U.S. Department of Transportation
National Highway Traffic Safety Administration

Highway Safety

Priority Plan

1991-1993

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Statement of the National Highway Traffic Safety Administrator

The Statement of National Transportation Policy developed under the leadership of Samuel K. Skinner, the Nation's tenth Secretary of Transportation, recognizes the central role that transportation holds in late twentieth century America. In many ways, the freedom and mobility provided by our transportation system capture the most important American values.

Jerry Ralph Curry
Administrator

But the benefits provided to all Americans by our extensive transportation network are not without costs. And the most pervasive and unacceptable costs are those resulting from crashes. Each year, motor vehicle crashes cost America $74 billion in economic losses. But beyond that, the true currency of crashes is tragedy. Every day, more than 125 American families assemble at grave sites around the country to mourn the loss of a family member — frequently a young family member killed in a crash.

The National Highway Traffic Safety Administration (NHTSA) exists to reduce the human and economic costs of our transportation system. Building on the goals enumerated by the President and embodied in the Statement of National Transportation Policy, NHTSA will strive to reduce the number of crashes and to minimize the consequences of those crashes that occur.

This 3-year plan of action focuses NHTSA's energy on: motor vehicle safety, traffic safety, and technology and innovation. Measurable goals in each area are identified. Working with the entire motor vehicle and traffic safety community, we expect to effect major improvements in highway safety as a result of our collective action.

Introduction

Motor vehicles are the dominant means of travel in the United States (U.S.) for both personal and business trips, and provide Americans with an extraordinary degree of mobility. Yet, for people in the first four decades of their lives, injuries resulting from motor vehicle crashes are the leading cause of death and lifelong functional impairment. Traffic fatalities account for more than 90 percent of all transportation-related fatalities. The National Highway Traffic Safety Administration (NHTSA) has been charged with reducing these consequences of vehicular transportation.

As part of its mandate, NHTSA conducts research to improve motor vehicle and traffic safety, diagnoses specific problems to be addressed, implements standards and programs to address these problems, and evaluates their impact.

Overall guidance for agency action has been provided by the President through the National Transportation Policy (NTP) that was issued in the spring of 1990. The President has also established three specific goals for motor vehicle safety:

- To reduce the death rate from motor vehicle crashes to 2.2 fatalities per 100 million vehicle miles traveled by 1992;
- To increase safety belt use to 70% of all motorists by 1992; and
- To reduce drunk driving.

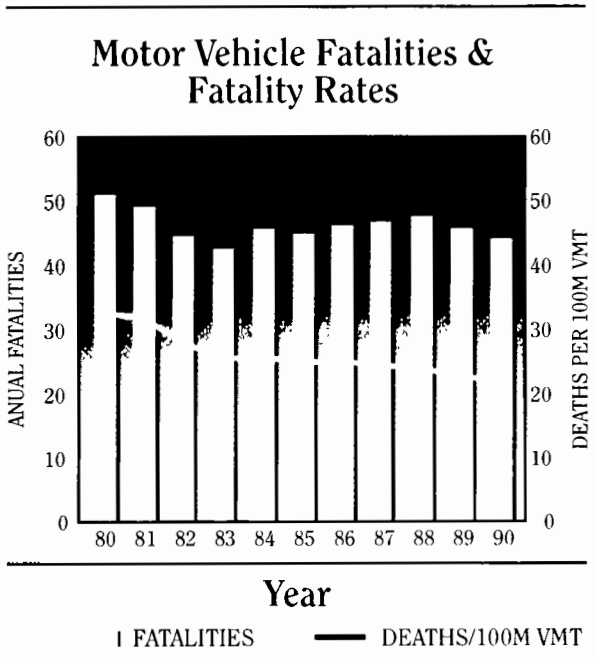
Major elements of the NTP are to "Ensure that the transportation system supports public safety . . . . " and to "Advance U.S. transportation technology and expertise." More specifically, it is Federal transportation policy to:

- Maintain a high level of transportation safety;
- Encourage all states to enact laws requiring the use of safety belts and motorcycle helmets, and to strengthen laws against drunk and drugged driving;
- Conduct a coordinated national campaign to increase public awareness of traffic safety issues, promote improved driver training, achieve more effective driver licensing and driver records, build support for traffic safety laws, and change unsafe driving behavior;
- Target Federal financial support and technical assistance to promote more effective enforcement of laws and regulations governing speed limits, motor carrier safety, drunk and drugged driving, and use of safety belts, child safety seats, and motorcycle helmets;
- Develop rules to require vehicle design improvements to increase occupant protection and improve vehicle crash avoidance capabilities, and continue efforts to keep unsafe vehicles off the roads, through closer monitoring

and recalls of defective vehicles;

- Increase pedestrian safety through public information and improved crosswalk design, signaling, school crossings, and sidewalks;

- Increase the Federal transportation budget for research and technology projects, in coordination with the efforts of private industry, the academic community, and State and local governments;



- Conduct a comprehensive program of research on human factors in transportation, including the causes of transportation accidents and the effects of operator impairment, perceptual errors and fatigue, as well as design and operating changes that can eliminate or reduce those effects; and

- Improve reporting on accidents, data on exposure to risk, and information on trends and patterns to identify potential safety problems and causes.

The present plan details how NHTSA will implement this policy, using its resources in priority areas, through the next several years. This plan provides milestones for the agency within seven functional areas that are the focus of its activities: motor vehicle safety, other motor vehicle initiatives, occupant protection, impaired drivers, other traffic safety programs, comprehensive highway safety programs, and technology and innovation. While the plan does not detail all activities of the agency, it does contain the major initiatives, goals, and ongoing programs that will have a significant role in achieving the agency's mission.

It also provides a yardstick against which the agency's performance can be measured as it pursues its principal mission, enhancing the safety of motor vehicle travel in our nation.

Contents

Motor Vehicle Safety

The performance capability of a motor vehicle plays an important role in helping drivers avoid collisions and protecting occupants when vehicles do crash. A substantial amount of new safety technology has been incorporated into today's vehicles. Some was to respond to Federal requirements: air bags, automatic belts, and center high-mounted stop lamps are recent examples. Others addressed market demand, such as anti-lock brakes. NHTSA and the motor vehicle industry are constantly searching for technologies that address specific problems in automotive safety, as well as new systems and designs that will assist in the driving task and make vehicle operation more forgiving of driver errors.

NHTSA has made major strides in improving motor vehicle safety — most recently with the implementation of the automatic crash protection requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 208 for passenger cars. The key elements of this plan are to extend such protection to light trucks and vans, upgrade passenger car protection in side impacts, reduce the risk of ejection particularly from vehicle rollover, improve the braking stability of heavy trucks, and improve child protection both in light vehicles and in and around school buses.

Following are more detailed descriptions of planned rulemaking actions.

Light Motor Vehicles

Total U.S. passenger car sales exceeded 9.8 million units in 1989, bringing the total U.S. passenger car fleet to 143 million. Passenger cars logged over 1,485 billion miles in that year — 71 percent of the total U.S. vehicle miles traveled. Occupant fatalities for passenger cars decreased slightly from 25,808 in 1988 to 25,046 in 1989. Because of the large number of people exposed to crashes that could be injurious or fatal, even with mandated occupant crash protection systems in place, the agency's efforts are focusing on further occupant protection improvements.

The popularity of light trucks, vans, and utility vehicles (LTVs) continues to soar. Over 4.1 million units were sold in 1989. That year, the number of registered LTVs in the U.S. exceeded 38 million units, one fifth of the U.S. vehicle fleet. The majority of LTVs are used as private passenger vehicles and logged over 456 billion miles in 1989. This is 22 percent of the total vehicle miles traveled for all vehicles. Occupant fatalities for LTVs have risen correspondingly. Crash related deaths in LTVs increased from 8,306 in 1988 to 8,545 in 1989. It is important to note that crash data indicate that the safety record of LTVs as a whole is equivalent to that of passenger cars. There are, however, large differences in the safety of specific types of vehicles within this group. These data also suggest that light trucks are more likely to be involved in single vehicle crashes and rollovers compared to passenger cars, and that ejection is a major cause of death and injury.

Pedestrian Head Impact Protection - Passenger Cars

Pedestrians that are struck by motor vehicles account for about 7,000 fatalities each year. Head injuries to pedestrians result in approximately 35 percent of the total cost of pedestrian injuries. Research has been conducted to reduce the risk of head injury during pedestrian collisions with motor vehicles. Procedures and equipment have been developed to reduce head injury risk in the central hood area of current production vehicles.

Description: NHTSA has demonstrated that significant benefit may be achieved if all vehicles have hoods similar in construction to those of the best vehicles tested.

Milestones:
Regulatory decision — Summer 1991

Interior Head Protection - Passenger Cars and LTVs

Interior head impacts with the A,B, and C pillars, rear view mirrors, front header, side rails, and door window frames result in about 3,000 fatalities and 8,000 serious injuries in car and light truck crashes each year. Research is being conducted to support upgrading FMVSS No. 201, "Occupant Protection in Interior Impact." Research tests using a headform impactor indicate that adding padding to pillars and roof rails could reduce occupant injuries and deaths. An Advance Notice of Proposed Rulemaking (ANPRM), published in August 1988, described a variety of approaches for increasing interior head protection.

Description: The agency has identified the remaining research requirements to substantiate a regulatory decision. These research tasks are on schedule and will permit the agency to reach a decision on whether to initiate rulemaking.

Milestones:
Regulatory decision — Fall 1991

Rollover - Passenger Cars and LTVs

Rollover of passenger cars and light trucks results in a high number of fatalities each year. In 1989, approximately 9,600 passenger car, light truck, van, or utility vehicle occupants were fatally injured in rollover crashes.

Description: In order to better understand the complex rollover phenomenon, NHTSA has initiated a comprehensive research program. The program includes the development of rollover testing techniques, research using a rollover device to conduct actual rollovers under laboratory conditions for both light trucks and cars, and detailed analysis of actual crash data. Possible countermeasures include better vehicle stability and braking (to reduce risk of loss of vehicle control which can lead to rollover) and improved crashworthiness (to reduce risk of death or injury when rollover does occur). Planning is now underway to consolidate all research information and reach a decision on whether to initiate rulemaking.

Milestones:
Regulatory decision — Spring 1991

Door Retention Components - Passenger Cars and LTVs

Approximately 9,300 people are killed as a result of ejections from passenger cars and light trucks each year. Of these,

about 3,300 are ejected through the side doors. NHTSA described a variety of approaches to reduce ejection and sought information in an ANPRM that was published in August 1988. NHTSA has conducted studies of crash-involved vehicles where door latch failures may have occurred, in order to understand the failure mechanism in crashes. NHTSA has also conducted a number of tests to determine ultimate strength of latches on different makes and models of vehicles using procedures in the current door safety standard. To date, there are no clear and concise explanations for the door opening phenomenon, nor has a strong statistical correlation been found between openings and latch strength.

Description: NHTSA is conducting research to arrive at a decision regarding the feasibility of upgrading the standard, FMVSS No. 206, to reduce door openings and associated occupant ejections. Research on crash data analysis, linkage activation study, and General Motor's "Horizontal Rotation" test method have been completed. Research is underway to evaluate a composite test procedure (combined door damage and occupant impact). Results from this research will allow the agency to decide whether it can initiate rulemaking actions during 1992.

Milestones:
Regulatory decision 1992

Improved Frontal Crash Protection - Passenger Cars and LTVs

The existing occupant crash protection standard requires protection with automatic restraints at up to 30 mph in frontal impacts into a barrier. The lives and injuries which will be saved by this standard are substantial. However, it is estimated that even after full implementation of this standard, frontal impacts will account for approximately 10,900 passenger car and light truck fatalities per year. Research has been initiated to investigate concepts to mitigate this safety problem including the evaluation of advanced automatic restraints, improved structural integrity, and improved energy absorbing interiors.

Description: A detailed definition of the safety problem for frontal impacts subsequent to the implementation of the existing dynamic frontal crash protection standard has been initiated. Based on this safety problem definition, a comprehensive research program is being designed to identify mitigation concepts. The research program will utilize real-world crash data, laboratory crash test data, and computer simulation to arrive at countermeasures. It is expected that by 1992 sufficient research will be completed to reach a regulatory decision on whether to initiate rulemaking.

Milestones:
Regulatory decision 1992

Automatic Crash Protection - LTVs

This proposed amendment to FMVSS No. 208 would require automatic restraints (either air bags, automatic safety belts, or other means offering equivalent protection) in all LTVs. Annual potential savings of 2,000 lives are estimated to result from implementation of this regulation, which would make it the most significant automobile safety standard since the 1984 rule requiring automatic crash protection in passenger cars. The rule would be phased in to encourage an orderly transition from manual safety belts, and would encourage the production of air bags by allowing compliance of vehicles with a driver-side air bag and passenger-side manual belt.

Description: The agency has issued an NPRM on this amendment and is presently evaluating comments received in response to this notice.

Milestones:
Complete rulemaking Winter 1990-1991
(Final rule published March 20, 1991)

Improved Side Impact Protection - LTVs

Since 1983, LTV occupant fatalities have increased steadily and the total fatality count exceeded 8,500 in 1989. Since sales of pickups and vans have increased and the life spans of these vehicles are relatively long, the fleet size of LTVs relative to that of passenger cars will increase in the future. Since many LTVs are used for private transportation purposes, there is increased concern on the safety of these vehicles. One of the concerns is the safety performance of these vehicles in single vehicle side impacts with tall, fixed objects. The agency addressed this issue in an ANPRM that was published on August 18, 1988, on side impact protection for LTVs. On December 22, 1989, the agency published an NPRM to extend the current requirements of FMVSS No. 214 to cover LTVs.

Description: NHTSA has analyzed the public comments on the NPRM and is in the process of preparing a final rule on the extension of the current requirements of FMVSS No. 214 to LTVs.

Milestones:
Complete rulemaking Spring 1991

Center High-Mounted Stop Lamps - LTVs

Each year, LTVs are involved in approximately 684,000 rear-end crashes, with an associated 170,000 injuries. Field studies have indicated that LTVs equipped with center high-mounted stop lamps (CHMSLs) reduce following drivers' reaction braking time by about 0.1 seconds. This reaction time improvement could eliminate approximately 78,000 rear-end accidents and 23,000 associated injuries each year. In addition, there could be a reduction in the severity of many rear-end accidents as a result of the CHMSL.

Description: The agency issued an NPRM in the spring of 1990.

Milestones:

Complete rulemaking	Spring 1991
(Final rule published April 19, 1991)	

Heavy Trucks

Heavy trucks* are involved in approximately 400,000 police reported crashes each year. These crashes resulted in over 5,700 fatalities, of which over three-quarters were the occupants of other vehicles, one-tenth were pedestrians or bicyclists, and the remainder were truck occupants. Nevertheless, heavy truck drivers are involved in one of the Nation's most hazardous occupations: it is second only to mining in occupational fatalities per 100,000 workers.

Vehicle characteristics play a critical, if somewhat unrecognized and under-reported, role among the many factors that contribute to truck crashes. Even where these factors do not directly cause a crash, vehicle factors may make it difficult or impossible for a driver to recover from an error or avoid an unforeseen conflict. Once a crash occurs, the design of a truck can affect the severity of trauma sustained by the occupants of all vehicles involved.

NHTSA's heavy truck safety initiatives are concurrently focusing on the improvement of crash avoidance and crashworthiness characteristics of the vehicle. In regard to crash avoidance, brake system improvements may be required to upgrade vehicle braking performance.

** Includes all large trucks from the "medium" (between 10,001 and 26,000 pounds) and "heavy" (greater than 26,000 pounds) truck classifications.*

NHTSA has also examined various methods for improving the ability for other vehicles to avoid collisions with heavy trucks by improving the conspicuity of the truck. With regard to improving the crashworthiness of vehicles in collisions with heavy trucks the agency has focused on improving fuel tank integrity and underride protection.

Improved Braking Systems

Truck brake performance has been identified as a major-factor contributing to crashes involving large trucks. Proper brake adjustment is critical for maintaining safe stopping performance. Automatic brake adjusters have been developed as one approach to improve brake adjustment. This will help ensure that the brakes are properly adjusted between inspections. While inadequate brake maintenance and adjustment is a common cause of poor brake performance, there are also opportunities to improve brake performance through improved technology. In addition to considering brake component improvements, efforts are underway to evaluate the performance of anti-lock brake systems (ABS) to improve heavy truck stability and handling. Careful evaluation of ABS systems is needed to promote acceptability within the motor carrier community and to meet legal requirements for possible rulemaking.

Description: All planned automatic brake adjuster research has been completed. This research included completion of a fleet study to quantitatively assess the performance, reliability, and life-cycle costs of automatic brake adjusters as compared to manual brake adjusters. A regulatory decision to require these adjusters is being considered based on the results of the fleet study.

NHTSA is currently evaluating the performance of various ABS designs and anti-lock braking strategies, (i.e., individual wheel control, axle-by-axle control, tandem axle control, etc.). Research is underway to evaluate the incremental benefits of full versus partial anti-lock brake systems, and a 40-month fleet study to assess the reliability, maintainability, and life-cycle costs associated with the use of anti-lock brakes in both tractor and trailer fleet service also is underway. In the initial phase of the study, only the tractor portion of the fleet was equipped with ABS. ABS equipped trailers are now being placed into the test fleet.

Milestones:

Report to Congress on the need for improved heavy truck brakes	Winter 1990-1991
(Submitted May 8, 1991)	

Regulatory decision on automatic brake adjusters	Spring 1991
Complete tractor portion of ABS fleet study	Summer 1991
Regulatory decision on stopping distance requirements	Fall 1991
Regulatory decision on ABS for heavy trucks (tractors only)	1992
Complete trailer portion of ABS fleet study	1993

Other Heavy Truck Regulation

Each year, approximately 400 people are killed when their vehicle collides into the rear of a heavy truck. Many truck-related crashes involve vehicle-into-truck rear underride crashes, especially at night, which occur due to the other driver's inability to see the truck until immediately prior to impact. Because of the truck's mass and geometry, the occupant compartment of a passenger car can be penetrated and severely damaged by the truck frame or cause serious injuries due to the front of the striking vehicle hitting the rigid truck body.

Post-crash fires are annually involved in approximately 16 percent of the combination truck occupant fatalities. In addition, many truck crashes can cause fuel spills that do not cause fires, but still pose a serious environmental threat and/or cause lengthy traffic delays during clean up operations. A 1989 NHTSA Report to Congress entitled "Heavy Truck Fuel System Safety Study" found that while truck fires are rare, truck fuel systems are frequently breached in crashes. The report suggested that an incremental reduction in the number of truck fires fed by breached truck fuel systems could be achieved by a combination of relocating and strengthening various components on trucks.

Description: As previously mentioned, NHTSA is concurrently focusing on crash avoidance and crashworthiness improvements to reduce the occurrence and severity of heavy truck crashes. In the crash avoidance area, the agency has conducted a number of research efforts addressing heavy truck conspicuity. Research will continue to further evaluate the performance of conspicuity enhancing techniques. This additional research will enable the agency to reach a decision on establishing a laboratory test procedures and performance standards in this area.

Our conspicuity research will also enable NHTSA to respond to the recently enacted "Sanitary Food Transportation Act of 1990." This Act includes a mandate to "initiate rulemaking proceeding on the need to adopt methods for making trucks or any category of trucks more visible so as to reduce accidents...." The Department is to complete the proceeding before November 1992.

In the crashworthiness area, NHTSA is examining the need for a rule requiring upgraded rear underride guards on new trailers. Even though the Federal Highway Administration (FHWA) currently has a standard for underride guards on interstate commercial trucks, improved rear underride guards can further reduce the occurrence of passenger compartment intrusion of a lighter striking vehicle should it underride the rear of a truck trailer. With respect to improved crashworthiness of the truck itself, the agency is evaluating various concepts to improve the integrity of heavy truck fuel systems. The agency will design a research program to evaluate different methods to further reduce the occurrence of fuel tank breaching and/or post crash fires.

Milestones:

Regulatory decision on improved conspicuity	Summer 1991
Regulatory decision on rear underride protection	Summer 1991
Regulatory decision on improved fuel systems	Winter 1991-1992

Child Protection

NHTSA has been primarily involved in motor vehicle child passenger safety through FMVSS No. 213, "Child Restraint Systems." This standard covers all types of child safety seats for use by infants and small children weighing 50 pounds or less when being transported in motor vehicles. To further increase the effectiveness of the child safety seats, NHTSA is examining whether to expand the coverage of FMVSS No. 213 to other child sizes and assisting State

and local governments and organizations to educate the public about their benefits and proper use.

Another aspect of child safety that warrants attention is school bus transportation. Even though school bus travel is one of the safest forms of transportation, children are still being injured and killed while riding in the bus and, to a greater extent, in the loading and unloading zones around the bus. NHTSA is continuing its efforts to upgrade existing school bus safety standards or enact new ones, where appropriate, to make this mode of travel even safer.

Child Passenger Safety

In August 1989, NHTSA published its "Child Passenger Safety Plan" reflecting views and issues resulting from two public meetings. Included in the plan are several agency projects to upgrade FMVSS No. 213, and expand the coverage of the standard by developing a variety of different size child dummies, ranging from newborn to 6 years-old. Now that all 50 States have child passenger protection laws, there may be opportunities to improve effectiveness with safety seats designed for different sized children.

Description: Several activities directed at child restraint systems will be pursued. These include:

- Developing additional child test dummies — a newborn, a 9 month-old, and a 6 year-old dummy — which will aid in the evaluation of the crash protection performance of child restraint systems over a range of child sizes. Incorporate these new dummies into Part 572 and into the test procedures of FMVSS No. 213. Currently, only two dummies (a 6 month-old and a 3 year-old) are used to test child restraints under FMVSS No. 213.

- Upgrading FMVSS No. 213 with new test procedures to better assess the restraint performance of child seats.

- Incorporating test procedures into FMVSS No. 213 to include testing of child seats restrained with lap/shoulder belts.

- Modifying FMVSS No. 213 to specifically address child booster seats, with emphasis on allowing belt positioning boosters.

Milestones:

Regulatory decision on use of lap/shoulder belts to test booster seats and other child restraints	Spring 1991
Regulatory decision on upgrade of FMVSS No. 213	Summer 1991
Regulatory decisions on test dummies in FMVSS No. 213	Fall 1991

Child Safety Seat Registration Program

Recently, questions have been raised concerning the notification procedures used when a child safety seat is recalled through NHTSA's compliance and defect programs. While the agency's overall child safety program has been effective, the "completion rate" (or "rate of response") to child safety seat recall campaigns has been relatively low (22 percent) and could be improved. NHTSA is working to improve customer notification and response in recall campaigns.

Description: NHTSA has granted a petition to begin rulemaking concerning registration of child seats. Through this rulemaking, NHTSA will determine whether a new registration requirement could significantly increase response rates for child safety seat recall campaigns.

Milestones:

Regulatory decision on child seat registration (NPRM published February 9, 1991)	Winter 1990-1991

School Bus Safety

The safety record for school bus transportation exceeds that of all other modes of travel. Over 380,000 school buses transport nearly 22 million children each day and travel 4 billion miles annually. Each year, an average of 14 school bus occupants are killed. In 1988, an estimated 9,500 were injured, 1,000 sustaining severe injuries. Another 45 pedestrians, 38 of which were children, were also killed in and around school bus loading zones. A National Transportation Safety Board study of school bus crashes that occurred between March 1983, and August 1986, found that NHTSA's school bus standards that became effective on April 1, 1977, "significantly" improved the safety of buses. These standards include rollover protection (FMVSS No. 220), bus body joint strength (FMVSS No. 221), improved

seating (FMVSS No. 222), hydraulic brake systems (FMVSS No. 105), rear-view mirrors (FMVSS No. 111), emergency exits (FMVSS No. 217), and crash protection for the fuel tank and fuel system (FMVSS No. 301).

NHTSA has been reviewing its school bus standards in the wake of the tragic church bus crash in Carrollton, Kentucky, in May 1988, (which killed 27 occupants in a used pre-1977 school bus) and the September 1989, crash of a post-1977 school bus in Alton, Texas, in which 21 students died. Additionally, a May 1989, comprehensive report on school bus safety prepared by the National Academy of Sciences contained recommendations to improve the safety of school bus occupants during and after crashes as well as when they are in the bus loading zone.

Description: NHTSA has initiated several rulemaking activities designed to improve school bus safety.

Milestones:

Regulatory decision on increasing the number of emergency exits (FMVSS 217) (NPRM published March 19, 1991)	Winter 1990-1991
Regulatory decision on improved body joint strength (FMVSS No. 221) (NPRM published March 15, 1991)	Winter 1990-1991
Complete rulemaking to require stop signal arms (FMVSS No. 131) (Final rule published March 3, 1991)	Spring 1991
Regulatory decision on school bus mirrors (FMVSS No. 111) (NPRM published March 2, 1991)	Spring 1991
Regulatory decision on interior flammability (FMVSS No. 302)	Summer 1991

Other Motor Vehicle Initiatives

New Car Assessment Program

Congress enacted the "Motor Vehicle Information and Cost Savings Act" in 1972, which requires the development and dissemination of comparative information on the safety of motor vehicles. To partially meet this requirement, frontal impact testing of production motor vehicles into a rigid barrier at 35 mph was initiated in 1978. This New Car Assessment Program (NCAP) has been very successful in providing information to consumers and encouraging manufacturers to improve the frontal impact safety of their vehicles. This program will be expanded to the assessment of vehicle brake performance by conducting standard stopping distance testing. This will provide consumers with initial comparative data on vehicle crash avoidance.

New Car Assessment Stopping Distance Testing

Description: The agency will increase the consumer information provided by NCAP by initiating a program to determine the stopping distance of passenger cars, light trucks, and vans. The minimum stopping distance for each vehicle will be determined from 30 mph and 60 mph when lightly loaded and at gross vehicle weight. The data will be tabulated and published through the agency's Consumer Information Program.

Milestones:

Initiate stopping distance testing for MY 1992 vehicles	Fall 1991

Fuel Economy

Light Truck Fuel Economy

For: 1993, 1994, and beyond

Congress enacted the "Energy Policy and Conservation Act" in 1975, which requires the establishment of corporate average fuel economy (CAFE) standards for passenger cars and light trucks. The Secretary of Transportation is required to issue light truck fuel economy standards, at the maximum feasible average level, for each model year (MY).

Description: NHTSA completed rulemaking action on the MY 1992 light truck fuel economy standard in March 1990. An NPRM for MYs 1993 and 1994 was issued in February 1990. A final rule for MYs 1993 and 1994 is anticipated in the spring of 1991. Rulemaking action on post MY 1994 light trucks will be initiated in the fall of 1991.

Milestones:

Complete rulemaking for MYs 1993 and 1994 light truck CAFE standards (Final rule published April 4, 1991)	Spring 1991
Initiate rulemaking on post MY 1994 light truck CAFE standards	Fall 1991

Study on Potential Fuel Economy Levels

With the passage of the Clean Air Act Amendments of 1990, the promulgation of additional safety requirements for passenger cars and light trucks, and the current instability in the Mideast, there is a need for a comprehensive analysis to ascertain the potential to improve the fuel economy of new vehicles, while meeting these existing and likely future environmental and safety standards. To accomplish this, NHTSA is sponsoring a study by the National Academy of Sciences to estimate fuel economy levels that could practically be achieved in new automobiles and light trucks (up to 8,500 pounds gross vehicle weight rating) produced for the U.S. market in the next decade.

Description: The study will be performed in two phases. Phase One will determine feasible future fuel economy levels for auto manufacturers, considering technology, capital and manufacturing costs, the industry's clean air and safety commitments, and the financial and other resource constraints faced by these companies. Phase Two will examine in more detail the barriers to improving new vehicle fuel economy.

Milestones:

Complete Phase One analysis of feasible fuel economy levels	Summer 1991
Complete Phase Two analysis	1992

Programmatic Environmental Impact Statement for CAFE Program

Under Section 102 (2)(c) of the National Environmental Protection Act (NEPA), an environmental impact statement (EIS) is required on all programs affecting the human environment, provided that the impact is major. NHTSA has conducted an individual environmental assessment each time it established or amended a CAFE standard for cars or light trucks. Each assessment has led to a conclusion by NHTSA that the effect of each CAFE action has been environmentally "insignificant." These studies were done on a case by case basis. The agency has not performed a programmatic environmental analysis in recent years. This programmatic EIS will address the possible cumulative environmental impacts of NHTSA's past and possible future actions relative to amending both passenger car and light truck fuel economy standards.

Description: To initiate the preparation of the programmatic EIS for CAFE, the agency issued a notice on November 16, 1990, soliciting comments on a draft outline for the EIS and announcing a public scoping meeting held on December 13, 1990. The results of analyzing comments to the outline will assist the agency in assuring that all pertinent environmental issues are addressed in the EIS.

Milestones:

Contract award	Fall 1991
Complete draft EIS	1992

TAKE VINCE AND LARRY'S CRASH COURSE IN SAFETY BELTS.

"Hey guys, there's some smashing news about safety belts that you should know. And Larry and I want to be the first ones to break it to you."

"But Vince, we like to break everything."

LESSON NO. 1

"As you know, Larry, pretty soon all cars will come with automatic safety belts or air bags—and I don't mean your mother-in-law!"

"That's right, Vince, but these new automatic gizmos only do part of the job to keep you from being a windshield warrior. You've still got to make sure your safety belt is buckled up."

LESSON NO. 2

"Larry, do you know what works best when they fit tightly?"

"My Uncle Bernie's false teeth?"

"No Larry, safety belts. You've got to always make sure that yours is snug and that whatever safety belt system your car comes with is in a-ok-working order."

LESSON NO. 3

"No matter if you're on the road to Rio or going just around the corner, without a safety belt my friend you're on the road to ruin."

"Ruin, is that a small town in France, Vince?"

"No, dashboard breath, what I'm saying is whether your trip is short or long, you should be buckled up."

LESSON NO. 4

"And Vince, folks should remind others to wear their safety belts too. Remember there could be a dummy in your car."

YOU COULD LEARN A LOT FROM A DUMMY. BUCKLE YOUR SAFETY BELT.

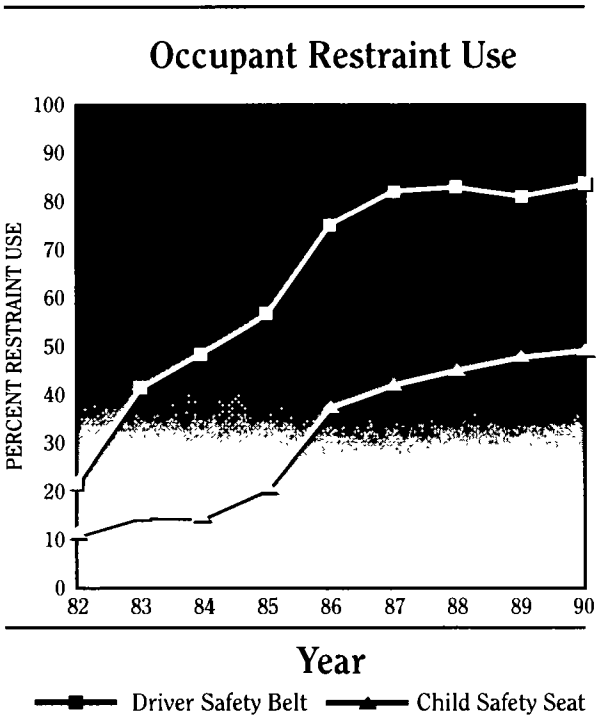
A Public Service Message Ad Council U.S. Department of Transportation

SAFETY BELT CAMPAIGN
NEWSPAPER AD NO. SB-89-1541—4 COL. x 14"
Volunteer Agency Leo Burnett USA, Campaign Director Michael Ryan, Northern Telecom

Occupant Protection

One of the single most effective measures to reduce injuries and deaths in motor vehicle crashes is to restrain vehicle occupants using safety belts, air bags, and child safety seats. To complement NHTSA's automatic occupant protection requirements for passengers cars, the agency is dedicated to improving the degree and quality of occupant protection for all motorists.

Use of safety belts has increased from approximately 11 percent to 50 percent over the last decade and about 80 percent of all small children riding in vehicles are restrained. The public is also more knowledgeable about the need for occupant restraint and the technologies used for automatic crash protection: air bags and automatic belts. Despite these advances much remains to be accomplished.



The agency's plans include: promoting safety belt and child passenger safety laws; better enforcement of existing laws and programs designed to build public support for enforcement; information and promotional programs; supporting research and evaluation programs; and cooperative programs with other government entities and with private organizations. NHTSA will also assist in the implementation of those law enforcement strategies identified at the 1990 Traffic Safety Summit I to improve occupant protection.

Goals:

- Achieve 70 percent belt use nationwide by 1992;
- Cover 95 percent of populaiton with safety belt use laws by 1993.

Following are detailed descriptions of the specific plans.

State Legislation

As of November 1990, 37 states, the District of Columbia, and Puerto Rico have safety belt use laws. Safety belt use is significantly higher in states with be lt use laws compared with use in non-law states. NHTSA encourages the passage of new use laws and the upgrading of existing belt use and child passenger safety laws to reduce deaths and injuries.

Safety Belt Use Laws: Passage and Upgrade

Description: NHTSA will continue to provide technical assistance to States attempting to enact or upgrade safety belt use or child passenger safety laws. These activities will support the Federal goal of having 95 percent of the Nation's population covered by safety belt use laws by 1993.

Milestones:

Achieve new or upgraded belt use laws in 6 states	Fall 1991
Achieve new or upgraded belt use laws in 5 states	1992
95 percent of population covered by safety belt use laws	1993

Enforcement and Adjudication

To achieve the 70 percent national belt use goal by 1992, NHTSA launched the "Operation Buckle Down" Program in 1990. The program strategy is to provide grant funding that would enable a state to employ at least one spokesperson, a well known and respected police executive, to encourage local police chiefs to adopt elements of a model enforcement program developed by the International Association of Chiefs of Police (IACP).

Implement Model Enforcement Program for Occupant Protection

Description: The model program includes: 1) an enforced safety belt use policy for officers; 2) training about safety belt use and enforcement of use laws; 3) program strategies for enforcing use laws; and 4) local public awareness and education efforts. NHTSA also supports the program by providing public education materials, and technical assistance in mobilizing grassroots support for law enforcement efforts in participating communities.

Milestones:

Develop Operation "Buckle Down" presentation/promotional materials	Spring 1991
Develop localized public information and education material	Spring 1991
Initiate "Buckle Down" program in 30 states	Spring 1991
Increase number of state "Buckle Down" programs from 30 to 35 and incorporate program into state plans	1992

Grassroots Mobilization Campaign

Description: NHTSA will offer communities in states with belt laws a separate public relations service designed to generate strong grassroots support for increased belt law enforcement. This assistance will be designed to complement and reinforce any occupant protection law enforcement program initiative already underway in the community, whether it is "Operation Buckle Down," or another program. The primary program strategy will be to reach key individuals and organizations at the local community level and enlist their help to volunteer their services in building public support for safety belts, safety belt laws, and safety belt law enforcement.

Milestones:

Initiate grassroots mobilization campaign in 10 states	Fall 1991
Increase state grassroots campaign from 10 to 20	1992

Outreach Programs

Reaching the President's goal of 70 percent safety belt usage by 1992 can be facilitated by incentive programs which reward private companies, schools, local, county and state governments, and other organizations for achieving 70 percent belt usage. The 70 percent Honor

Roll Awards Program is an example of such an incentive program.

70 Percent Honor Roll Awards and Survivor's Clubs

Description: NHTSA is conducting recognition and awards programs to recognize local, county and state organizations which have achieved safety belt use rates of 70 percent or higher and is working with IACP to develop a program to recognize police officers and their family members who have been saved by safety belts or air bags. As part of these programs, state and local publicity is generated to make the public aware of these events and accomplishments. This publicity, in turn, helps increase usage in adjacent areas and organizations.

Milestones:

Issue 500 70 percent Honor Roll awards; generate major media attention in 100 locations	Fall 1991
Issue officer awards; publicize police crash experience to law enforcement and general public	1991-1993
Issue 600 additional 70 percent Honor Roll awards; generate major media attention in 100 additional locations	1992
Twenty States implement statewide awards programs	1993

Expand Public Awareness Efforts

As part of a national effort to change human behavior through education, "Vince and Larry" have become national media symbols and effective tools for spreading the message about safety belt use. Most recently, they have been used to emphasize the need to use safety belts in air bag equipped cars.

To supplement the national "Vince and Larry" program, NHTSA has also begun work on a national public relations effort designed to use a variety of strategies to increase public awareness of the benefits of safety belts and the importance of safety belt laws. This effort will also seek to expand the annual "Buckle Up America! Week" program to provide safety belt information throughout the year.

Vince and Larry Public Service Announcements (PSAs)

Description: The agency will continue to develop and disseminate the national occupant protection media campaign (Vince and Larry) in cooperation with the Ad Council. The campaign will utilize TV, radio, print media, and outdoor advertising.

Milestones:

Release first wave of 1991 television campaign including 2 new spots	Spring 1991
Release second wave of 1991 campaign	Fall 1991
Distribute 2 new pools of TV PSAs plus radio and print advertising	1992
Distribute 2 new pools of TV PSAs plus radio and print advertising	1993

Buckle Up America! Campaign

Description: The agency, in cooperation with the Ad Council and a national public relations firm, will develop and implement strategies to increase the awareness of safety belts among several target populations throughout the year. This campaign will seek to increase awareness of and participation in the annual "Buckle Up America!" campaign, using a series of special media events and editorial placement programs and radio promotion.

Milestones:

First "Buckle Up America!" media event	Spring 1991
On-going public relations campaign	1992-1993

Increase Child Passenger Safety Advocacy

As part of NHTSA's Child Passenger Safety Plan, public information and education programs are designed to encourage more people to use child safety seats and to do so correctly. NHTSA promotes programs that involve public health and medical professionals, educators, community volunteers, employers, law enforcement personnel, and others who can provide their clients, peers, students, employees, and the general public with child passenger safety information.

National Conference/State Programs

Description: NHTSA will develop and implement a program

to revitalize child passenger safety efforts by providing program staff with technical information and motivation to become more effective child safety advocates. This will include conducting a national conference on child passenger safety, distributing new technical reference materials, and providing support for statewide mobilization initiatives.

Milestones:

Hold Child Safety Conference	May 11-12, 1991
Implement new statewide mobilization program initiatives in 10 States	1992
Increase number of States with new program initiatives from 10 to 20	1993

Promote Automatic Crash Protection

NHTSA surveys show driver use of automatic shoulder belt systems ranges from 72-98 percent, depending on the type of system. Use of the manual lap belts provided with most types of systems averages 30 percent. Motorists need to be reminded that for maximum protection, they need to fasten the manual lap belt, and refrain from detaching the shoulder belt of those systems with this feature. Similarly, owners of cars with air bags need to be reminded that the air bag is very effective in preventing head and upper body injury, but it is only a supplement to the primary system, which is the manual lap/shoulder belt. Questions that may arise in dealing with the systems in the field, such as the handling of deployed air bags, will be addressed through special publications and announcements.

Demonstration Grants

Description: NHTSA is currently supporting two statewide demonstration programs which will develop strategies to inform the public about automatic safety belts and air bags. Other States will be encouraged to use the public information strategies and materials resulting from these grants to explain and promote correct use of the new systems to their motorists.

Milestones:

Continue to promote understanding of technologies for automatic crash protection, including light trucks and vans	1991-1992
Complete demonstration grants	1993

Occupant Crash Protection Evaluation Plan

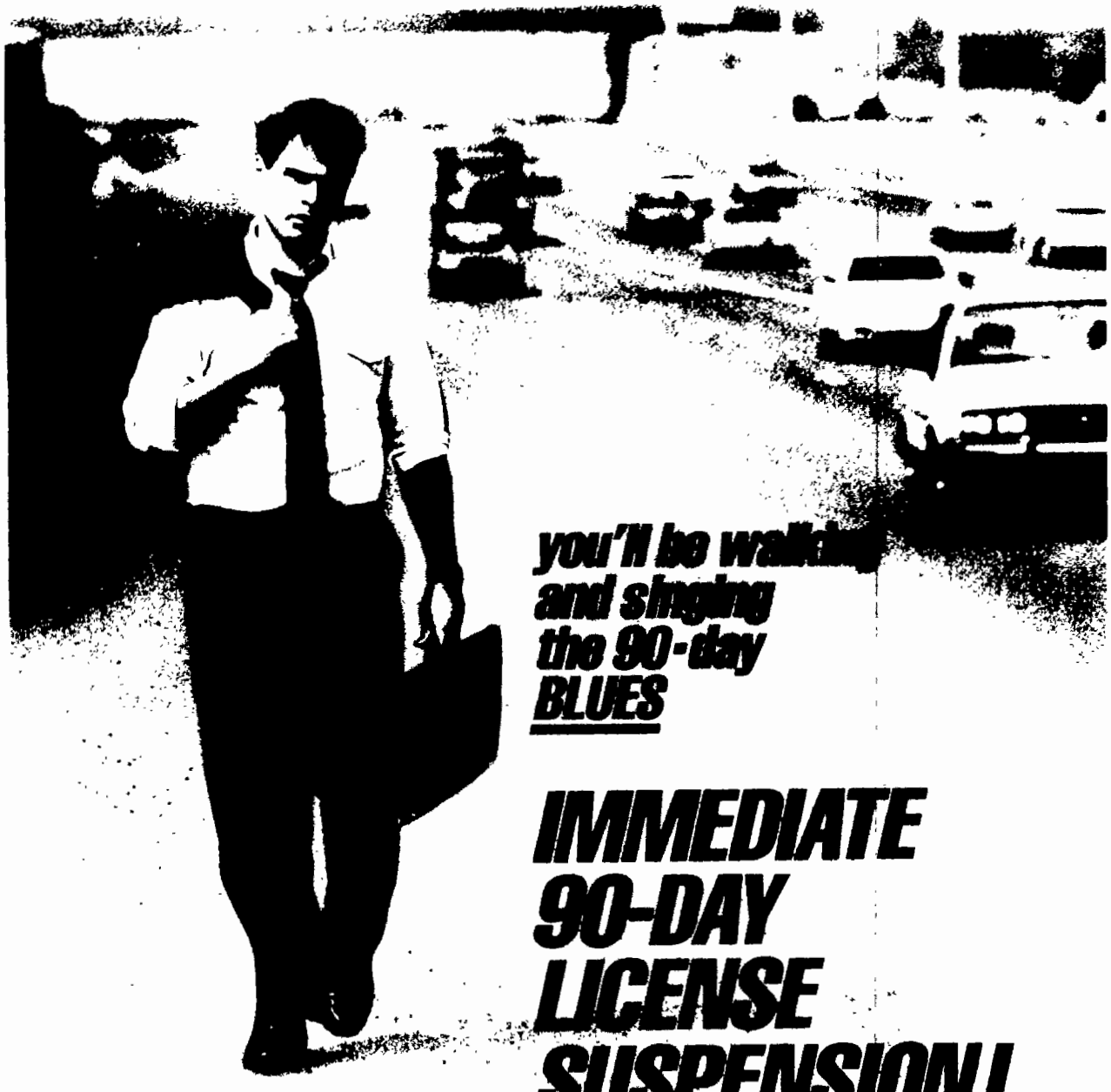
FMVSS No. 208, "Occupant Crash Protection," requires automatic occupant protection for the front outboard seats of all passenger cars produced after September 1, 1989. The standard will be evaluated in accordance with Executive Order 12291, which provides for government-wide review of existing major Federal regulations.

Description: Three distinct types of automatic protection — air bags, 2-point automatic belts, and 3-point automatic belts — are currently in production. The primary purpose of the evaluation is to determine their costs, benefits, and performance. An evaluation plan was published in January 1990, specifying a series of data gathering and analysis projects scheduled for 1990-94.

Milestones:

Complete first interim report with preliminary estimates of the effectiveness, usage, and costs of automatic occupant protection	Summer 1991
Complete second interim report evaluating the effectiveness, usage, benefits, costs, and public acceptance of automatic occupant protection	1992

IF YOU DRINK & DRIVE...



you'll be walkin
and singing
the 90-day
BLUES

IMMEDIATE 90-DAY LICENSE SUSPENSION!

A public service by the Department of Motor Vehicles, Department of Transportation, Connecticut State Police, Automobile Club of Hartford-AAA, Insurance Association of Connecticut, The Aetna, The Travelers, The Hartford Insurance Group, and United Technologies Corporation.

Impaired Drivers

Despite recent progress, alcohol use continues to be America's number one highway safety problem. In 49 percent of all fatal crashes in 1989, either a driver or a pedestrian had been drinking. This figure was 50 percent in 1988 and 57 percent in 1982, showing that we have made steady progress. But the 22,000 people who were killed in these alcohol-related crashes last year are still far too many. In addition, several studies have found drugs in the bloodstream of 10 to 22 percent of fatally injured drivers, often in combination with alcohol.

NHTSA's programs seek to reduce alcohol and drug-impaired driving through deterrence and prevention. Deterrence programs use laws, enforcement, and sanctions to create the fear of arrest and punishment among persons who might be tempted to drive under the influence of alcohol or other drugs. Prevention programs use approaches commonly associated with public health: altering social norms, changing risky or dangerous behaviors, and creating protective environments. They promote activities to educate the public on the effects of alcohol and other drugs, limit alcohol and drug availability, and prevent those impaired by alcohol and drugs from driving.

Goal

- To reduce the percentage of alcohol related fatalities by 10% by 1992.

The following are descriptions of specific projects and programs addressing drunk and drugged driving.

State Legislation

Deterrence begins with laws that define and prohibit impaired driving in clear and readily enforceable terms and permit a broad range of administrative and judicial sanctions. Administrative license revocation has proven to be the single most effective method to deter impaired driving. Reduced blood alcohol concentration (BAC) limits (.08% for adult drivers and lower for drivers under the age of 21) are supported by an overwhelming body of research. Laws establishing a steady source of funds for impaired driving programs, funds derived as much as possible from the offenders themselves, will assure that impaired driving programs can continue.

Prompt License Suspension

Any program aimed at reducing impaired driving should require effective sanctions for those motorists who are found to be driving while intoxicated (DWI). Suspension or revocation of driver licenses appears to be the single most effective sanction available, especially when that sanction is mandatory in nature and swiftly imposed. This desirability of prompt, mandatory license suspension was recognized by the Presidential Commission on Drunk Driving (1983 final report) and others, and is reflected in the Section 408 Alcohol Incentive Grant Program.

During the 1980's, many states adopted systems to impose DWI license suspensions administratively. This requires a motorist to surrender his or her driver's license to police following a DWI chemical test failure or refusal. Administrative appeals are available through the State licensing agency. This system serves to assure prompt and mandatory license sanctions, and avoids the delays of congested court systems. NHTSA and other anti-DWI groups strongly support the adoption of administrative license suspension laws.

Description: The agency will provide information and technical assistance to states interested in enacting legislation that will increase the proportion of drivers arrested while intoxicated who receive prompt and mandatory license suspensions.

Milestones:

Increase number of states with prompt license suspension from 35 to 41	Fall 1991
Increase number of states with prompt license suspension from 41 to 44	1992
Increase number of states with prompt license suspension from 44 to 47	1993

Reduce BAC Limit For Youth

Even though it is illegal in every state for persons 16 to 20 years of age to drink, 3,374 persons 16 to 20 died in alcohol related deaths in 1989. Twenty-nine percent of the fatally injured drivers in that age group were legally intoxicated. Blood alcohol concentration levels of .05 and lower have been shown to impair the ability of adults to drive safely and would effect youths, who are both novice drivers and novice drinkers, even more severely.

For these reasons, NHTSA supports state efforts to set stricter BAC standards for people under the age of 21. Since these drivers cannot legally drink, the effective permissible BAC level should be zero. To allow for instrument variation, we support a legal limit of .02%.

Description: NHTSA will work to promote adoption in every state of a .02% BAC for drivers under the age of 21.

Milestones:

Increase number of states with a .02% BAC limit for youth from 5 to 10	Fall 1991
Increase number of states with a .02% BAC limit for youth from 10 to 15	1992
Increase number of states with a .02% BAC limit for youth from 15 to 20	1993

Self-Sufficient Impaired Driving Programs

Self-sufficient programs are those which operate with funds that are collected from actual or potential program users rather than general state or Federal tax funds. Program self-sufficiency generates sufficient revenue at state, county, and municipal levels to fund comprehensive impaired driving program operations. In order to be completely self-sufficient, a program has to generate enough revenue to pay for all elements of program operations. Few programs to date are entirely self-sufficient, but many have some self-sufficient components. Well designed self-sufficient impaired driving

programs ensure an adequate level of funding, a fair and suitable collection mechanism, and an effective distribution mechanism. In most cases, self-sufficient programs require state legislation to ensure that funds collected are designated for use in impaired driving programs and not placed in the general fund.

Description: In the early 1980s, NHTSA developed materials and workshops for state and local officials to outline the mechanics of self-sufficiency and to provide guidance on developing and implementing programs and enacting legislation. These materials will be updated and new complementary materials developed where necessary. In addition, NHTSA will draft model legislation for state use. Outreach through national and state advocacy organizations will provide information on the benefits of self-sufficiency legislation in achieving impaired driving goals.

Milestones:

Increase states with self-sufficient alcohol programs from 1 to 3	Fall 1991
Increase states with self-sufficient alcohol programs from 3 to 5	1992
Increase states with self-sufficient alcohol programs from 5 to 7	1993

Enforcement and Adjudication

Laws will deter impaired driving only if they are enforced vigorously and if those who violate them are punished. Standardized Field Sobriety Testing is the essential tool for a patrol officer to determine impairment. It should be a standard part of every officer's training. Sobriety checkpoints, which the U.S. Supreme Court recently ruled are constitutional, are a key method of highly visible impaired driving enforcement. The Drug Evaluation and Classification Program gives police the training they need to evaluate impairment by drugs other than alcohol.

Standardized Field Sobriety Testing

Highly visible enforcement, along with public information and education, is an essential component of every drunk and drugged driving prevention program. The cornerstone of an effective drunk and drugged driving enforcement program is Standardized Field Sobriety Testing (SFST). SFST provides patrol officers with the knowledge and skill to evaluate, at roadside, suspected alcohol and/or drug impaired drivers to determine whether the driver should be arrested and taken to the station house for a chemical test to determine the suspect's BAC level or for a drug impairment evaluation.

In addition to training police officers in how to conduct standard roadside evaluations, the training provides cues and information that aid officers in detecting driving behavior that might result from alcohol or drug impairment. It also prepares police officers to testify in court accurately and articulately in support of DWI prosecution.

Description: NHTSA will work to promote state adoption of SFST as the police training standard in every State.

Milestones:

Increase number of states using SFST from 24 to 30	Fall 1991
Increase number of states using SFST from 30 to 34	1992
Increase number of states using SFST from 34 to 38	1993

Sobriety Checkpoints

A sobriety checkpoint is an enforcement method designed to increase the actual and perceived risk of being apprehended for DWI. Checkpoints, when used as a deterrent, have provided effective, documented results in deterring drunk driving behavior. On June 14, 1990, the U.S. Supreme Court ruled that sobriety checkpoints are consistent with the Fourth and Fourteenth Amendments of the Constitution. NHTSA, in cooperation with the law enforcement community, has prepared guidelines entitled, "The Use of Sobriety Checkpoints for Impaired Driving Enforcement," and is providing advice and assistance to police agencies in implementing checkpoints.

Description: NHTSA will work to promote the use of sobriety checkpoints in every state and to increase their effectiveness.

Milestones:

Increase number of states that use checkpoints regularly from 6 to 15	Fall 1991

Increase number of states that use checkpoints regularly from 15 to 25	1992
Increase number of states that use checkpoints regularly from 25 to 35	1993

Drug Evaluation and Classification Program

The Drug Evaluation and Classification (DEC) Program is one component of NHTSA's response to the problem of impaired driving. The primary focus of this program is to deter the operation of motor vehicles by people under the influence of alcohol or other drugs, by increasing the actual and perceived likelihood that impaired drivers will be detected, arrested, prosecuted, and appropriately sanctioned. The DEC program enhances deterrence by training law enforcement officers to recognize those people who are impaired by drugs other than alcohol, and to identify categories of drugs responsible for the impairment. The officers are then certified as Drug Recognition Technicians (DRTs). As of October 1990, there were 12 states and the District of Columbia participating in the program. Over 1,000 police officers have been trained to be DRTs, 250 of whom have been trained to teach the program to other law enforcement officers.

Description: NHTSA will continue to expand the DEC program to new states in the coming years. It is the goal of the program to establish a DEC program in major metropolitan areas of each State.

Milestones:

Increase DEC States from 16 to 30	Fall 1991
Increase DEC States from 30 to 35	1992
Increase DEC States from 35 to 38	1993

Outreach Programs

Outreach programs are a vital part of both deterrence — by publicizing impaired driving laws, enforcement and sanctions — and of prevention — by education and persuasion. The Ad Council media campaign will serve both roles, using the techniques of modern advertising. The Techniques for Effective Alcohol Management (TEAM) program promotes responsible drinking at athletic events and elsewhere, by capitalizing on the high visibility of professional athletes.

AD Council Media Campaign/10th Anniversary of 3-D Week

NHTSA entered into an agreement with the Advertising Council in 1990 to launch a new drunk driving awareness advertising campaign. Historically, the agency and the Ad Council have worked together on an anti-DWI campaign in the early 1980s, and more recently on occupant protection ("Vince and Larry"). This new campaign serves to educate and remind the public about the dangers of impaired driving. In the second and third years of the campaign high risk groups will be further researched and targeted.

NHTSA will emphasize the 10th anniversary of National Drunk and Drugged Driving Awareness Week through a series of national and local initiatives and programs.

Description: NHTSA will develop a media campaign for drunk driving in cooperation with the Ad Council. Advertising research will be conducted; TV spots will be created, produced, and distributed to approximately 900 local TV stations and 4 networks, plus over 400 cable outlets; radio spots will be created, produced and distributed to 6,500 local radio stations and four networks; and print advertising will be created, produced and distributed.

Milestones:

Disseminate Ad Council media materials	Winter 1990-1991
Release second wave of print advertising, TV and radio spots	Fall 1991
10th Annual 3-D Week Campaign	Winter 1991-1992
Conduct further market research materials development on risk groups	1992

Techniques for Effective Alcohol Management

Founded in 1985, Techniques for Effective Alcohol Management (TEAM) is designed to reduce injuries and fatalities resulting from alcohol or drug-impaired driving following sports and entertainment events, to create a safer and more enjoyable spectator environment, and to introduce effective crowd control techniques for public assembly facilities. The TEAM program grew out of a

concern shared by the management of several arenas, stadiums and auditoriums about the impact of alcohol abuse among sports fans. In 1985, the International Association of Auditorium Managers together with NHTSA, the National Basketball Association, CBS and others founded the TEAM coalition. Allstate Insurance Company, Major League Baseball, the Motor Vehicle Manufacturers Association and the National Safety Council soon signed on along with other private sector supporters.

Description: The agency will expand TEAM to one additional national sports organization and will coordinate production of both national and local PSAs and campaigns. The National Hockey League and the National Collegiate Athletic Association joined TEAM in 1990. Discussions are underway with the National Football League.

Milestones:

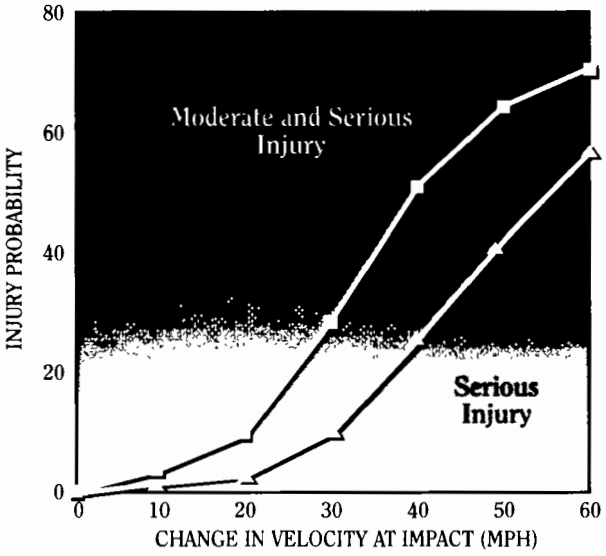
Produce two or more national PSAs	Fall 1991
Expand to one or more additional national sports organizations	1991-1993

Other Traffic Safety Programs

In addition to impaired driving and occupant protection, there are other important driver and traffic safety programs that can help to reduce injuries and deaths. These include programs to enforce speed limits and other hazardous moving violations, promote motorcycle helmet use and licensing, focus on pedestrian protection, improve Emergency Medical Services and participation in the National Driver Register.

These programs are described in the following section.

Injury Probability by Crash Severity



SOURCE: NATIONAL ACCIDENT SAMPLING SYSTEM, U.S. DOT, NHTSA

Motorcycle Safety

While motorcycles represent a small share of the total vehicle fleet, motorcycle fatalities constitute nearly 7 percent of all traffic crash deaths. In 1989, a total of 3,143 people were killed in motorcycle crashes. The fatality rate for motorcyclists is 20 times greater than the equivalent rate for occupants of passenger cars (30.1 per 100 million miles traveled vs. 1.7 per 100 million miles traveled for passenger car occupants). Injuries resulting from motorcycle crashes are severe and occur in more than 80 percent of all reported crashes. Head injuries are the most life-threatening type of trauma in motorcycle crashes. About 70 percent of all motorcycle fatalities result from head injuries.

Motorcycle Helmet Use Laws

Description: One means of reducing motorcycle fatalities is the enactment of helmet use laws applicable to all motorcycle operators and passengers. Helmets are 29 percent effective in preventing motorcycle fatalities, and States requiring all operators and passengers to use helmets consistently report very high use rates. The latest data on helmet use from NHTSA's 19 City Survey reflect a usage rate of almost 100 percent where use laws are in effect, as opposed to an average use rate under 50 percent in non-law survey sites. As of November 1990, 23 States require motorcyclists of all ages to wear helmets. Program efforts will concentrate on increasing the number of States with motorcycle helmet use laws governing all motorcyclists. This will be accomplished by: (1) developing technical and research reports (2) providing and assisting in the development of public information and education materials (3) providing expert testimony and (4) working closely with other organizations to build support for helmet use laws. The agency's program will encourage helmet laws in conjunction with other motorcycle safety initiatives such as rider education.

Milestones:

Increase number of states with motorcycle helmet use laws for all ages from 23 to 25	Fall 1991
Increase number of states with motorcycle helmet use laws for all ages from 25 to 30	1992
Increase number of states with motorcycle helmet use laws for all ages from 30 to 35	1993

Motorcycle Licensing

In all but two states a motorcyclist is required to obtain a motorcycle operator license endorsement before operating a motorcycle on public roads. In 1989, 42 percent of motorcycle fatalities were not licensed or were improperly licensed for operating a motorcycle. This statistic has remained about the same for the past five years. By fulfilling state motorcycle operator licensing requirements individuals are tested to ensure they possess the needed knowledge and skills to safely operate a motorcycle. The promotion of motorcycle operator licensing requirements and their enforcement is needed to decrease the number of unlicensed or improperly licensed motorcyclists.

Description: NHTSA will work with states and communities to reduce the number of motorcyclists operating their vehicles while unlicensed or improperly licensed. The agency will provide information and technical assistance to states enacting motorcycle operator licensing legislation, implementing a motorcycle operator licensing system or improving an existing motorcycle operator licensing system. NHTSA will support States and law enforcement agencies in their efforts to alert the public to motorcycle licensing requirements and the enforcement of such requirements.

Milestones:

Decrease percentage of improperly licensed motorcyclists involved in fatal crashes from 42 percent to 40 percent	Fall 1991
Decrease percentage of improperly licensed motorcyclists involved in fatal crashes to 38 percent	1992
Decrease percentage of improperly licensed motorcyclists involved in fatal crashes to 35 percent	1993

Speed

Speed is an important highway safety issue that affects both crash causation and severity. In terms of crash causation, higher speeds reduce driver perception/reaction time and increase vehicle stopping distance. Speed also affects the consequences of crashes. Studies have found a consistent and dramatic relationship between vehicle speed and injury severity (e.g., the higher the speed, the greater the injury).

Research findings in two state studies of fatal traffic crashes indicate speed as a contributing factor is increasing. Moreover, driver compliance with speed limits is poor in most cases, with as many as 7 out of 10 drivers exceeding the posted speed. Other research suggests that the general motoring public recognizes speeding as a violation of the law, but few regard the violation as a serious offense.

Speed Public Information and Education

Speeding continues to be one of our nation's most serious traffic safety problems. It is a leading contributing factor in the occurrence of serious and fatal vehicle crashes and is closely related to other types of unsafe driving practices.

Description: Law enforcement leaders have noted increasing non-compliance with all posted speed limits and other traffic laws and asked NHTSA to develop public information and education materials to strengthen and complement enforcement efforts. NHTSA will develop a new national media campaign to increase public awareness of the dangers and consequences of speed. The program will develop PSAs: TV and radio spots will be created, produced, and distributed to local TV stations, major networks and cable outlets; and print advertising will be created, produced,and distributed to support the national media campaign.

Milestones:

Publish and distribute a media guide for law enforcement administrators	Spring 1991
Create, produce and distribute TV, radio and print PSAs	1991-1993

Evaluate the Effectiveness of Speed Measuring Technology

NHTSA and the nation's law enforcement leaders are in agreement that excessive speed (too fast for conditions) is one of the major contributing factors to motor vehicle crashes in this country. However, since law enforcement resources are dwindling or have not kept pace with dramatic increased demands for services, law enforcement administrators must either devote fewer resources to speed enforcement or find less labor intensive ways of addressing the problem. As a result, the use of new technology must be considered to increase the efficiency and effectiveness of resources.

Description: Congress has directed NHTSA to submit a report detailing its program plan in the area of speed enforcement, including demonstration of new speed enforcement technologies. The speed program plan will include efforts to evaluate the effectiveness of manned and unmanned photo radar devices, automated speed enforcement devices (ASED), laser speed measuring devices, and other technologies (including VASCAR) for speed enforcement. NHTSA will conduct a multi-faceted program to investigate the applicability of these devices. The research will include: (a) the development of specifications and testing protocols; (b) the conduct of speed enforcement pilot projects to determine the applicability of the devices in varying levels of traffic density, to determine enforcement strategies, to determine the level of public acceptance, and to establish the administrative requirements for its use; (c) the development of model legislation for use by States wishing to modify their traffic laws to permit the use of such devices; and (d) the identification and development of special training programs to support new technology and strategies.

Milestones:

With NHTSA's Vehicle Research and Test Center (VRTC) develop testing protocols for VASCAR to identify error parameters (if any)	Winter 1990-1991
Submit NHTSA's Speed Enforcement Program Plan to Congress (Sent May 15, 1991)	Spring 1991
Develop instructor curriculum for radar speed measurement training program	Fall 1991
Conduct 3 speed enforcement pilot projects	1991-1992
Develop specifications and testing protocols for ASED and manned photo radar	1991-1992
Develop new speed enforcement strategies for using new devices	1992

Development of Trauma Systems

The Development of Trauma Systems (DOTS) program is an 8-hour seminar developed by NHTSA, which details those components necessary in developing a state and community trauma system, so that death and disability from traumatic injury are reduced. The seminar focuses on planning and implementation, operations and evaluation.

Description: The objectives of the program are to have state, regional, and local participants: (l) understand the need for comprehensive systems of trauma care (2) identify the essential elements of a comprehensive trauma system and (3) describe the planning and implementing processes needed to achieve a reduction in traumatic injuries or death due to traffic-related crashes. The seminar provides substantial information on the issues of developing regional trauma systems. The seminar process is comprised of a pre-site visit and the one-day seminar, with follow-up in six months.

Milestones:

Increase number of states with trauma system seminars from 6 to 14	Fall 1991
Increase number of states with trauma with trauma system seminars from 14 to 24	1992
Increase number of states with trauma with trauma system seminarsfrom 24 to 34	1993

Pedestrian Protection

Each year, approximately 7,000 pedestrians are killed and 110,000 are injured in traffic crashes, comprising some 15 percent of total fatalities. NHTSA and FHWA jointly administer the 402 pedestrian safety program. During the last several years, NHTSA and FHWA have been working together to ensure that their agency efforts are complementary. This resulted in a joint NHTSA/FHWA pedestrian safety program designed to provide resources and assistance to states and communities to foster the implementation of community-based pedestrian safety programs. Based on the potential success of the local projects to identify effective countermeasures, the agencies are considering a rulemaking action to propose adding Pedestrian Safety Programs to the National Program Priority list under the Section 402 formula grant program.

Description: Beginning in FY 1991, NHTSA and FHWA will decide whether to initiate rulemaking action regarding pedestrian safety. Should the agencies decide to add pedestrian safety to the 402 Program Priority list, a Highway Safety Program Advisory will be developed and distributed.

Milestones:

Regulatory decision on pedestrian highway safety priority status	Summer 1991
Develop and distribute pedestrian highway safety program advisory	1992

National Driver Register

Problem Driver Pointer System

The goal of the National Driver Register (NDR) is to establish a modern, electronic system to support state driver licensing agency needs for rapid detection of problem drivers and to provide information for consideration in the employment of operators in transportation industries. The long-term objective is to implement a new NDR system called the Problem Driver Pointer System (PDPS) in compliance with the National Driver Register Act of 1982 and in conformance with the March 1989 Report to Congress. The report recommended expanding the PDPS to all States.

The PDPS will contain only identifying information to enable the user to check whether adverse licensing action has been taken against an individual. It will not contain specific information about why an individual's name appears in the NDR file. Such information will be maintained by the State that instituted the adverse action. When a match occurs with a problem driver record on the NDR file, the NDR will point to the State where the adverse action is maintained, retrieve that information and relay it to the inquiring State. PDPS will provide the inquiring State with a more current driving history than was provided in the past.

Description: NHTSA is working to complete rulemaking that will establish procedures for a state to follow in order to convert to the PDPS system. Then, NHTSA will work through the American Association of Motor Vehicle Administrators (AAMVA) and the NDR Advisory Committee to promote the PDPS. A copy of the completed rulemaking action will be sent to each state along with a letter encouraging the state to switch to the PDPS.

Milestones:

Issue Final Rule on NDR PDPS	Spring 1991
Increase states in PDPS from 4 to 8	Fall 1991
Increase states in PDPS from 8 to 13	1992
Increase states in PDPS from 13 to 20	1993

Comprehensive Highway Safety Programs

There are effective strategies that involve more than one highway safety countermeasure program. This section discusses activities that are comprehensive in nature, cutting across traditional program areas. These include implementation of law enforcement strategies developed at the Traffic Safety Summit I held in April 1990, plans for Traffic Safety Summit II focusing on prosecution and adjudication, public health initiatives, coordinated youth programs and community traffic safety programs. In addition, NHTSA continues to provide technical assistance assessments to states on any number of countermeasure programs.

NHTSA's traffic safety authorization expires at the end of Fiscal Year (FY) 1991. Thus, a major initiative is to propose new highway safety legislation. The Administration's proposed legislation will continue and expand the agency's successful highway safety grant, technical assistance and research programs; while providing safety funding bonuses to states that take certain legislative and programmatic actions to advance highway safety and reduce impaired driving.

The following are descriptions of specific projects and programs addressing comprehensive highway safety programs.

Federal Legislation

Highway Safety Program Reauthorization

The Federal surface transportation authorization expires at the end of FY 1991. The President has sent the Surface Transportation Assistance Act of 1991 to the Congress which will reauthorize NHTSA's highway safety programs. These include the State and Community Highway Safety Program and the Highway Safety Research and Demonstration Program, and augments these with safety funding bonuses for State actions to prevent drunk driving and to improve highway safety.

Description: The highway safety reauthorization proposal starts from the assumption that the existing Section 402 and 403 highway safety programs are sound and should be continued. They support State planning and programming, provide startup funds for new programs, give new directions to existing ones, and provide a research and demonstration base for ne w programs. The safety funding bonuses will stimulate States to improve their alcohol legislation and programs, to pass safety belt use laws where they don't presently exist, and provide qualifying States with a substantial amount of new funds for their alcohol and highway safety programs.

Milestones:

Highway Safety Program Reauthorization	FY 1991
Implementation of new highway safety legislation	FY 1992

Federal/State Programs

Enforcement and Adjudication

Most traffic safety programs depend on traffic law enforcement and adjudication to ensure a high degree of compliance with traffic laws and to deal with specific safety problems. Even the best enforcement programs will have little effect unless offenses are vigorously and successfully prosecuted. Since traffic enforcement and adjudication are critical elements of comprehensive highway safety programs, NHTSA, in cooperation with law enforcement, prosecution, and judicial officials, must find strategies and technology to achieve the mo st from the limited resources available.

Implementation

Traffic Safety Summit I

In April 1990, a group of 200 top state and local law enforcement officials from around the country met to express their views on how federal, state, and local authorities can better address problems such as drunk and drugged driving, speeding, safety belt use, and commercial vehicle safety. A Traffic Safety Summit Implementation Group (TSSIG) was created to track the progress on implementation of the ideas developed as a result of the Summit and to provide guidance to law enforcement on additional activities that could be undertaken.

Description: NHTSA will evaluate and document the results of a 3-year combined enforcement pilot project that began in the fall of 1989. This project will measure the impact of combined enforcement strategies and public information and education programs. We will transfer the results of this project to law enforcement agencies through enforcement workshops and technical assistance. Also, NHTSA will encourage state implementation of the most effective strategies. NHTSA will support the TSSIG efforts to implement its ideas.

Milestones:

Conduct three TSSIG meetings	Spring, Summer, Fall 1991
Conduct three TSSIG Meetings	1992
Complete pilot project	Fall 1992
Promote use of most effective combined enforcement strategies	1993

Conduct Traffic Safety Summit II and Implement Results

Strengthening prosecution and adjudication activities in NHTSA's traffic safety program is one of our major goals. Historically, prosecution and adjudication programs have focused on the development and provision of high quality products (e.g., driving while intoxicated (DWI) trial manual and benchbook) and technical assistance that aids states

and communities in enhancing their ability to develop and implement effective prosecution and adjudication of traffic offenses. These efforts strive to increase the perception of risk of conviction, thereby creating a viable deterrent to violating traffic laws.

Description: The U.S. Department of Transportation will sponsor the Traffic Safety Summit II for members of the judicial and prosecutorial communities. It will afford an opportunity for prosecutors and members of the judiciary to share their insights and views concerning highway safety issues.

Milestones:

Conduct Traffic Safety Summit II	June 2-4, 1991
Publish proceedings	Summer 1991
Implement judicial and prosecutorial strategies developed as a result of the Summit	1992 - 1993

Outreach Programs

Significant benefit has been achieved through the involvement and integration of highway safety themes and programs with other programs and organizations. Through integrated youth, community traffic safety, public health and worksite programs, it is possible to combine resources, support services, and countermeasure efforts. When highway safety issues are integrated with other programs, particularly in the private sector, it broadens the efforts for reaching the general public and specific target groups. Outreach activities add more credibility and resources more than any single organization could develop on its own.

Network of Employers for Traffic Safety

Motor vehicle crashes are the largest single cause of on-the-job fatalities in the U.S. The Network of Employers for Traffic Safety (NETS) was developed by NHTSA and the National Commission Against Drunk Driving to establish a national highway safety agenda for the business community and to alert corporate leaders to the heavy cost of highway crashes. A series of training and marketing materials has been developed to motivate companies to examine their motor vehicle crash problem and to provide them the technical resources needed to address this problem, particularly in the areas of occupant protection and impaired driving. The Occupational Safety and Health Administration (OSHA) is addressing the problem of on-the-job motor vehicle fatalities through proposed rulemaking to require employers to adopt safety belt use policies for their employees and to provide appropriate education and training.

Description: The NETS program combines the public and private sectors in providing employee awareness and education programs to reduce highway crashes, injuries and fatalities on and off the job. Program content and supporting materials which are adaptable to all types of organizations have been developed. Information about the NETS program is being disseminated through a variety of outlets to corporate executives and safety officers. Corporate training and technical assistance is being provided to all interested safety officers responsible for implementing programs within their organization. Specific materials tailored to meet the proposed OSHA requirements will be developed.

Milestones:

Adapt NETS materials to meet OSHA requirements	Summer 1991
Initiate a national employer awareness campaign and expand NETS from current 200 to 400 corporations	Fall 1991
Expand NETS from 400 to 600 corporations	1992
Expand NETS from 600 to 1,000 corporations	1993

NHTSA Corporate Safety Awards Program

The National Transportation Policy highlights this Administration's commitment to build partnerships with the private sector to address the transportation needs of the Nation. The contributions that have been made by private sector organizations to traffic safety have been considerable. Corporations have established noteworthy safety programs for their employees, promoted traffic

safety through a variety of measures to their customers and sponsored a wide range of programs to enhance safety for the general public.

Description: NHTSA will establish a corporate safety awards program to recognize those companies that have made significant contributions and to motivate others to take a more active role in this area. The awards program will also serve to increase the visibility of the agency's wide range of highway safety program activities.

Milestones:

Develop award procedures and selection criteria	Fall 1991
Solicit nominations	Winter 1991
Make first awards	1992

Comprehensive Youth Program

Recent years have seen a substantial increase in student involvement in traffic safety issues and a substantial increase in student traffic safety organizations. In addition to national programs like Students Against Driving Drunk (SADD) and the National Student Safety Program (NSSP), there are many statewide organizations such as Stop Auto Fatalities Through Youth Efforts (Washington), Oregon Student Safety On The Move (Oregon), Friday Night Live (California) Students Taking A New Direction (Alaska, Colorado), and Arrive Alive (Georgia). These organizations are student-run, emphasize a peer-to-peer approach, and have been credited with contributing to recent downturns in youth alcohol-related traffic crashes and fatalities. The activities of these organizations will be supported and expanded with the development of statewide networks to share programmatic ideas, coordinate initiatives, and provide youth leadership training. The development of these networks will be the responsibility of state youth traffic safety coordinators and state youth task forces.

Description: NHTSA, in conjunction with the National Association of Governors' Highway Safety Representatives (NAGHSR) and their recently formed National Highway Safety Youth Coordinators Network, will work to establish state youth highway safety coordinators, state youth task forces and statewide networks of youth traffic safety organizations. Through these means, states will be assisted in establishing statewide coordinated student traffic safety programs.

Milestones:

Complete youth plan	Spring 1991
Increase number of states with a coordinated student traffic safety prevention program from 13 to 25	Fall 1991
Increase number of states with a coordinated student traffic safety prevention program from 25 to 30	1992
Increase number of states with a coordinated student traffic safety prevention program from 30 to 40	1993

Public Health

Traffic-related injury prevention and control is a significant problem that warrants attention from the public health community as well as highway safety advocates. Policy direction from the U.S. Department of Health and Human Services to state and local health departments has been formulated with the release of the *Year 2000 Health Objectives for the Nation.* These objectives include highway safety as a significant public health issue. Injury prevention is also a recognized focus and specialty within Federal and state governments and private agencies. The public health program is a recognition of the diversity of these agencies, organizations and groups, and the need for coordination and collaboration of traffic safety initiatives within the broad expanse of public health activities.

Description: The public health program provides consultation in the development and implementation of program activities and organizational strategies in addressing and including motor vehicle and highway safety as a priority public health initiative. Advocacy is provided for joint projects, initiatives and grants with other Federal agencies in addressing injury control research, prevention, and intervention.

Milestones:

Establish cooperative public health programs in 3 states	Fall 1991
Increase number of states with public health programs from 3 to 6	1992
Increase number of states with public health programs from 6 to 10	1993

Community Traffic Safety Programs

There are currently several hundred community traffic safety programs (CTSPs) in operation throughout the States. Building support for traffic safety legislation and program implementation begins at the grassroots level. CTSPs are an effective mechanism for states to use to accomplish their goals. The activities which generate support for administrative license revocation laws, motorcycle helmet laws, safety belt use laws, and enforcement strategies all begin at the local level and build support upward in the system to influence state legislators and policy makers.

Description: NHTSA will support the State Highway Safety Offices in their effort to develop community traffic safety programs to address local traffic safety concerns.

Milestones:

Support states in developing CTSPs	1991-1993

Lifesavers Conference

Lifesavers is an annual meeting (eight to date) of representatives and co-sponsors from a number of different organizations including NHTSA, NAGHSR, and motor vehicle, insurance, and advocacy organizations. The most recent conference held in San Diego, California, in April 1990 was attended by approximately 1,300 people. This workshop-oriented conference provides an opportunity to share highway safety information, gain awareness of safety developments and renew commitments for reducing fatalities and injuries.

Description: NHTSA remains committed to supporting these conferences in order to provide technical information exchange regarding safety technology, State and community programs, public and industry safety concerns, and to present strategies and goals in promoting highway safety.

Milestones:

Lifesavers/9 Conference (Charlotte, NC)	May 12-15, 1991
Lifesavers/10 Conference (Denver, Colorado)	April 12-15, 1992
Lifesavers/11 Conference (Site TBD)	1993

Technical Assistance

NHTSA provides national leadership and coordination of programs designed to reduce driver, passenger and pedestrian deaths and injuries. A wide variety of programs are administered through financial and technical assistance to the states. Federal direction for achieving these safety goals involves identifying national priority program issues and problems which require the partnership and leadership of states. Support activities are fostered through the development, implementation, evaluation and dissemination of state-of-the-art highway safety programs.

Technical Assistance Assessments

The technical assistance assessments provide a general review of a state's highway safety priority program areas. The assessments are tools for states to use in evaluating their programs and developing plans for future improvements. The assessments will be conducted in the following priority program areas: emergency medical services, occupant protection, traffic records, impaired driving, police traffic services, and pedestrian safety.

Description: The technical assistance assessment program is comprised of a pre-site visit, site visit, final report and briefing. NHTSA is responsible for assembling an interdisciplinary assessment team to conduct the evaluation appropriate to the particular program area and to the needs of the requesting state. A briefing and interview process is conducted which provides the necessary information from which an evaluation is made. The findings of the assessment team are presented in a final report and briefing on the last day of the site visit.

Milestones:

Emergency Medical Services

Conduct EMS assessments in 13 more States for total of 29 states	Fall 1991
Increase number of states with EMS assessments from 29 to 41	1992
Conduct EMS assessments in remaining states	1993

Occupant Protection

Increase number of States with occupant protection assessments from 2 to 12	Fall 1991

Increase number of states with occupant protection assessments from 12 to 22	1992
Increase number of states with occupant protection assessments from 22 to 30	1993

Traffic Records

Participate in Region VIII FHWA/NHTSA records assessment	Fall 1991
Increase number of Regions with traffic records assessments from 1 to 5	1992
Increase number of Regions with traffic records assessments from 5 to 10	1993

Impaired Driving

Conduct pilot impaired driving assessment in 1 state	Fall 1991
Increase number of states with impaired driving assessments from 1 to 5	1992
Increase number of states with impaired driving assessments from 5 to 10	1993

Police Traffic Services

Develop and field test assessment programs and conduct 2 state assessments	Fall 1991
Increase number of states with police traffic services assessments from 2 to 9	1992
Increase number of states with police traffic services assessments from 9 to 21	1993

Pedestrian Safety

Develop and field test assessment program	1992
Conduct pilot pedestrian assessments in 3 states	1993

Technology and Innovation

Advancing traffic and motor vehicle safety will increasingly depend on the development, dissemination, and utilization of advanced technologies and innovative programs. The following describe major agency activities directed toward those ends.

Motor Vehicle Programs

Expand the Intelligent Vehicle/Highway System Program

Intelligent Vehicle/Highway Systems (IVHS) is an umbrella term for several interdependent vehicle and road technologies which offer the potential for reducing congestion and the air pollution it engenders and for improving highway safety. Through high-profile government-supported research programs in Europe and Japan, foreign transportation research has advanced well beyond the U.S. in many areas. Both the DOT and the Congressional Office of Technology Assessment proposed that a national public/private cooperative effort be established to foster the development, demonstration, and implementation of IVHS technologies.

Description: NHTSA is developing a research plan for demonstrating that improved safety can be achieved by enhancing the crash avoidance performance of motor vehicles through the application of intelligent vehicle technology. The program has four components: the setting of priorities to assure that maximum safety improvement is realized, the establishment of functional requirements for the performance of crash avoidance systems, the development of criteria for use in optimizing the interface between the driver and the vehicle and, the development of research tools that are needed to carry out the other parts of the program. NHTSA's activities are coordinated with those of the other agencies within the Department through the IVHS Coordinating Group.

Milestones:

Serve as the safety evaluator of Departmental operational tests of VHS; develop the safety evaluation plan and evaluate the level of safety found in demonstration projects	1991-1993
Identify workable crash problems and the functional requirements for intelligent vehicle crash avoidance countermeasures to address them	Fall 1991
Evaluate the performance, reliability, failure modes/consequences, and costs associated with the crash avoidance techniques identified as the most promising	1992
Quantify critical driver sensory, perceptual, decision-making and motor capabilities in the driving task, especially with regard to driver workload and the response to warning systems	1993
Develop evaluation protocols for measuring the driver's ability to utilize IVHS systems, as well as the overall safety performance of the driver-vehicle-roadway system	1993

Development of Research Driving Simulator

NHTSA's advanced driving simulator program is designed to facilitate development of a research simulator which can be used to evaluate behavioral and vehicular performance under a wide range of artificial environmental conditions. The major objective for performing simulator tests is to identify and evaluate vehicular crash causation factors resulting from: (1) vehicular performance characteristics including vehicle dynamics, instability, poor road conditions, or (2) human behavioral characteristics including inexperience, sleepiness, impairment, etc. These tests could be run in a controlled, safe environment. The construction of the simulator is to be funded by the public and private sector. A recently completed feasibility study by the University of Iowa indicates that the simulator project is technically and economically feasible.

Description: A Simulator Project Office has been formed to oversee the preparation of the Transportation Systems Acquisition Review Council (TSARC) documentation. The documentation will lay out the details concerning project alternatives, funding and procurement strategies, legal issues, scheduling, costs, etc. Upon review and approval by TSARC and the Deputy Secretary, the next objective of the Simulator Office will be to have independent contractors establish functional specifications (based on user requirements) for the simulator and the various mechanical subsystems. After establishment of the functional specifications, a prime system engineering contractor would need to be hired to ensure that contract specifications are met by the various system subcontractors.

Milestones:

Establish functional specifications (based on user requirements)	Spring 1991

Develop public/private funding strategies	Summer 1991
Submit TSARC documentation	Summer 1991
Finalize systems specification	1992
Build/checkout simulator	1995

Biomechanics Research Program

Biomechanics is an interdisciplinary science that uses the theories, methods, and practices of engineering to study injuries in humans. It provides the fundamental understanding of the injury process in mechanical terms, and forms the basic information from which intervention and prevention strategies can be developed.

Description: NHTSA's biomechanics efforts are focused in three areas. *Impact Injury Research* is investigating the relationship between the forces, motions and distortions that the human body experiences during an impact, and the resulting injuries. Research in this area is currently being carried out at three university-based research centers. Two additional centers are planned. Computer models that simulate the human impact response in crashes are being developed as part of the *Analytical Simulation* activity, centered primarily at the Department's Volpe National Transportation Systems Center. Mechanical analogs of these responses are being developed as part of the *Test Methodology Development* activity. These devices cover the range from subcomponent devices that represent particular body segments, to anthropomorphic test devices (dummies) that represent the entire human. A Test Device Development Center contractor will be selected in 1991, with VRTC providing additional near-term test device development.

Milestones:

Select Test Development Center Contractor	Summer 1991
Initiate testing at two additional impact Injury Centers	Spring 1992

Crash Data

New Crash Data Collection Program

Most NHTSA safety programs use crash data for problem identification, countermeasure development and for evaluating program effectiveness. The agency's crash data collection program now consists of five basic collection activities: the Fatal Accident Reporting System (FARS), the General Estimate System (GES) and the Crashworthiness Data System (CDS) components of the National Accident Sampling System (NASS), State Data Files, and Special Accident Investigations. GES collects information from a statistical sample of about 45,000 police accident reports on all types of highway crashes. CDS uses NHTSA-trained private contractors to investigate approximately 7,000 crashes annually. CDS collects data on a random, stratified sample of serious crashes with emphasis on collecting vehicle crashworthiness performance and personal injury data for incidents involving late model passenger cars, light trucks and vans.

Description: Except for the CDS, NHTSA's crash data collection is expected to remain essentially the same, with the addition of some fine tuning, as required. For the near term, the CDS system design has been optimized to increase its efficiency. This will be implemented in 1992. For the longer term, NHTSA's National Center for Statistics and Analysis is developing a five year plan for future agency crash data needs.

Milestones:

Complete field testing of the new CDS data collection program and begin implementation	1991
Award contract for optimized CDS system	1992
Begin data collection	1992

Develop a Common Set of State Data Elements

Government agencies, whether Federal, State, or local, need reliable data and information for supporting their highway safety programs. The data to support these programs come from a myriad of sources, but the police accident reports (PARS) currently provide the bulk of data elements for state traffic records. These state files contain data elements (covering millions of police-reported crashes) which are extremely useful in performing highway safety analyses. While many improvements in the quality, quantity, and timeliness of reported data have been realized since passage of the Highway Safety Act of 1966, problems still exist: the data are not uniform and, thus, interstate comparisons are either not possible or difficult to make;

important variables (i.e., alcohol involvement, data on uninjured occupants) are missing, thus making evaluation of critical safety programs impossible; and errors exist in data coding and data which result in erroneous conclusions.

Description: Developing uniformity in data collection will benefit analyses of national data as well as provide useful comparative information to states. NHTSA has initiated a program, in cooperation with state and local highway safety constituents, to identify a uniform core of data elements. As part of this effort, NHTSA will also provide software recommendations to facilitate output reporting and analysis, and conduct a periodic review to identify how each jurisdiction is achieving the desired uniformity. These core data elements will be specified to provide the data necessary to address the areas critical to support highway safety analytical needs for Federal, State and local governments. NHTSA published a proposed list of Critical Automated Data Reporting Elements (CADRE) for public comments on May 1, 1990.

Milestones:

Develop an approved set of core data elements	Spring 1991
Survey states' capability to comply with CADRE	1991-1992
Develop technical assistance programs to aid states in adopting CADRE	1991-1992
Promote adoption of standard data element collection between states	1992-1993

New Trauma/Emergency Medical Services (EMS) Data Linkage Program

The NASS Crashworthiness Data System is NHTSA's only data system that provides detailed injury information. All other data systems are limited to the injury severity as recorded on police accident reports, a value that is extremely limited in nature and variable in interpretation. Many states are considering or actually developing data systems that report the performance of the EMS providers and the injuries that were treated at hospitals for those trauma victims admitted for treatment. If data for motor vehicle crash victims recorded in EMS and trauma data systems could be mated with the crash data found on the State's crash data system, a much enhanced database would be created for evaluation and analysis of both the medical services provided and of highway safety issues.

Description: NHTSA's Office of Traffic Safety Programs, with input from Research and Development, is encouraging states to link trauma/EMS data systems with crash data through a program called the Sensitivity Index Project. Research and Development is also working to ascertain the analytic utility of this injury data as a source of information for developing and evaluating occupant protection initiatives. Traffic Safety Programs will continue to work with states to develop trauma/EMS systems, and to assure that the systems capture the necessary data for all treated victims within the state. Research and Development, with Traffic Safety Programs, will work with States to encourage their use of these data in developing, managing, and evaluating their highway safety programs. In order to satisfy the needs of the EMS and traffic safety communities, states will be encouraged to develop standardized data. NHTSA will provide technical assistance for states who are investigating methodologies for linking their files.

Milestones:

Conduct nationwide survey of state trauma data systems	1991-1992
Develop model state trauma data system	1992
Evaluate and build data linking processes	1992-1993

Publications

Research Journal

In the fall of 1989, a study of NHTSA's technology transfer process was completed. In conducting the study, the technology transfer process in other agencies, as well as NHTSA, was reviewed. Each agency, with the exception of NHTSA, had at least one major publication that served as a forum for technical papers, reports, journal articles, data, etc. The study recommended that NHTSA publish a journal in an effort to reach the broad community of individuals who could support motor vehicle and highway safety initiatives.

Description: The agency will publish a periodic research journal focused on motor vehicle and highway safety research.

Milestones:

Publish first issue of NHTSA journal	Spring 1991

Conferences

International Technical Conference on Experimental Safety Vehicles (ESV)

The ESV Conference provides a unique international forum that focuses attention on an extremely broad range of motor vehicle safety issues and research. This highly technical conference is held approximately every 2 years for the purpose of exchanging technical information in the field of motor vehicle safety. The program is pursued through bilateral agreements between the Department of Transportation and the governments of Canada, Sweden, France, United Kingdom, Federal Republic of Germany, Japan, Italy and the Netherlands. To date, 12 conferences have been held, with Sweden hosting the last one in May 1989. This conference was attended by 600 representatives of the motor vehicle safety research community.

Description: NHTSA remains committed to supporting this conference in order to stay abreast of the latest safety technology breakthroughs, industrial safety concerns as well as to present our own roles, strategies, and goals in promoting highway safety.

Milestones:

13th ESV Conference (Paris, France)	Fall 1991
14th ESV Conference (Site TBD)	Spring 1993

Research and Evaluation

Develop Model for Expanded Public/Private Support of Research

In the highway safety area many attempts have been made to accomplish meaningful collaboration between the public and private sectors, but to date none have been entirely successful. This project will examine existing programs of research cooperation between other Federal agencies and private sector organizations.

Description: The agency will work to develop a model for a public/private research entity in the field of motor vehicle/highway safety. A range of possibilities will be explored with the field of biomechanics considered as an area where this involvement would be useful. Biomechanics is an area where the national resources taken separately do not appear to be able to accomplish the needed work in a reasonable time. The operating assumption is that pooling the resources would provide an atmosphere that will allow agreement on many issues of mutual interest, such as measurement methods, how success is defined, data requirements, etc.

The agency will consider the interest of other parties, e.g., other agencies, industry, vendors, as well as academic and consumer activist organizations. The agency will investigate a variety of existing models and consider different areas for collaboration with the private sector.

Milestones:

Complete survey of cooperative research and development programs	Spring 1991
Interact with interested parties to develop model	Summer 1991
Develop tentative model for an expanded public/private research entity	Fall 1991

Develop New /Improved Enforcement and Adjudication Procedures

The effectiveness of laws designed to deter individuals from engaging in a legally proscribed behavior is largely a function of the perceptions of those individuals of their risk of arrest, the severity and certainty of sanction after arrest, and the speed with which the sanction follows arrest. For this to occur, we need to have effective enforcement and sanctioning systems.

NHTSA has relied heavily on the deterrence strategy for reducing speeding and impaired driving, and has provided strong technical and programmatic support to enforcement and sanctioning systems around the nation. These efforts have produced successes in combatting the highway safety problem. However, the system needs to work efficiently to detect more DWI and speed violators, and to assure that effective sanctions are carried out.

Description: The agency will develop and field test improved enforcement and sanctioning procedures. This includes

developing new sets of visual cues, developing improved police patrol and enforcement procedures, and developing effective sanctions and sanctioning procedures. When fully developed, these strategies will be integrated into existing public information and education programs designed to deter individuals from drinking and driving.

Milestones:

Initiate contract to field test alternative procedures for implementing sobriety checkpoint guidelines	Fall 1991
Initiate contract to develop additional standardized field sobriety testing techniques that police can use to detect drivers at BACs below 0.10	Fall 1991
Determine the effectiveness of enforcement programs that emphasize speed but combine activities from alcohol and safety belt programs	1992
Validate promising problem drinker assessment instruments that can indicate whether a DWI should be referred for rehabilitation treatment	1992

Attitudes Toward Drunk Driving

Alcohol use is pervasive in American society. Drunk driving continues to be a critical highway safety problem: in 1989, 22,415 of the 45,555 lives lost in motor vehicle crashes involved alcohol. These crashes cost the Nation more than $12 billion each year.

Nevertheless, drunk driving has declined over the last decade. This is in part a consequence of changing attitudes toward drinking and driving that has resulted from increased publicity from both the government and private groups. In many social circles, it has become unacceptable to drink and drive. These changes in attitudes have been supported by programs such as the designated driver, server training and TEAM.

The Comptroller General of the United States and the Presidential Commission on Drunk Driving have pointed to continued acceptance of drinking and driving among many people as a major obstacle to addressing this problem. Both stated that reduction in the alcohol-related carnage on the roads requires further changes in societal values, attitudes, and behavior toward use and abuse of alcohol. According to the Presidential Commission, "Community-wide encouragement and reinforcement of changed social norms are a must if real progress is to be made in DUI statistics."

Description: The agency will research public values and attitudes toward drinking and driving within various societal groups, and into what influences them. From this, we will determine what will make the public's motivations, beliefs, skills, and environment support anti-DWI norms. From this, we will develop programs to establish anti-drunk driving norms within social groups.

Milestones:

Determine the changes that need to be made in attitudes, skills and situational factors	1993
Initiate development of motivational messages, educational materials, and other programs targeted for specific groups to change drinking and driving attitudes and behavior	1993
Initiate the identification of prevention countermeasures	1993