair fines for minor violations which change radically from area to area. Railroad crossings, especially where unmarked, could be safer if railroad cars were required to use markings similar to the conspicuity of tractor trailers. Many state and federal regulations do not sufficiently address the need for better installation and alignment of lighting and safety equipment on four-wheelers.

ENFORCEMENT/LEGAL

ISSUE 1 THE FOCUS OF ENFORCEMENT RESOURCES IS NOT ON CRASH CAUSING VIOLATIONS DUE TO INADEQUATE CRASH CAUSATION DATA AND POST ACCIDENT INVESTIGATION AND ANALYSIS.

Justification

- Current NGA accident data elements do not focus on all accident causation factors.
- All states do not currently require post-accident investigations which results in insufficient data for analysis.
- Failure to analyze post-accident data will inhibit the states from developing effective crash-reduction countermeasure programs.

ISSUE 2 THERE IS INSUFFICIENT ENFORCEMENT FOCUS ON MOVING VIOLATIONS COMMITTED BY DRIVERS OF LARGE TRUCKS (GVWR 10,001 AND GREATER).

Justification

A high percentage of accident statistics show that moving violations cause the greatest number of truck at-fault accidents.

Many officers are inadequately trained or informed about large trucks, are intimidated by them, and are reluctant to stop them.

Current national efforts to gather uniform accident statistics (NGA) do not identify what the accident causes are. Therefore, adequate information may not be available for traffic enforcement managers to use in deploying enforcement personnel to address accident causing violations.

Experienced traffic enforcement officials agree that certain moving violations can be indicators of driver fatigue.

Driver fatigue is a significant factor in crashes involving large trucks. A recent study conducted by the NTSB identified fatigue as the number one killer of truck drivers and may be a factor in 30% to 40% of truck involved crashes. Driver fatigue was the primary cause in 41% of all truck-related crashes according to a study conducted by the American Automobile Association (AAA) foundation.

A 1989 study found that many drivers falsify their log books or even keep multiple log books to hide hours-of-service violations.

ISSUE 3 THE FAILURE OF CONGRESS TO FULLY APPROPRIATE AND MAINTAIN MCSAP AUTHORIZATION AS SPECIFIED BY ISTE A WILL CONTINUE TO HINDER THE STATES' EFFORTS TO SUSTAIN EFFECTIVE COMMERCIAL VEHICLE ENFORCEMENT PROGRAMS.

Justification

Increased personnel and their associated costs incurred by states. Increased mandatory MCSAP requirements whose effects have not been proven, out of service verification, off peak hour inspections.

Increased recommendations for federal highway programs which compete with basic inspection and enforcement programs for limited in MCSAP funds. Programs such as: roadside computerization, public information and education; accident data analysis and compliance reviews.

Increased mandatory MCSAP requirements whose effects on increasing highway safety is unproven (e.g., drug interdiction covert operations, out of service verification and off peak hour inspections).

ISSUE 4 ESSENTIAL ROADSIDE LEVEL I DRIVER/VEHICLE INSPECTIONS HAVE BECOME TOO COMPLEX AND TIME CONSUMING.

Justification

- Current Level 1 inspection requirements and procedures emanate in large part from the international out-of-service criteria. During the last 10 years this criteria has grown from a document of approximately 10 pages, to a document of nearly 60 pages. The expanded out-of-service criteria is the primary reason for both the complexity and time requirements associated with today's Level 1 inspections.

Appendix B: Findings of Each Leadership Group

- Simplicity will help with uniformity and will encourage a reduction in time for each inspection to allow for more inspections and less down time for the industry.
- Critical items to be inspected should be tied to data driven (historical) crash causation factors.

ISSUE 5 CARRIERS AND SHIPPERS DO NOT SHARE APPROPRIATE RESPONSIBILITY FOR THE EFFECTS OF THEIR ECONOMIC PRESSURE ON DRIVERS WHICH CONTRIBUTE TO DRIVER VIOLATION OF LAWS AND REGULATIONS.

Justification

- Highway safety is impacted by the lack of shared responsibility among driver, carrier and shipper.
- Unworkable delivery demands and schedules encourage drivers to violate safety laws and regulations.
- There are insufficient laws and regulations to address shipper and carrier responsibility for safe transportation of goods.
- Unreasonable demands and economic pressures contribute to driver retention and hiring problems.
- Economic pressures lead many drivers to drive while fatigued.

GOVERNMENT ORGANIZATIONS

ISSUE 1 PARTNERSHIPS WILL ENSURE THE "BUY IN" OF EVERYONE AND FACILITATE WORKING TOGETHER COOPERATIVELY TOWARD ESTABLISHING AND ACHIEVING COMMON GOALS.

- **SHARING INFORMATION**
- **COMMON GOALS**
- **EFFECTIVE ENFORCEMENT**
- **PARTNERSHIPS INCLUDE ALL HIGHWAY USERS**

Justification

Partnerships are essential to creating a crash-free environment for CMVs because only by working together can government, industry, and the public achieve this goal. All partners in highway transportation have a direct interest in effective enforcement, compliance programs, and sharing information. Partnerships will ensure the "buy in" of everyone to working towards establishing and achieving common goals. The value of effective partnerships is demonstrated by CVSA, Cooperative HazMat Enforcement Program and MCSAP, which have brought together government and industry to improve safety. It is imperative to broaden the scope of existing partnerships and to include public interest groups.

ISSUE 2 VARIOUS GOVERNMENT ORGANIZATIONS LACK ACCESS TO INFORMATION NEEDED TO DIRECT AND MANAGE THEIR PROGRAMS.

Justification

Present data tends to be deficient, non-uniform or inaccurate, and present techniques to gather data need improvement. This results in difficulty with compiling, analyzing, and sharing data with responsible parties. Government leadership is essential to set necessary data standards and investigate alternatives for improved data gathering techniques.

**ISSUE 3 UNIFORMITY: UNIFORM COMMERCIAL VEHICLE LAWS,
REGULATIONS, ENFORCEMENT, AND ADJUDICATION
THROUGHOUT NORTH AMERICA WILL MAXIMIZE HIGHWAY
SAFETY**

- **FACILITATE COMPLIANCE**
- **LEVERAGE EFFECTIVENESS OF INDIVIDUAL PROGRAMS**
- **ELIMINATE DUPLICATION**
- **COST SAVINGS FOR INDUSTRY, GOVERNMENT AND
PRIVATE SECTOR**

Justification

Government has the responsibility for establishing and enforcing safety standards. Uniformity among government agencies facilitates compliance for drivers and the industry by eliminating conflicting requirements. Lack of uniformity results in enforcement delays, which may be overcome by increased speed and excess hours. Uniformity among government programs maximizes the effectiveness of their individual programs because it eliminates duplication and allows them to share information. Uniformity will result in cost savings by increasing efficiency for industry, private sector, and government programs.

**ISSUE 4 ENSURE ADEQUATE EDUCATION AND PUBLIC AWARENESS FOR
ALL DRIVERS, COMMERCIAL AND NON-COMMERCIAL.**

Justification

Accidents involving commercial motor vehicles are mostly caused by driver error and other human factors by both commercial and other MV drivers. Car drivers lack an understanding and appreciation for the problems, equipment capabilities, and situations commercial drivers must deal with. Some commercial drivers lack adequate skills and driving techniques. They also don't take into consideration drivers' lack of understanding as it relates to the operation of a CMV.

ISSUE 5 FUNDING

Justification

Historically, government funding (i.e., Highway Trust Fund and similar funding sources at state and local levels) has been the primary source of transportation system improvements and the correction of safety problems. There is a need to ensure adequate future funding to promote safety. Government has a leadership role in developing alternative funding sources.

ISSUE 6 REGULATORY REFORM & STREAMLINING OF GOVERNMENT PROCESSES, INCLUDING REORGANIZATION OF U.S. DOT

Justification

Government is responsible for the development of regulations that ensure the safe and efficient operation of transportation systems. We need to assure efficiency in regulatory efforts (i.e., sharing with other governments; avoiding contradictions and duplications, and eliminating unnecessary regulations) In reforming regulations, however, we need to ensure that needed regulations are not eliminated ("don't throw out the baby...."). Use sound science and common sense in developing regulations.

Currently there is duplication and inconsistency among levels of governments in developing regulations, standards, processes, etc. There is a large volume of regulations which imposes significant costs on industry and the public. The cost-effectiveness of all government regulations must be ensured.

ISSUE 7 PROMOTE, SUPPORT, AND ENSURE SAFETY IN THE DESIGN AND OPERATION OF TRANSPORTATION INFRASTRUCTURE.

Justification

Government sets highway design, safety, and operations standards, (e.g. lane widths and rest areas) as well as setting standards for other modes (e.g., mass transit). Government transportation programs need to work together to promote safety effectively. There is a need to focus on the whole transportation system. Analysis of safety and infrastructure data supports the need to look at the whole operating universe of all highway and other transportation users.

HIGHWAY SAFETY COMMUNITY

ISSUE 1 DATA

Justification

- Lack of data to support appropriate decisions relating to CMVs
- Inadequate collection of data on truck crashes
- Inadequate sharing of data
- Inability to link databases (medical, records, licensing, citations, etc.)
- Lack of easy access to data
- Lack of training for accident investigators
- Lack of emphasis on data collection training
- Little or no validation of data on fatalities (need for separate accident sampling studies)
- Lack of uniform data definitions, including uniform classification of trucks
- Inadequate collection of data on all vehicles (including passenger cars) involved in crashes
- Base of data too narrow (e.g., no data on injuries, particularly serious injuries)
- Lack of emphasis on importance of data collection and analysis
- Lack of adequate funding for data collection and analysis
- Lack of coordination between efforts to refine different databases
- Data on cost of CMV fatalities and injuries are not collected, not linked with other databases.
- Inadequate follow-up data on CMV crashes (e.g., no linkage to medical databases such as ambulance run reports and hospital discharge data)

ISSUE 2 FATIGUE

Justification

- Numerous studies have shown that driver fatigue is a significant factor in fatal crashes involving drivers of commercial vehicles. In a recent study, NTSB found that 40% of fatal crashes involving commercial drivers were a result of driver fatigue.
- The current system of delivering cargo from point A to point B contributes specifically to commercial driver stress and fatigue.
- Shippers
- Dispatchers
- Hours of Service
- Speed
- Driver Compensation
- Rest Areas
- Drivers' Physical Conditions
- Brokers
- Driver Motivation

ISSUE 3 SAFETY TECHNOLOGY

Justification

Existing and developing technology

- ▶ Monitoring systems:
- ▶ Drivers

Issue: fitness monitoring supplement to hours of service

Justification: fatigue research

- ▶ Vehicles

Issue: monitoring of status of safety systems, such as antilock brakes, lighting, etc.

Justification: studies show trucks with defects are twice as likely to be in crashes

- ▶ Operations

Issue: speed

Justification: NHTSA studies show speed to be a factor in 1/3 of fatal crashes

Issue: monitoring proximity of vehicles

Justification: OMC data show that for almost 2/3 of fatal multiple vehicle crashes, the point of impact is in front of truck

Issue: hours of service

Justification: fatigue research

Issue: inspection information, vehicle identification (such as weight) available from transporter

Justification: Need for continuous availability of inspection information

- ▶ Underride protection

Issue: approximately 190 deaths annually; technology available but not implemented

Justification: NHTSA crash testing shows available technology can reduce intrusion and injuries.

- Retrofitting of Existing Technology

Issue: vehicle conspicuity enhancements

Justification: NHTSA rule established for new vehicles, needs to be adopted by FHWA for older vehicles.

ISSUE 4 CDL DEFICIENCIES

Justification

It is recognized that the CDL process still allows unsafe and undesirable drivers to drive on our nation's highways. The following are some of the deficiencies identified by this group:

- Lack of unique identities
- Current CDL testing does not ensure a qualified driver
- Multiple licenses (some drivers still have them)
- Judicial and law enforcement
- Medically unqualified drivers are able to obtain CDLs
- Lack of timeliness by states in notifying CDLs of convictions
- Standard of training reduced to minimum level established by CDL testing
- Non-uniformity of fines and penalties
- No penalty for cumulative non-serious moving violations in some states
- Lack of uniformity of states' DMVs in complying with the minimum CDL compliance requirements
- Definition of CMV

ISSUE 5 EDUCATION AND TRAINING FOR CMV DRIVERS IS INADEQUATE.

Justification

- Driver training and education is a necessity
- No industry or government mandate
- Limited perception of value and benefits of training
- Industry climate (funding/driver shortages) not conducive to training
- Training to CDL test minimums reduces training
- CMV small vehicle drivers not even subject to CDL test minimums

HIGHWAY SAFETY RESEARCH

ISSUE 1 COMMERCIAL DRIVER FATIGUE RESEARCH

Justification

Fatigue should be a very high priority issue because it is probably the most important human factor in commercial motor vehicle crashes. There are multiple causes of fatigue inherent in existing operations, and immense accident and long-term medical effects. Drivers, dispatchers, trucking company management, and OMC all need more information about fatigue. Each group needs to know how the factors under their control affect the fatigue impairment risk. Simple predictive techniques or decision aids can and should be developed to permit the non-scientist to use scientifically sound information in making decisions about scheduling work and rest in commercial driving.

Furthermore, methods are emerging that could test the impact of fatigue on a specific driver at a given time. These tests could show when the driver may be performing below par. Development of such performance probes should be strongly encouraged.

Finally, methods of real-time monitoring of driving behavior offer promise of detecting fatigue impairment while driving. This is a technically challenging but potentially high-payoff area. Specific application and tests of these methods to commercial motor vehicle operation should be made.

The fatigue study nearing completion by OMC will offer much new data, but will not answer all the questions. This database should be further exploited by extracting more complete driver behavior and vehicle control data aimed at the decision-aiding concepts described above. Fatigue research should be extended to consider sleeper berth use, pickup-and-delivery operations, and the effects of cargo loading and unloading.

When dealing with driver fatigue, we must also consider long-term medical problems which occur in a high percentage of drivers at a relatively early age. We are looking at general morbidity factors which are probably indirect results of sustained stress factors they encounter. As we look to the future growth of commercial vehicle operations we must counteract driver fatigue so that a healthier driver force is available to meet the exponential growth of this industry.

ISSUE 2 WE NEED TO ORGANIZE WHAT WE KNOW ABOUT CRASHES

Justification

We know numerous risk factors for crashes:

- time on task
- time-of-day
- driver age
- road type
- traffic conditions
- truck characteristics

We don't know how to weigh these factors and put together all the information we now have.

Different groups understand parts of the truck crash problem (e.g., human factors researchers and carrier managers). We need a structure to combine their knowledge.

Overall goal is predictive models for how external conditions and driver work load factors affect risk of crashes.

If we had this structure, we could identify high risk conditions that warrant investigations into countermeasure.

And the industry could make more rational decisions about work force, routing, scheduling, etc.

ISSUE 3 LACK OF EXPOSURE DATA

Justification

There is currently no readily available data base with adequate truck exposure data for performing valid accident analyses. Such data are needed to compare accident rates among various truck configurations (e.g., semis vs. Tin trailers vs. LCV doubles vs. triples) operating on different classes of roadways (e.g., 2-lane vs. multi-lane, divided vs. undivided, rural vs. urban, etc.)

The exact exposure measure needed will depend on the research question. However, two basic measures which are needed for almost any analysis of truck accident rates include number of miles traveled by truck configuration and type of roadway. The need for these measures results from the fact that various truck configurations operate differently, and perform differently within various traffic volumes and vehicle mixes, and that various classes of roadways are designed differently from a geometrics standpoint, and controlled differently via signs, markings, and other traffic control devices.

Supplemental exposure measures may include other vehicle measures such as trailer length, cross weight, axle spacings, or cargo type. Driver measures may include age and experience, vehicle or fleet types, and commodities carried.

Current truck travel data at the desired levels noted above are either insufficient or nonexistent. A review of several national and state data bases was included in TRB Special Report 228, "Data Requirements for Monitoring Truck Safety." None of the data bases reviewed contained adequate truck travel data for conducting detailed truck safety studies. Recommendations were made regarding steps to be taken to improve truck travel data and the data elements that should be included.

**ISSUE 4 ON THE NEED FOR DATA COLLECTION ON PRE-COLLISION
EVENTS**

Justification

Until relatively recently, accident analysis has focused on injury prevention measures and crashworthiness issues. Accordingly, crash data files have historically been designed to address crashworthiness issues, collecting data on vehicle damage and injury severity. It has been argued that crashworthiness research is approaching its limits in terms of future advances to make significant impacts on traffic safety. The next big frontier for traffic safety lies in preventing the collision in the first place.

At the same time, there have been major advances in the technological capability represented by the whole area of Intelligent Transportation Systems, (ITS). Advances in sensing and data processing have made it feasible to outfit both the vehicle and highway with systems that may make it possible to identify incipient collision situations in time to lessen the severity of the collision or even to avoid it altogether. Currently, many technical solutions have been offered (e.g., advanced headway control, near-obstacle detection systems, smart braking systems, and even anti-lock braking systems) with the promise of collision avoidance. But these are solutions in search of a problem. While it is increasingly technically feasible to attempt collision avoidance, the data do not exist on pre-collision events which would help to identify the most productive targets for the technologies, or those points in the accident sequence where intervention might occur.

Accordingly, we have identified a need for data to support research on crash avoidance. This encompasses data on pre-collision events, including the pre-crash configuration of vehicles, their relative position and velocities, and the accident sequence. Such data will allow us to identify and sort through the major crash modes and thus identify the big targets for crash avoidance interventions. Characterizing the accident sequence, relative position of the vehicles, and other pertinent parameters will allow us to identify points in the accident sequence for intervention, and even to evaluate whether particular interventions are technically feasible. In sum, in order to realize traffic safety gains from collision avoidance, it is necessary to identify and evaluate the primary opportunities. Data on pre-collision configurations and the accident sequence are essential in this process.

ISSUE 5 NON-PUNITIVE COUNTERMEASURES

Justification

As long as we have accidents, we need to conduct research that seeks and defines proactive countermeasures that prevent accidents. Some of the research questions that must be asked are:

1. What are the risk factors upon which to base countermeasures design? e.g.,
 - A. Time of day?
 - B. Length of duty period?
 - C. Weather?
 - D. Traffic density? Etc.

2. What are the real-time sensors and feedback mechanism? e.g.,
 - A. In-cab fatigue monitors based on driver performance and physiology?
 - B. Rumble strips?
 - C. Headway detectors (radar)? Etc.

3. What are the pre-drive countermeasures?
 - A. Regular work/rest schedules?
 - B. Adequate sleep/nap periods and facilities?
 - C. Semi-automatic vehicle controls? Etc.

4. How do we keep the countermeasure data from being used punitively? e.g.,
 - A. Educate management and law enforcement that sleeping drivers in rest areas are preferred over accidents?
 - B. Allow off-duty drivers to sleep uninterrupted?
 - C. Educate management to avoid using fitness-for-duty test results as tools for driver selection or bonuses?
 - D. Pay drivers for taking appropriate naps? Etc.

5. Are the countermeasures cost effective? e.g.,
 - A. Who pays?
 - B. How do we measure benefits?
 - C. How do we measure costs?
 - D. Do specific countermeasures provide accident prevention with acceptable cost?

INTERNATIONAL

ISSUE 1 THE LACK OF ADEQUATE DRIVER TRAINING LEADS TO POOR SAFETY

Justification

Research indicates that the quality and level of commercial driver training correlates with the subsequent safety record of the driver.

- While there are a few highly regarded training programs, there is no comprehensive or uniform approach to commercial driver training to improve driver safety performance anywhere in North America, although some initiatives are underway.
- Focus group comments as well as collision data provided at this summit indicate that with the proper training, drivers increase their operating skills and their safe driving performance.

ISSUE 2 UNIFORMITY OF REGULATIONS AND PROCEDURES

Justification

There is a lack of uniformity within the three countries of North America in safety regulations and procedures in the areas of enforcement, driver safety standards, vehicle safety standards and operational safety standards. The resulting incompatibilities lead to non-compliance, a perception of inequity and a poor attitude toward safety.

- Uniformity narrows the field of learning for operators, carriers and enforcement officials and established carrier performance standards using the same criteria, thereby providing a level playing field for all jurisdictions.
- Simpler uniform programs like the CVSA out-of-service criteria programs, which increased international uniformity and improved highway safety, leads to a higher level of compliance among operators and carriers. Additionally, enforcement efforts and inspections are more efficient and equitable since carriers have come to suspect that they will be required to meet a higher level of training and international safety programs.

ISSUE 3 THE COMMERCIAL VEHICLE SIZE, WEIGHT, CONFIGURATION AND DESIGN IMPACTS HIGHWAY SAFETY.

Justification

- When sizes, weights, configurations, and designs exceed certain levels, safety can be adversely affected.
- Certain configurations, lower functional classification and design of roads can often adversely impact safety.
- Inconsistency in size and weight laws among jurisdictions can contribute to illegal operation.
- The lack of definitive accident data and performance based standards allows the continuation of marginal or acceptable commercial vehicle operations.

ISSUE 4 EFFECTIVE ENFORCEMENT AND SAFETY PERFORMANCE MEASURES CANNOT BE SECURED TRILATERALLY WITHOUT A TIMELY EXCHANGE OF ACCURATE, ACCESSIBLE DRIVER, VEHICLE AND MOTOR CARRIER DATA AMONG CANADA, THE U.S. AND MEXICO.

Justification

- To provide essential information (inspection, accident, licensing, etc.) to target drivers and carriers who pose safety risks.
- To deter use of fraudulent documents such as licenses and insurance certificates.
- To provide a foundation for the evaluation of enforcement measures and safety performance.
- To facilitate the development of ITS technologies through the use of common data elements.
- To facilitate the integration of data bases leading to the more efficient enforcement of safety, customs, and other agency requirements, while promoting expeditious traffic flow.

**ISSUE 5 TRILATERAL, SCIENTIFICALLY SUPPORTABLE, ENFORCEABLE
AND UNIFORM HOURS OF SERVICE NEED TO BE ESTABLISHED.**

Justification

- Data shows that fatigue contributes to fatal crashes. There is a need to establish a uniform standard to minimize crashes.
- A tri-lateral hours of service standard will facilitate the movement of goods and people in a safe environment.
- Uniform hours of service could enhance the use of technology to promote increased compliance and safety.

MANUFACTURERS AND SUPPLIERS

ISSUE 1 DEVELOPMENT AND DEPLOYMENT OF ADVANCED TECHNOLOGY SAFETY SYSTEMS

- DRIVER PERFORMANCE MONITORING
- COLLISION WARNING
- INCIDENT/CRASH RECORDING
- TRACTOR TRAILER POWERING AND SIGNALING
- ROLLOVER WARNING

Justification

There should be development of functional and performance requirements for these systems as well as driver interface/display characteristics that adhere to established human factors design principles.

The challenge is to integrate these systems with Intelligent Transportation Systems (ITS) and Commercial Vehicle Operations technologies since they will co-reside in the same physical space.

These technologies would help provide important crash and pre-crash information we all agree is badly needed. They will help make trucks better partners with other highway users.

ISSUE 2 SIZE AND WEIGHT POLICY ISSUES AS THEY RELATE TO VEHICLE DESIGN AND PERFORMANCE

Justification

Traditionally, size and weight standards have been established to protect and be compatible with the available highway and bridge infrastructure. Often there are unintended consequences relating to vehicle safety and operational performance. Examples include overall length limits which sacrifice cab space for cargo capacity and bridge formula effects on axle placement and steering and maneuverability. Future configurations must consider safety, operational performance, and infrastructure effects in concert.

Longer combination vehicles have special safety and operational performance characteristics which need to be considered. Performance based standards could be developed and applied to mitigate any negative performance aspects. Vehicle dynamics issues include braking, handling and stability with multiple articulated trailing units.

Incentive-based measures need to be considered alternatives to traditional mandates as productivity gains can more than offset technology costs and have proven acceptance in other countries. (Examples are weight allowances in Mexico and in some European countries for air suspensions. Also, Canada provides weight allowances for vehicles with more stable coupling devices.)

ISSUE 3 ADVANCED TECHNOLOGY BRAKE SYSTEMS

- **ELECTRONIC BRAKING SYSTEMS (EBS)**
- **BRAKE PERFORMANCE MONITORING**
- **RELIABILITY, DURABILITY, MAINTAINABILITY**
- **DISC BRAKES**
- **COMBINATION VEHICLE COMPATIBILITY**

Justification

Current heavy truck brake systems are too maintenance-sensitive for the harsh environment in which they operate. Problems with maintaining brake systems are still found far too often at roadside inspections. There are modern technological solutions to these problems; however, the motor carrier industry is slow to adapt to new technology.

Poor brake maintenance is a problem and technology advances should improve their safe operations. New brake technology will improve roadside inspections and the ability to verify compliance. Such items as electronic braking systems, electronic brake monitoring and disc brakes should be studied and promoted. The potential problems of combination vehicle compatibility need to be solved. These solutions will vastly improve brake performance, reliability, durability and maintainability. It should be emphasized that current antilock braking systems (ABS) technology is not a substitute for advanced brake technology. This technology will also enhance the braking capability of multiple trailer combinations. Government sponsored field demonstration programs for new braking technology should be implemented. Advanced brake technology could possibly be a trade off for improved vehicle productivity.

ISSUE 4 TRUCK AND BUS OCCUPANT PROTECTION

- **ADVANCED RESTRAINT TECHNOLOGY**
- **RESERVATION OF OCCUPANT SPACE**
- **FRIENDLY INTERIORS**
- **AIR SUPPORTED PROTECTIVE DEVICES**
- **BUS PASSENGER RETENTION**

Justification

Basic technology for improving occupant protection exists. Given the time spent on the road, truck and bus driving is an inherently dangerous occupation. The driver/driving team is frequently in a safety vulnerable environment. The target population is around 600 to 700 lives per year. Better protection will also reduce suffering and economic loss associated many serious injuries.

ISSUE 5 ADVANCED TECHNOLOGY STEERING AND SUSPENSION SYSTEMS

- **ELECTROHYDRAULIC STEERING**
- **STEER BY WIRE**
- **ADAPTIVE SUSPENSION SYSTEMS**

Justification

Improving the steering and suspension systems and reducing the likelihood of rollovers will improve the safety of operation for commercial motor vehicles (CMVs) especially tank trucks, longer combination vehicles, and buses. Near term improvements are possible by improving the rollover threshold particularly as it pertains to trailers. Improvements in these systems will provide the potential for integration with ITS collision avoidance technologies, improved maintainability; and increased stability and control. Advanced technology, steering and suspension systems will also provide the driver with the opportunity to react in a more effective and efficient manner when confronted with a variety of highway conditions.

PROFESSIONAL ASSOCIATIONS

ISSUE 1 REVISIT EXEMPTIONS

Justification

Federal uniform standards are seen as essential to ensure safety. Such standards promote compliance, level the playing field, and enhance enforcement. For various reasons, certain entities, including public entities, are exempt from such standards although they operate the same equipment and transport the same cargo as those entities that are subject to these standards. The risk presented by similar equipment and/or cargo in transportation cannot be distinguished by ownership, size of company, range of operation, or scope of business activity. Entities presenting similar risks should be treated the same in terms of safety and hazardous materials standards. DOT should revisit the appropriateness of each exemption from safety or hazardous materials requirements.

ISSUE 2 COORDINATION OF ASSOCIATIONS AND ORGANIZATIONS TO MAXIMIZE COMMUNICATIONS

Justification

Associations are a vital resource for the gathering and dissemination of information. Associations stand ready to assist DOT in reviewing policy changes, facilitate focus groups as requested, and provide a source for expertise and research. Associations are DOT's best conduit to the transportation industry.

ISSUE 3 INADEQUATE TRUCK PARKING AND REST FACILITIES

Justification

The Professional Associations group has identified the issues of inadequate availability of truck parking and rest facilities. We feel this is a significant factor effecting commercial vehicle safety. Space and time limitations of existing highway rest areas and the limitations of commercial truck stops to provide adequate parking facilities combine to create an almost impossible situation for truckers seeking to find a safe and secure place to park their rigs to obtain necessary and required rest. The problem is further exacerbated by government restrictions from rest areas of certain types of cargo (NIMBY)

The problem is particularly severe in the most heavily populated areas. These areas tend to demand a higher price for real-estate which limits the expansion of these types of facilities. We therefore feel it is incumbent on the state and federal governments to work together to develop the necessary facilities to correct the situation. The ultimate objective is to eliminate fatigue by providing the driver adequate opportunity to obtain rest.

ISSUE 4 PERFORMANCE-ORIENTED STANDARDS

Justification

To the extent possible and reasonable, performance criteria should be substituted for design criteria in the development of highway safety regulations and in statement of regulatory objectives.

In today's economy, operational flexibility is a mandate for all carriers of goods and people; customers, pick-up points, consignees and terminals -- even carrier ownership -- change on a daily basis.

Yet, safety regulation of the motor carrier community is bound to a rigid set of regulatory "do's and don'ts" many of which originated in the 1930s. Subsequent research in both engineering and the human factors disciplines has demonstrated that, in many cases, baseline performance criteria is preferable to "one size fits all" regulation. Marketplace flexibility should be matched by regulatory flexibility.

ISSUE 5 THE NEED FOR BETTER BRAKE SYSTEMS FOR TRUCKS AND BUSES--BRAKES THAT ARE MORE RELIABLE, EASIER TO MAINTAIN AND IMPROVE BRAKE PERFORMANCE.

Justification

According to FHWA and CVSA, brake problems are the largest cause of commercial vehicles being put out of service. Roadside safety inspections have consistently identified brake defect as a major problem- 50% to 60% of vehicles put out of service are because of brake defects. NHTSA has said "brake system performance could play a contributing role in approximately 1/3 of all heavy/medium truck/bus crashes."

The air and hydraulic braking systems used in today's trucks and buses are highly reliable. However, they have been improved over the years with incremental additional technologies that add to safety, but increase the complexity of maintaining and operating the vehicle. These technologies include automatic slack adjusters and recent requirements for anti-lock brakes.

The process should involve manufacturers, drivers, mechanics, associations, industry, the public, and government (both FHWA and NHTSA) in efforts to improve the reliability, maintainability, and performance of current systems. This effort should consider the best current technology components (e.g., automatic slack adjusters, long-stroke brake chambers and low deflection components) to create a system which requires little or no adjustment or maintenance. This effort should also consider performance standards for future braking systems, such as electronic braking systems.

ISSUE 6 THE NEED TO IMPROVE DOT'S SAFETY COMPLIANCE AND REVIEW PROCESS SO THAT THE "UNSAFE" CARRIERS, VEHICLES, AND DRIVERS, AND THOSE THAT VIOLATE THE REGULATIONS ARE IDENTIFIED AND PROPERLY TARGETED FOR A COMPLIANCE REVIEW, AND THOSE MOTOR CARRIERS WITH SOUND COMPLIANCE PROGRAMS ARE NOT UNNECESSARILY TARGETED.

Justification

The current selection process is flawed. Many "unsafe" carriers go undetected because they are not captured by the current selection process. Fifty percent of the carriers on the road don't have a rating and have never been reviewed. If DOT is going to have a rating system that is meaningful and useable, every carrier must be rated and treated periodically. If every carrier cannot be rated, then DOT should develop a new approach to its safety compliance program.

SHIPPERS AND CARRIERS

ISSUE 1 FATIGUE

URGENT NEED FOR FACT BASED INFORMATION CREATED BY FATIGUE RESEARCH AND APPLICATION OF RESEARCH FINDINGS FROM ALL STUDIES IN REGULATORY CONSIDERATIONS

Justification

Inconclusive and conflicting evidence/information. Conclusions are subjective and contentious. If continued problem/questions - use results to advance further research. Complete fatigue studies and determine results.

ISSUE 2 TRAINING/EDUCATION

NEED FOR ALL STATES TO REQUIRE BASIC DRIVER TRAINING INCLUDING HOW TO SHARE THE ROAD WITH A COMMERCIAL MOTOR VEHICLE IN HIGH SCHOOL OR A CERTIFIED DRIVER TRAINING SCHOOL PRIOR TO ISSUING A DRIVER'S LICENSE. THERE SHOULD BE RETRAINING (OR A "REFRESHER COURSE") AFTER A SPECIFIED PERIOD OF TIME. THE SAME REQUIREMENTS SHOULD APPLY TO CDL'S AS WELL.

Justification

As a lead in to the Justification, we quote from the results of the OMC focus groups:

All three categories of participants regarded automobile drivers as a far more frequent cause of highway safety problems involving trucks than the driving environment, vehicle conditions, or truck drivers.

All groups agree that car drivers know very little about trucks and buses, such as the turning radius they need, their blind spots, the stopping distances they require, and the time it takes for them to accelerate or decelerate.

As a long term solution they recommend better training of new drivers and periodic re-testing to qualify for license renewals.

19 percent of the passenger vehicle drivers tested positive for some amount of alcohol. Truck drivers tested positive in only 3 percent of these crashes.

ISSUE 3 MANDATORY EXCHANGE OF DRIVER INFORMATION

NEED FOR MANDATORY EXCHANGE OF DRIVER INFORMATION WITHOUT RECOURSE

Justification

To help identify unsafe drivers.

To end current conflicts between other regulatory agencies and OMC requirements retaining OMC as the lead of all related motor carrier safety issues.

To get more timely, complete, and accurate information about driver applicants that can be used to assess qualifications of the applicant.

ISSUE 4 MOTOR CARRIER RELATED SAFETY TECHNOLOGY

DEVELOP NEW AND USE EXISTING TECHNOLOGY TO IMPROVE MOTOR CARRIER SAFETY.

Justification

In this age of modern technology all systems that can be developed to help ensure motor carrier safety should be considered.

The Office of Motor Carriers already has a mission statement, in part, to promote technological and operational advancements to support an efficient, economical and safe transportation system.

Some areas already under consideration (and we support) include:

- biometric identifier
- electronic location system and logging
- touch-sensitive steering wheel to ensure alertness
- intelligent highways
- lactic acid wrist watch to measure fatigue

ISSUE 5 INCREASED UNIFORMITY

NEED FOR INCREASED UNIFORMITY IN ASSESSMENT OF COMPANY COMPLIANCE PROTOCOLS, IN TRAINING, ENFORCEMENT AND FINING DEALING WITH MOTOR CARRIER REGULATIONS.

SPECIFICALLY, UNIFORMITY NEEDS TO BE ACHIEVED IN MOTOR CARRIER COMPLIANCE REVIEWS, EQUIPMENT AND DRIVER INSPECTION RELATED TO ROADSIDE INSPECTIONS. IN ADDITION, WHEN CARRIER COMPLIANCE REVIEWS ARE CONDUCTED, THE REVIEW SHOULD BE BASED ON RANDOMLY SELECTED RECORDS. WHEN FINES ARE APPLIED IN AREAS OF NON-COMPLIANCE, THE UNIFORM FINE SCHEDULE ESTABLISHED BY CVSA SHOULD BE AGGRESSIVELY PROMOTED AND USED BY THE JUDICIARY.

Justification

Concept of highway safety to achieve maximum results requires the trust and confidence of the regulated community to engender a sense of equity.

Limited amount of resources for government related compliance activities requires voluntary compliance. Voluntary compliance is vastly improved when regulations are uniformly developed and applied .

SAFETY MANAGEMENT SYSTEMS

ISSUE 1 HIGHWAY SAFETY INFORMATION SYSTEMS THAT EXIST TODAY WERE DEVELOPED WITHOUT AN OVERRIDING PLAN FOR THE TOTAL (INTER/INTRA) COMMERCIAL MOTOR VEHICLE, CARRIERS, AND DRIVERS ARCHITECTURE; THEY ARE CHARACTERIZED BY LACK OF UNIFORMITY AND CONSISTENCY.

Justification

Data in one system should be open and accessible to all appropriate users. There is a need for positive uniform identification of drivers, vehicles, and fleets. Therefore, better coordination, planning and development is needed to unify systems and reduce redundant development. The information data exchange is achieved via common data definitions, message formats and communication protocols. These enable development of interoperable systems by interdependent parties.

ISSUE 2 THE ISTE A SAFETY MANAGEMENT SYSTEM IS A TOOL FOR SETTING PRIORITIES AND ALLOCATING SCARCE RESOURCES. THE PROFILE OF MOTOR CARRIER SAFETY NEEDS MUST BE RAISED IN SMS DECISION-MAKING. MOTOR CARRIER SAFETY IMPROVEMENTS ARE OFTEN NOT CONSIDERED, EITHER BECAUSE OF COST (E.G., GEOMETRIC IMPROVEMENTS, ADDITIONAL REST AREAS) OR LACK OF AWARENESS OF THE PROBLEMS OR POTENTIAL BENEFITS OF SOLUTIONS. HOWEVER, THE COSTS ASSOCIATED WITH MOTOR CARRIER CRASHES MAY BE SO HIGH THAT THESE IMPROVEMENTS WILL HAVE A POSITIVE BENEFIT-COST.

Justification

To achieve positive benefits, motor carrier safety needs must be included in the SMS process:

- Knowledge of MC safety needs can be used to leverage solutions in the context of larger programs or the design of highway capital projects (e.g., add a pullout to a highway reconstruction).

- Safety highway capital investment choices can be skewed by too great a focus on fatal crashes, while treating other locations may have greater benefits.
- Capturing all costs of MC crashes (including not only injuries and property damage, but also congestion and delay) demonstrate the true benefits of crash prevention programs and projects.

ISSUE 3 MOTOR CARRIER SAFETY ACTIVITIES COVER A BROAD SPECTRUM WITH NUMEROUS PUBLIC AND PRIVATE ORGANIZATIONS INVOLVED AND INDIVIDUAL INITIATIVES WITH A COMMON GOAL. IDENTIFYING INDIVIDUALS AND ORGANIZATIONS, COMMUNICATING AND COORDINATING AMONG THEM IS A CONTINUOUSLY EVOLVING PROCESS. THIS PROCESS PROVIDES A FORUM FOR IDENTIFYING EMERGING ISSUES, A MECHANISM FOR BETTER PROBLEM SOLVING, AND A MEANS TO FOCUS RESEARCH TO INCREASE THE RETURN ON OUR INVESTMENTS.

Justification

Coordination and communication among all players leads to sharing resources and avoiding duplication. We can do more together than we can do alone. Motor carrier safety activities cannot be effective in isolation. They must be pursued through strong coalitions in a systematic way. Coordination and communication of safety initiatives, to include motor carrier safety, is an integral part of an effective safety management systems.

ISSUE 4 DEVELOP COMPREHENSIVE NATIONAL ON-GOING MARKETING CAMPAIGN FOR MOTOR CARRIER SAFETY; EXPAND AND ENHANCE MOTOR CARRIER PUBLIC INFORMATION EDUCATION EFFORTS.

- EDUCATE PUBLIC IN GENERAL ABOUT TECHNIQUES NEEDED TO SHARE THE ROAD SAFETY WITH OVER-SIZED VEHICLES.
- EDUCATE PUBLIC REGARDING MAGNITUDE OF SAFETY PROBLEMS INVOLVING COMMERCIAL MOTOR VEHICLES.
- IDENTIFY, EXPAND, AND FULLY UTILIZE DELIVERY SYSTEMS TO REACH TARGET AUDIENCES (E.G., HIGH SCHOOLS TO REACH YOUNG DRIVERS)

Justification

Most motorists are readily intimidated by large trucks, buses, and over-sized vehicles. They are unaware of the driving techniques needed to share the road safely. According to the FHWA and expressed in the focus group results, as much as 85% of the traffic crashes are the result of driver error. Driver behavior must be improved if crash experience is to be reduced.

According to the National Highway Traffic Safety Administration, the number of fatal traffic crashes edged up slightly in 1993, but the overall fatality rate remained the same. Trucks over 10,000 pounds were involved in 4,320 fatal crashes in 1993, up from 4,035 in 1992. These crashes killed 4,849 people up from 4,462 in 1992. Further review of motor vehicle crash data indicates that almost two-thirds of the crashes involving trucks are caused by the driver of the passenger vehicles.

ISSUE 5

THE PUBLIC DEMANDS A CRASH-FREE HIGHWAY SYSTEM. A CRASH-FREE HIGHWAY SYSTEM IS DEPENDENT UPON EFFECTIVE LICENSING, TRAFFIC ENFORCEMENT, AND ADJUDICATION OF ALL HIGHWAY USER VIOLATIONS.

Justification

- An effective, crash-free highway system will improve the public's sense of safety on the highway.
- Well trained law enforcement personnel at all levels (local, county, and state) will result in more uniform traffic enforcement of all highway users (both commercial and non-commercial).
- A well informed/trained judiciary will more fully appreciate the gravity of CMV related violations (whether CV or passenger vehicle) and will assess appropriate sanctions.
- An effective licensing system will improve the reporting of conviction data from the courts to the driver licensing agency in that state and between individual state licensing agencies.

APPENDIX C
OVERVIEW OF MOTOR CARRIERS'
CRASH EXPERIENCE

OVERVIEW OF MOTOR CARRIERS CRASH EXPERIENCE

The crash experience of motor carriers provides us with many insights into what must be done to maintain the safety of this industry. To better understand the major safety issues affecting motor carriers, fatal crash data and information describing motor carrier performance available from the Federal Highway Administration were examined. The results of these analyses provide an overall perspective of the safety of motor carrier operations and the factors which may contribute to their crash experience. They are being used by participants in the National Truck and Bus Safety Summit to develop ideas for improving the safety of the motor carrier industry.

The number of fatal crashes involving motor carriers has improved 40% in the last decade.

As an industry, motor carriers are safe users of our transportation system. In fact, today, truck and bus transportation is as safe as it has been in the past ten years. Overall, the number of fatal crashes involving these vehicles has declined from 4.1 per 100 million miles traveled in 1984 to an estimated 2.6 in 1993, an improvement of almost 40 percent. In fact, today, fatalities from crashes involving large vehicles represent only about ten percent of the 40,115 traffic related fatalities that occurred in 1993.

Almost all fatal crashes involving motor carriers result from multi-vehicle crashes.

Unlike the fatal crash experience of passenger vehicles, 84 percent of fatal crashes involving large trucks or buses in 1993 were the result of multi-vehicle crashes. This phenomenon is largely a consequence of the large difference in size between a truck or bus and the passenger vehicle with which it collides. A typical fully loaded large truck can weigh 80,000 lbs. or more, compared with about 3,000 lbs. for a passenger vehicle. This difference in weight presents, perhaps, the greatest challenge for our efforts to improve safety. If we are to dramatically improve motor carrier safety, we must prevent these crashes from occurring.

Large trucks dominate the fatal crash statistics.

Almost three quarters of the large vehicles involved in fatal motor carrier crashes in 1993 were large articulated trucks (trucks pulling trailers). Only three percent of these fatal crashes involved buses.

In fatal crashes involving a passenger vehicle and a truck, passenger vehicle drivers are more likely to be cited by police.

Although fatal crash data suggests that both the truck and passenger vehicle drivers contribute to the occurrence of these crashes, passenger vehicle drivers are almost three times more likely than truck drivers to be cited for failing to yield the right of way. About 14 percent of passenger vehicle drivers involved in fatal car/truck crashes in 1993 were legally intoxicated and only 45 percent were wearing their safety belts.

Forty percent of truck driver fatalities in single vehicle fatal crashes result from ejection.

This statistic suggests that safety belt use is relatively low among truck drivers. Further, while alcohol use among truck drivers involved in fatal crashes is extremely low (1.7 percent in 1993), truck drivers involved in single vehicle fatal crashes are more likely to be intoxicated than those involved in multi-vehicle crashes. Police also report that reckless behavior by the trucker is a factor in about half of the single vehicle crashes. Perhaps most interesting is that almost half (48 percent) of all single vehicle fatal crashes involving large trucks are pedestrian crashes.

At the Truck and Bus Safety Summit, ten leadership groups having unique perspectives on motor carrier safety will be using these data and other information to develop ideas for improving safety in partnership with one another. Constituencies comprising these leadership groups include:

Drivers
Enforcement and Legal Profession
Highway Safety Community
International Representatives
Safety Management Systems

Shippers and Carriers
Manufacturers and Suppliers
Government Organizations
Professional Associations
Highway Safety Research

APPENDIX D
FOCUS GROUP RESULTS

FOCUS GROUP RESULTS

Purpose and Method

During December 1994, 18 two-hour focus groups were conducted to obtain information about highway safety issues relating to commercial motor carriers (trucks and buses). The study was developed by Global Exchange, Inc. at the request of the Federal Highway Administration Office of Motor Carriers (OMC), primarily to identify issues for consideration at the Truck and Bus Safety Summit to be held in March 1995. This meeting was prompted in part by the fact that fatalities in crashes involving heavy trucks increased last year after a steady decline in the number of fatal crashes involving trucks over the last ten years.

Focus groups are structured discussions that typically involve eight to ten people. In this particular study, participants in the groups were asked to describe their concerns about highway safety, then to discuss in detail a number of specific questions regarding commercial and non-commercial drivers, the driving environment and roadway, vehicle-related hazards, and possible ways to make travel safer.

The sessions were conducted with representatives of three populations that have an interest in the safety of commercial vehicles: commercial drivers (holders of CDLs), police officers who deal at least in part with traffic enforcement, and the general public or non-commercial drivers (adults who drive passenger cars, light trucks, etc.). Commercial drivers are directly affected by OMC policies and regulations, and have a large stake in maintaining both their livelihood and a reasonably safe working environment. Police often are directly involved in the enforcement of laws governing commercial vehicles (as well as traffic in general), and many have duties which include vehicle inspections and accident investigations. The general driving public necessarily interacts with various kinds of commercial vehicles on highways and city streets, and therefore can be a cause or a victim of collisions involving freight or passenger carriers.

The sites for the groups were located in three regions of the country: the Southeast (Atlanta), the Midwest (Kansas City), and the Northwest (Portland). Of the six groups conducted in each city, two were comprised of commercial drivers, two of police officers, and two of drivers of passenger vehicles. A total of 60 truck and bus drivers, 39 police officers, and 58 automobile drivers participated in the study. All three kinds of groups had both men and women, considerable variation in terms of age and education, and some representation of ethnic minorities.

The commercial and non-commercial drivers were recruited by research firms in the three cities using specifications developed by Global Exchange, Inc. and the Office of Motor Carriers. The firms used their own databases and various other sources to identify possible candidates for the groups, who were screened by telephone in advance of the sessions. All participants in these two categories were

Appendix D: Focus Group Results

offered a cash payment as an incentive to take part in the study. The police were recruited through letters from the OMC and calls from Global Exchange staff to various departments. No officers were paid for participating, as the sessions were held during their normal duty hours.

As in all studies of this kind, the results reflect the opinions and attitudes of a limited number of people, and therefore should be regarded as suggestive rather than definitive. The research is not intended to be quantitative or to provide a probability sample of the various populations from which the participants were selected.

Driver Error

All three groups reported that driver error is the most important cause of safety problems. They believe that passenger car drivers, rather than commercial drivers, are responsible for most car/truck collisions and that most collisions could be avoided if car drivers were more knowledgeable and cautious. Although the groups regarded commercial drivers as far more knowledgeable than car drivers, all groups said that there is a need to upgrade the CDL through longer training, certification of instructors, higher performance standards, and periodic re-testing.

Perceptions of Commercial Drivers and Car Drivers

Most passenger car drivers have considerable respect for the skills and training of professional truck drivers. Automobile drivers tend to like truckers but dislike trucks. They resent the fact that large vehicles obscure their view of the road, and feel intimidated by the sheer size and weight and speed of the trucks. Commercial drivers resent car drivers who commit errors that create a hazard for large vehicles and generally believe that "four-wheelers" mistakes are due to ignorance of the capabilities and limitations of large vehicles.

Police officers share the public's view of commercial drivers as superior to car drivers in terms of safe driving, skills, and cooperativeness on the road. This clashes with the view of commercial drivers who say that police often hold them responsible for car/truck collisions that are not their fault.

Driver Impairment

All three categories of participants believe that impairment from alcohol or other drug use is a significant problem with regard to drivers of passenger cars, but occurs rarely among commercial drivers. However, all three groups also say that economic pressures lead many truckers to drive while fatigued, and this is regarded as a potential hazard.

Perceived fault in car/truck collisions

All groups agree that car drivers know very little about trucks and buses, such as the turning radius they need, their blind spots, the stopping distances they require, and the time it takes for them to accelerate or decelerate. Truck drivers, car drivers, and police believe that this ignorance accounts in large part for the most frequent collisions between trucks and cars, which they say are usually caused by car drivers driving into trucks' turning lanes or cutting in front of trucks too closely. (Truck drivers say that although they are seldom at fault in such crashes, they are routinely blamed by car drivers and the police.)

As a long-term solution they recommend better training of new drivers and periodic re-testing to qualify for license renewals. In the near term, they see a need for public education programs of all kinds to inform current drivers about ways to increase their safety when sharing the road with large vehicles.

Views of buses

Very few people express any concern about buses in relation to safety. Some note that inter-city buses often speed on the highway, but the drivers are generally regarded as competent and careful. Most comments about city bus drivers are unrelated to safety. Special concerns are expressed about school bus drivers, who are seen as more likely than others to receive insufficient training and monitoring.

The driving environment

Some of the actions proposed to improve safety regarding commercial vehicles deal with the characteristics of roadways, such as:

- increasing the visibility of lane markings and pavement edges
- providing wider shoulders and more rest stops that can accommodate large trucks
- providing more space for large vehicles to go through construction zones
- banking the turns on access ramps
- eliminating left-side entrances and exits on highways
- giving drivers clearer guidance on how and where to merge when a lane ends
- placing signs so as to give earlier notice of upcoming exits or lane changes

Vehicle-related hazards

Among the hazards identified as related to commercial vehicles are spray and rocks thrown up by tires, loads that are uncovered or unbalanced or unsecured, debris from recapped tires,

double or triple trailers that are hard to control, taillights that are too small or too dirty to be seen, and the lack of rear bumpers on trucks.

A hazard related to passenger vehicles, according to truck drivers, is that cars are often hard to see, especially when weather reduces visibility.

Vehicle-related suggestions to alleviate some of the problems include:

- installing closed-circuit TV on large vehicles to cover blind spots
- placing large reflectors or flashing lights halfway along the sides of trailers (rather than only on the end)
- requiring all vehicles to have headlights on whenever wipers are in use (or at all times)
- prohibiting or limiting the use of recapped tires
- banning triples
- increasing enforcement and penalties for load violations (uncovered, overweight, etc.)
- replacing the common sign "This vehicle makes wide turns" with one that car drivers will understand better (possibly "This vehicle needs two lanes to turn, so please stay back")

Drivers' handling of freight

Many truck drivers say that if they want to keep their jobs, they have to help load or unload freight—and then have to misrepresent the hours spent in loading or unloading as rest time in their log books. This presents a misleading picture of their working conditions, and the circumstances tend to undermine safety by producing drivers who are tired, resentful, and in a hurry. They feel that companies and shippers should not expect or require drivers to handle freight.

Delivery schedules and log books

Many truck and bus drivers feel pressured by their companies to drive long hours or exceed speed limits. They say that log books are frequently falsified, sometimes under pressure from companies. Many drivers and police share the view that log books are not to be taken seriously.

Regulations

Many truck and bus drivers object to regulations that they regard as unworkable or out-of-date, and particularly to laws that they feel increase their risk of having a collision. Examples are lower speed limits for commercial vehicles (which, when observed, require frequent lane changes by other vehicles); lane restrictions which require the largest and least-maneuverable vehicles to stay in the right lane where cars entering or leaving the roadway cause the most frequent adjustments in speed; and certain rules governing truck configurations. Commercial drivers also object to the regulation governing hours of rest and to other rules that they regard as inappropriate. Many recommend updating the requirements regarding rest and log books to take account of modern roadway and vehicle characteristics. They also feel that the rationale for various regulations should be made clearer.

Vehicle inspections

Many commercial truck drivers believe that inspections at the state and local levels are frequently conducted to generate revenue from fines rather than to improve safety, and they are troubled by what they say are variations from place to place in the way violations are defined. For these reasons many drivers say they would rather have their vehicles inspected by Federal officials than by state or local officials.

Some police say that vehicles should be inspected more often, and that penalties for violations should be increased. This applies particularly to vehicles with uncovered loads that are potentially hazardous (e.g., gravel, sand, crushed autos), which officers feel should be impounded or ruled out-of-service rather than merely fined.

Weigh stations

Commercial drivers are concerned about the fact that waiting lines at weigh stations sometimes extend into an active roadway, posing an obvious risk to the drivers in line as well as to oncoming traffic. They recommend that weigh stations be located off the road, and that those now located in median strips be closed.

Enforcement

Police officers express strong concerns about inadequate funds for equipment and personnel, pressure in some departments to limit citations, and lack of training in how to conduct truck inspections. They also regard many penalties as too slight to deter violations, but some officers note that making penalties too severe can increase court cases and result in fewer convictions.

Appendix D: Focus Group Results

Some car drivers say it might be helpful to have an 800 number that motorists could call to report unsafe driving or violations of laws by commercial vehicles.

Company size and safety

In the view of many police officers and passenger car drivers, large trucking companies are more likely than small independents to hire capable drivers, provide adequate driver training, maintain vehicles properly, and arrange trip schedules that do not require drivers to work excessive hours.

Views regarding the Office of Motor Carriers

Few commercial drivers, police officers, or passenger car drivers have heard of the FHWA Office of Motor Carriers. Although they have no clear picture of the agency's mission, all three categories of participants are able to list numerous actions (noted throughout the report and this summary) that they feel could be taken by this agency or others to improve highway safety. One general suggestion is that OMC track the use of innovative policies or procedures throughout the country, identify those that seem most promising, and encourage others to try them.

APPENDIX E
LIST OF PARTICIPANTS

List of Summit Attendees

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Number of Contacts: 207

Nominee	Affiliation	Leadership Group
Alder, Joseph	National Head Injury Survivor Council	Highway Safety Community
Badger, Joseph		Highway Safety Research Community
Ballas, Joseph	COHMED	Highway Safety Community
Barnes, Frederick		Drivers
Beaton, Glen	Transportation and Public Works	International
Bedwell, Carole	California Dept. of Motor Vehicles	International
Bell, Uly	Roadway Express	Drivers
Bergoffen, Gene	National Private Truck Council	Safety Management Systems
Besse, Retta	OMC	Highway Safety Community
Blower, Daniel	Center for National Truck Statistics	Highway Safety Research Community
Boerner, Thomas	Minnesota Dept. of Public Safety	Safety Management Systems

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Nominee	Affiliation	Leadership Group
Bontz, Rita	Independent Truckers & Drivers Assn.	Professional Associations
Brooks, Bob	Public Service Cmsn of West Virginia	Enforcement/Legal
Bryant, Sue	Texas Dept. of Transportation	Safety Management Systems
Bufe, Noel	The Traffic Institute	Professional Associations
Burkert, Jack	Lancer Insurance	Highway Safety Community
Burnham, Archie	ABA Engineers	Safety Management Systems
Buschjost, Larry	Missouri State Highway Patrol	Enforcement/Legal
Byrd, LaMont	International Brotherhood of Teamsters	Drivers
Calvin, Michael	AAMVA	Highway Safety Community
Campbell, Kenneth	Center for National Truck Statistics	Highway Safety Research Community
Campbell, Stephen	American Trucking Associations	Professional Associations

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Number of Contacts: 207

Nominee	Affiliation	Leadership Group
Carr, Richard	Montgomery Tank Lines, Inc.	Shippers/Carriers
Chamberlain, John	Giant Food, Inc.	Drivers
Christensen, James	Georgia Pacific Corporation	Shippers/Carriers
Clarke, Robert	NHTSA	Manufacturers/Suppliers
Claunch, Paul	Arkansas Highway Police	Enforcement/Legal
Claybrook, Joan	Public Citizen	Highway Safety Community
Cloutier, Jean-Claude	Dossier Transporteurs	International
Collins, John	American Trucking Associations	Enforcement/Legal
Coltrane, Don	Yellow Freight System	Drivers
Conger, John	NAGHSR	Highway Safety Community
Cook, Doug	Yellow Freight System, Inc.	Shippers/Carriers

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Cotton, Major	Maryland State Police	Enforcement/Legal
Coyle, Bill	CECO Entry Systems	Shippers/Carriers
Crowe, Eddie	Penn State University	Highway Safety Research Community
Culpepper, Thomas	American Automobile Association	Highway Safety Community
Daecher, Carmen	Pennoni Associates, Inc.	Highway Safety Community
Darr, Linda	American Trucking Associations	International
Davis, Jeff	Jet Express, Inc.	Shippers/Carriers
Davis, Ritchie	Michigan Truck Safety Commission	Highway Safety Community
Davis, Robert	OMC	Highway Safety Research Community
Dawson, Donald	International Brotherhood of Teamsters	Highway Safety Research Community
DeBoard, Lee	Independent Driver	Drivers

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Nominee	Affiliation	Leadership Group
Desch, Ron	Kansas Highway Patrol	Enforcement/Legal
DeWitt, Ralph	Commercial Vehicle Enforcement Office	government organizations
Dinges, David	School of Medicine	Highway Safety Research Community
Donscheski, Doug	Nebraska CVSA Data Cmte	Government Organizations
Doyle, Gary	Na'l Law Cntr--Inter-American Free Trade	International
Driscoll, Robert	OOIDA	Drivers
Durbrow, Bruce		Highway Safety Community
Echols, Thomas	OOIDA	Drivers
Emrick, Diane	Georgia Motor Trucking Association	Safety Management Systems
Eschmann, Gerard	United Van Lines, Inc.	Shippers/Carriers
Esler, Robert	OOIDA--Michigan	Drivers

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Nominee	Affiliation	Leadership Group
Farrell, Robert	National Automobile Transporters Assn.	Shippers/Carriers
Feazell, D	OMC	Safety Management Systems
Finkel, Karen	National School Transp. Assn.	Professional Associations
Fiste, William	Commercial Vehicle Safety Alliance	Professional Associations
Forman, Robert	American Bus Association	Professional Associations
Fox, Arthur	Kator, Scott, & Heller	Drivers
Freund, Debbie	OMC	Highway Safety Research Community
Gaillard, Bernard	Interstate Commerce Commission	International
Gainer, Terrance	Illinois State Police	Enforcement/Legal
Gayle, Steven	Binghamton Metro Transp. Study	Safety Management Systems
Gemma, Tony	Roadway Express, Inc.	Drivers

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Nominee	Affiliation	Leadership Group
Giermanski, James	Division of International Trade	International
Gillan, Jacqueline	Advocates for Highway & Auto Safety	Highway Safety Community
Goleman, Barry	AAMVAnet, Inc.	Safety Management Systems
Gould, Stephen	Pepperidge Farm, Inc.	Shippers/Carriers
Gregory, Darrell	OMC	Enforcement/Legal
Griffin, Gene	Upper Great Plains Transportation Institute	Highway Safety Research Community
Grimm, John	OMC	Manufacturers/Suppliers
Grush, Ernest	Ford Motor Company	Manufacturers/Suppliers
Gudenkauf, Kenneth	Kansas DOT	Government Organizations
Hamilton, Arthur	FHWA	Government Organizations
Harkey, David	University of North Carolina	Highway Safety Research Community

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Nominee	Affiliation	Leadership Group
Harris, Donald	OMC	Shippers/Carriers
Harsha, Barbara	NAGHSR	Highway Safety Community
Harvison, Cliff	Nat'l Tank Truck Carriers	Professional Associations
Havelaar, Ronald	OMC	Enforcement/Legal
Henry, Paul	Oregon Public Utility Commission	Enforcement/Legal
Herndon, George	Florida DOT	Government Organizations
Herster, William	OMC	Highway Safety Community
Hilton, Cynthia	Assn. of Waste HazMaterials Transporters	Professional Associations
Hoemann, Warren	Yellow Corporation	Enforcement/Legal
Hopps, David	Ryder Truck Rental, Inc.	Shippers/Carriers
House, Milton	Transport Canada	International

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Householder, Linda	Professional Drivers of America, Inc.	Drivers
Hoyt, Tim	Nationwide Insurance Enterprise	Highway Safety Community
Hugel, David	AAMVA	Professional Associations
Hughes, Gary	Arizona Dept. of Public Safety	Enforcement/Legal
Hughes, Gerald	Roadway Services, Inc.	Shippers/Carriers
Izer, Daphne	Parents Against Tired Truckers	Highway Safety Community
Jain, Prakash	Rockwell International	Manufacturers/Suppliers
Jennings, Supt	IACP Division of State & Provincial Police	Enforcement/Legal
Jensen, William	OMC	Professional Associations
Johnston, Jim	OOIDA	Professional Associations
Johnston, Paul	Midland-Grau Heavy Duty Systems	Manufacturers/Suppliers

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Number of Contacts: 207

Nominee	Affiliation	Leadership Group
Jones, Ruth	OODA	Drivers
Karlsson, Leif	VOLVO-GM Heavy Truck	Manufacturers/Suppliers
Kasperek, Robert	Assn. of Recovering Truckers, Inc	Drivers
Kelleher, Robert	OMC	International
Kindya, Bill	USDA	Government Organizations
Kolstad, Jim	VORAD, Incorporated	Manufacturers/Suppliers
Kozlowski, Thomas	OMC	International
Krall, Farrel	Navistar Internat'l Trans. Corp.	Manufacturers/Suppliers
Kundu, Jai	ATA Safety Management Council	Safety Management Systems
Kynaston, Edward	PTDIA	Highway Safety Community
Lammlein, Steven	Personnel Decision Research Institute	Highway Safety Research Community

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Number of Contacts: 207

Nominee	Affiliation	Leadership Group
Leese, Gail	PACCAR Inc	Manufacturers/Suppliers
Levine, Ronald	Nevada Highway Patrol	Enforcement/Legal
Lindgren, Norm	Utah Dept. of Transportation	Safety Management Systems
Littler, Charles	Motor Coach Industries	Manufacturers/Suppliers
Loveday, Paul	Jefferson Pacific	Shippers/Carriers
Magby, Clinton	OMC	Enforcement/Legal
Malinowski, Maureen	Assn. for Advancement of Auto. Medicine	Highway Safety Research Community
Markison, Marlene	NHTSA--Regional Operations	Safety Management Systems
Marson, David	Alberta Trucking Indust. Safety Assn.	International
Martin, David	OMC	International
Mayer, David	NTSB	Government Organizations

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Nominee	Affiliation	Leadership Group
McCauley, James	OMC	Safety Management Systems
McGraw, Federick	OMC	Safety Management Systems
McPherson, Norman	NHTSA	Government Organizations
Mears, Sandra	Department of Revenue	Enforcement/Legal
Miller, James	Evaluation Systems, Inc.	Highway Safety Research Community
Mills, Maj	Texas Department of Public Safety	Enforcement/Legal
Minor, Larry	OMC	Manufacturers/Suppliers
Mitchell, Debra	OMC	Safety Management Systems
Mittler, Merrill	Scripps Clinic and Research Foundation	Highway Safety Research Community
Montellione, Anthony	5th Municipal District Ct. of Cooke Cnty	Enforcement/Legal
Morris, Joseph	Transportation Research Board	Highway Safety Research Community

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Nominee	Affiliation	Leadership Group
Neff, Larry	FHWA	Government Organizations
Nicholson, Robert	Consultant	Drivers
Oesch, Stephen	Insurance Institute for Highway Safety	Highway Safety Community
Osborn, Jon	Great West Casualty Company	Highway Safety Community
Osiecki, David	FHWA OMC	Shippers/Carriers
O'Connell, Michael	Collier, Shannon, Rill & Scott	Enforcement/Legal
Peluso, Randy	Can. Owner Operator Drivers Assoc.	International
Pena, The	U.S. Department of Transportation	Speaker
Peterson, Bob	International Brotherhood of Teamsters	Drivers
Petty, Susan	OMC	Government Organizations
Picher, Gedeon	Maine Department of Transportation	International

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Nominee	Affiliation	Leadership Group
Pritchard, Edward	OMC	Shippers/Carriers
Putman, Gary	Amoco Fabrics and Fiber Co.	Shippers/Carriers
Reagan, Doreen	National Private Truck Council	Professional Associations
Reagle, George	OMC	Staff
Rich, David	Commercial Vehicle Safety Alliance	Highway Safety Community
Riley, Lee	Ranger Transportation	Drivers
Roberts, Alan	FHWA RSPA	Government Organizations
Robinson, Allen	ADTSEA	Highway Safety Research Community
Robinson, Harvard	California Highway Patrol	Enforcement/Legal
Rode, William	RO-DE Trucking Inc.	Drivers
Rodgers, Kenneth	OMC	Professional Associations

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Nominee	Affiliation	Leadership Group
Rogers, Bill	ATA Foundation	Highway Safety Research Community
Rohrbaugh, William	Rohrbaughs Charter Service	Shippers/Carriers
Roods, Diane	Missouri Dept. of Public Safety	Safety Management Systems
Rose, Milbert	Maryland State Police	Enforcement/Legal
Rossow, Gary	Freightliner Corporation	Manufacturers/Suppliers
Rottmund, Charles	BOC Gases	Shippers/Carriers
Ryan, Matthew	Division of Traffic and Safety	Enforcement/Legal
Sawin, Doug	OMC	Government Organizations
Schmidt, Mill	OMC	International
Sears, John	Indiana Bureau of Motor Vehicles	Government Organizations
Seifert, Robert	IACP Division of State & Provincial Police	Enforcement/Legal

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Nominee	Affiliation	Leadership Group
Sheehan, Michael	NHTSA	Enforcement/Legal
Sheridan, John	Conwal, Inc.	Highway Safety Research Community
Sienicki, Dale	OMC	Government Organizations
Sims, Olin	West Point Stevens, Inc.	Drivers
Skelton, Dennis	International Brotherhood of Teamsters	Drivers
Slater, Rodney	Federal Highway Administration	Speaker
Small, Fred	FHWA--Safety Management Team	Safety Management Systems
Smalls, Douglas	UPS	Shippers/Carriers
Snyder, Dave	American Insurance Association	Professional Associations
Sodhi, Prabhjot	TRW Commercial Steering Division	Manufacturers/Suppliers
Sonefeld, Otto	AASHTO	Professional Associations

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Nominee	Affiliation	Leadership Group
Steinhoff, John	OMC	Safety Management Systems
Stockton, Bruce	Contract Freighters, Inc.	Shippers/Carriers
Stout, Bill	Governor's Highway Safety Program	Government Organizations
Strandquist, John	AAMVA	Professional Associations
Swinehart, Jim	Public Communication Resources Inc.	Highway Safety Community
Tamburelli, Paul	XTRA Corporation	Manufacturers/Suppliers
Taylor, Linda	OMC	Drivers
Taylor-Horton, Pam	Wyoming State Legislature	
Teece, Wayne	National Assn. of Fleet Administrators	Professional Associations
Thompson, Ted	Kansas Turnpike Authority	Government Organizations
Tullos, Don	Federal Express Corporation	Shippers/Carriers

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Nominee	Affiliation	Leadership Group
Van Luchene, Judy	OMC	Highway Safety Community
Van Steenburg, John	New York State Police	Enforcement/Legal
Vasquez, Philip	Colorado Dept. of Revenue	International
Waldorf, Stephen	CSX Intermodal Inc.	Shippers/Carriers
Wallace, Loyd	J.B. Hunt Transport, Inc.	Shippers/Carriers
Waller, Patricia	Transportation Research Institute	Highway Safety Research Community
Walsh, Nicholas	OMC	International
Watkins, Robert	Consolidated Safety Services, Inc.	Government Organizations
Weigler, Master	Illinois State Police	Enforcement/Legal
Weiland, Betty	J.J. Keller & Associates	Highway Safety Community
Weiss, Walter	Leaseway Transportation Corp.	Shippers/Carriers

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Nominee	Affiliation	Leadership Group
Wilcox, Linda	U.S. Customs	International
Williams, Jeff	Indiana Mills Manufacturing	Manufacturers/Suppliers
Wilson, Eugene	University of Wyoming--Civil Engr.	Safety Management Systems
Woodman, Mary	OMC	International
Wycliffe, Rudi	Compliance Branch	International
Wylie, Dennis	Essex Corporation	Highway Safety Research Community
Yungfer, Timothy	Michigan State Police	Enforcement/Legal
Zogby, John		Safety Management Systems
Zwonechek, Fred	Nebraska Dept. of Motor Vehicles	Highway Safety Community