

A BOLD NATIONAL SAFETY INITIATIVE

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In December 1997 the Executive Board of the American Association of State Highway and Transportation Officials endorsed the AASHTO Strategic Highway Safety Plan, which had been developed by the Standing Committee on Highway Traffic Safety. This plan embodies a bold and concerted effort across

all elements of highway safety to achieve the goal of reducing highway fatalities by 5,000 to 7,000 per year by 2004, both cost-effectively and in a manner acceptable to most Americans. This is an ambitious goal given that there

vehicle safety, and on the development of better safety data and data analysis tools.

Magnitude of the Problem

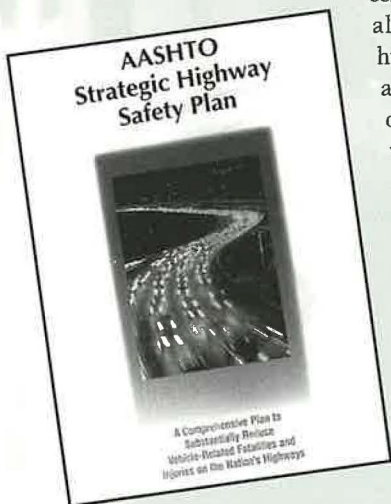
As noted in the AASHTO plan, if current trends continue, 6 of every 10 people born today will be injured and 1 in 84 will die violently in highway crashes. Strong evidence indicates that it is possible to make a difference in these numbers. The marked reductions in crash rates since the mid-1960s can be attributed to higher vehicle safety standards, greater attention to driver issues, improved highway design and operations, efforts to increase awareness of risks (e.g., drinking and driving), and increased attention to safety management. The AASHTO plan is based on the premise that more can be done to achieve further safety improvements. Table 1 presents 1995 statistics on the numbers of highway fatalities in various categories. These statistics served as the impetus for the plan's focus on specific areas in which concerted efforts have the potential to result in significant reductions in highway deaths.

Elements of the Plan

The AASHTO Strategic Highway Safety Plan represents a comprehensive approach to improving highway safety that encompasses areas traditionally outside the realm of many departments of transportation. Table 2 provides a summary of the topics covered in the plan. It is important to note that the plan does not incorporate all possible aspects of highway safety. The 22 topics included reflect the consensus of the more than 75 professionals who contributed to the plan's development on those areas in which the greatest impact can be made in reducing highway fatalities and the health-care costs associated with highway crashes.

The experts that met to develop the plan carried the effort to a more detailed level for each of the 22 topics, formulating a total of 92 strategies. To illustrate the level of detail in the plan, the strategies associated with 4 of the topics are described below.

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The AASHTO Strategic Highway Safety Plan represents a bold initiative that recognizes the need to work beyond the normal boundaries of a department of transportation to achieve safety improvements.

have been only slight fluctuations from the level of about 42,000 highway fatalities annually for more than a decade. The plan is also bold in reflecting an awareness that AASHTO alone, with its traditional focus on the highway infrastructure, cannot achieve these reductions. In addition to efforts to improve the design, operation, and maintenance of the highway system, it will be necessary to focus increased attention on drivers and the processes used to train and regulate them, on the special needs of older drivers and pedestrians, on improved enforcement, on enhanced

Safety professionals need improved information to monitor changing highway conditions and trends.



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TABLE 1 Summary of Highway Fatalities by Category

Category	1995 Deaths ^a
Young drivers (ages 16–20)	5,868
Invalid license (suspended/revoked)	6,409
Older drivers (ages 65+)	3,118 (ages 65–74); 3,873 (ages 75+)
Aggressive driving/speeding	11,656 (speeding or driving too fast for conditions); 2,850 (reckless driving)
Drivers impaired by alcohol	17,274
Failure to remain alert	3,323 (inattentive); 1,818 (fell asleep)
Unbelted drivers and occupants	19,099
Pedestrians	5,585
Bicyclists	830
Vehicle–train deaths	455
Motorcyclists	2,262
Drivers and occupants of heavy vehicles	4,453
Vehicle features responsible	Cannot be accurately ascertained, although 330 unintentional deaths were associated with carbon monoxide alone
Roadside crashes	15,754 (most harmful event involved fixed object or rollover)
Intersection crashes	8,450
Work zone crashes	771

^a Since there is overlap among the categories listed, the numbers in the right column do not sum to the approximately 42,000 total annual highway fatalities.

SOURCE: Fatal Accident Reporting System.

Topic 9: Making Walking and Street Crossing Safer

The data in Table 1 indicate that on average, a pedestrian was killed about every 1.5 hours on the nation's roadways during 1995—nearly 5,600 men, women, and children in all. Though this figure represents about a 19 percent reduction since 1985, it is still too high a toll.

The AASHTO plan identifies six strategies intended to promote better accommodation of pedestrians in the design of highway facilities, the implementation of comprehensive safety programs for impaired pedestrians, increased public outreach and training, enhanced designs to accommodate pedestrians and bicycles at intersections and interchanges, improved laws to protect pedestrian rights, and programs targeting specific urban pedestrian problems. These six strategies are as follows:

- ◆ In cooperation with other groups, update existing and develop new warrants, guides, and standards for the safe accommodation of pedestrians on or near the highway
- ◆ Implement comprehensive programs (engineering, enforcement, education) targeting impaired (e.g., by alcohol, drugs) pedestrians.
- ◆ Encourage states to become active in public outreach and training on pedestrian safety.
- ◆ Develop programs aimed at improving safety accommodations for pedestrians and bicycles at intersections and interchanges.
- ◆ Encourage states to enact new or modified legislation and adopt policies to provide safer accommodation of pedestrians on public roads.
- ◆ Implement comprehensive, integrated pedestrian safety programs in major urban and selected rural areas.

It is believed that implementation of these strategies can lead to a 15-percent reduction in annual highway fatalities involving pedestrians.

Topic 16: Minimizing the Consequences of Leaving the Roadway

One-third of all highway fatalities result from vehicles leaving the road and hitting a fixed object or overturning. The plan recognizes that the primary objective is to keep vehicles on the road, but it is also necessary to minimize the consequences should a vehicle leave the roadway. Leaving the roadway is known to be particularly hazardous in rural areas; data show that two-thirds of run-off-the-road crashes involving fatalities and injuries occur in these areas. The plan identifies five strategies believed to offer high potential for minimizing the consequences of such crashes:

- ◆ Develop improved practices for the selection, installation, and maintenance of upgraded roadside safety hardware.

TABLE 2 Primary Elements of AASHTO Strategic Highway Safety Plan

Area	Topic
Drivers	1. Instituting graduated licensing for young drivers 2. Ensuring drivers are fully licensed and competent 3. Sustaining proficiency in older drivers 4. Curbing aggressive driving 5. Reducing impaired driving 6. Keeping drivers alert 7. Increasing driver safety awareness 8. Increasing safety belt usage and improving airbag effectiveness
Special Users	9. Making walking and street crossing safer 10. Ensuring safer bicycle travel
Vehicles	11. Improving motorcycle safety and increasing motorcycle awareness 12. Making truck travel safer 13. Increasing safety enhancements in vehicles
Highways	14. Reducing vehicle–train crashes 15. Keeping vehicles on the roadway 16. Minimizing the consequences of leaving the roadway 17. Improving the design and operation of intersections 18. Reducing head-on and across-median crashes 19. Designing safer work zones
Emergency Services	20. Enhancing emergency medical capabilities to increase survivability
Management	21. Improving information and decision support systems 22. Creating more effective processes and safety management systems

- ◆ Conduct an environmentally acceptable national effort to address hazardous trees.

- ◆ Implement a national policy designed to reduce the hazard posed by roadside utility poles, particularly on two-lane rural roads.

- ◆ Develop and implement guidance aimed at improving ditches and backslopes to minimize rollover potential.

- ◆ Develop and implement guidelines for safe urban streetscape design.

Achieving a 15-percent decrease in fatalities associated with leaving the roadway would translate to about 2,000 lives saved annually.

Topic 17: Improving the Design and Operation of Intersections

Injury and fatality statistics provide ample evidence that there is an urgent need to find better ways of designing and operating intersections. Almost one in four highway fatalities occurs at or near an intersec-

tion, with a third of these being at signalized intersections. Studies have shown that crash scenarios most often involve left-turn, rear-end, and right-angle crashes. The AASHTO plan outlines four strategies believed to hold promise for averting these fatalities:

- ◆ Improve the safety of intersections using automated methods to monitor and enforce intersection traffic control.

- ◆ Enhance intersection safety by upgrading signalized intersection controls to provide smooth traffic flow.

- ◆ Use new technologies to improve intersection/interchange safety.

- ◆ Develop more effective access management policies with a safety perspective.

A modest 15-percent improvement in intersection/interchange safety would mean more than 1,200 lives saved annually and a major reduction in injury costs.

Implementation Support for AASHTO Strategic Highway Safety Plan

NCHRP Project 17-18

In March 1998 a National Cooperative Highway Research Program project was approved to assist the American Association of State Highway and Transportation Officials in implementing the *AASHTO Strategic Highway Safety Plan*. This fast-track project encompasses a number of activities initiated through efforts of the project panel, hired consultants, NCHRP staff, and Federal Highway Administration and National Highway Traffic Safety Administration partners. These activities include the following:

- ◆ Compilation of information on federal, state, and local safety efforts ranging from research to specific safety improvement projects. This information is expected to be useful to agencies wishing to update and enhance their safety efforts in accordance with the plan.
- ◆ Development of a Web site to allow the sharing of information related to the plan and to provide a basis for better communication among safety professionals.
- ◆ Identification of knowledge gaps to serve as a basis for undertaking high-priority safety research.
- ◆ Initiation of model deployments and a lead-states program to assist agencies in implementing recent successes or the results of just-completed research.
- ◆ Planning and conduct of workshops and other forums as a means of bringing stakeholders together to identify emerging problems, formulate solutions, and strive to find appropriate compromises among competing interests.

This project is expected to provide continued support to the plan's implementation for the next 3 years.

For more information contact Kenneth S. Opiela, Transportation Research Board (telephone 202-334-3229).



The *AASHTO Strategic Highway Safety Plan* provides a comprehensive road map for achieving substantial near-term reductions in deaths and injuries due to highway crashes.

Topic 21: Improving Information and Decision Support Systems

Not all elements of the plan directly address specific safety problems. Those who formulated the plan recognized that safety professionals need improved information and associated processes to monitor changing highway conditions and safety trends. Such capabilities make it possible to be more proactive in addressing emerging threats to highway safety resulting from changes in the characteristics of the vehicle fleet or new land use patterns that increase the volume or mix of traffic. In addition, drivers with bad records need to be tracked, and crash data must be recorded and made readily available so needed improvements can be identified. The AASHTO plan includes five strategies in this area:

- ◆ Improve the quality of safety data by establishing programs for quality assurance, incentives, and accountability within agencies responsible for collecting and managing the data.
- ◆ Provide managers and users of highway safety information with the resources needed to make the most effective use of the available data.
- ◆ Establish a means for coordinated collection, management, and use of safety information among organizations at all jurisdictional levels.
- ◆ Form a group of highway safety professionals to train others in the analytic methods appropriate for evaluating highway safety information.
- ◆ Develop and promote technical standards for characteristics of highway safety information systems that are critical to operating effective safety management systems.

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