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on Traffic Safety and Education**

**Plenary Session IX: Financing Activities,  
Plans, and Programs**

**Paying the Cost: Legal Responsibility,  
Participation of the Private Sector, and  
Insurance**

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Motor vehicle deaths are one of the most significant public health problems in the United States. Crashes are the number one cause of death for people 1 to 34 years old. They cause more than 20 percent of all deaths of young people 5 to 29 years old and more than 40 percent of all deaths of people in their late teens. And deaths are not the only problem — motor vehicle crashes result in more than 500,000 hospital admissions annually. Crashes are the leading cause of head, brain, and spinal cord injuries, which are especially debilitating and costly to treat. The costs of emergency services, medical treatment, and rehabilitation needed because of motor vehicle crash injuries are important factors in the increasing cost of health care in the United States. In addition, the costs of property damage resulting from motor vehicle crashes far exceed the medical costs.

The National Highway Traffic Safety Administration (NHTSA), the federal agency within the U.S. Department of Transportation that regulates motor vehicle safety, analyzed the economic cost of motor vehicle crashes in 1994. NHTSA looked at the full range of crashes including 40,676 involving fatalities, 5.2 million involving nonfatal injuries, and 27 million involving only property damage. The largest portion of the total cost was \$52.1 billion for property damage associated with fatal, injury, and property damage-only crashes. This cost represented 35 percent of all the costs incurred as a result of motor vehicle crashes. NHTSA estimated that the present and future medical cost of motor vehicle-related injuries was \$17 billion.

NHTSA also analyzed who pays the cost of crashes, estimating that private insurers pay the majority of the crash-related costs (approximately 55 percent of the total). Federal, state, and local governments pay about 9 percent of the cost. NHTSA estimated that the portion paid by the government cost taxpayers \$13.8 billion in 1994, which is equivalent to \$144 in added taxes for each household in the United States. Individuals involved in crashes pay about 29 percent of the total cost, and charities and others pay the remaining 7 percent.

### **U.S. Insurance Compensation System**

In some countries, the government directly provides some types of automobile insurance coverage. For example, in Quebec, Canada, basic bodily injury protection is provided by a government plan, which is administered by the Societe de l'assurance automobile du Quebec. Private insurers in Quebec offer additional bodily injury insurance to supplement the basic coverage. In contrast, property damage coverage in Quebec is provided exclusively through private insurers.

In the United States, private insurance companies provide automobile insurance. Even in states where high-risk drivers join state-run insurance pools, the private insurers selling insurance in those states cover the claims cost. Because automobile insurance in the United States is regulated by state governments rather than the federal government, the types of automobile insurance compensation systems vary from state to state.

One difference among the states is whether motorists are required to purchase automobile insurance. There are two basic components to automobile insurance in the United States. The first type is called first-party coverage, which covers insured motorists for their own injuries (medical payments or personal injury protection (PIP) coverage) and for damage to their vehicles (collision coverage). (Under U.S. contract law, the motorist who purchases the insurance coverage is referred to as the first party. The insurance company providing the coverage is referred to as the second party, and everyone else, such as other motorists, is referred to as the third party.) The second type is called third-party coverage, which covers injuries caused by an insured motorist to other motorists (bodily injury liability coverage) and damage caused by an insured motorist to the vehicles or property of others (physical damage liability coverage).

Most states require motorists to have specified minimum amounts of third-party liability automobile insurance to cover bodily injuries and physical damage to other motorists. However, in a few states it is not necessary to have insurance. Instead, financial responsibility laws require motorists to prove they have sufficient assets or other means to meet the minimum liability requirements set by the states without automobile insurance coverage.

### **Compensation for Injuries**

**Fault versus no-fault:** A fundamental difference in the type of compensation is whether a state uses a fault-based tort liability system or a no-fault system to compensate people for injuries they sustain in crashes. In states with fault-based tort liability systems, an injured person can sue the person responsible, or “at fault,” for the crash to seek compensation for the economic losses, such as medical costs, resulting from the crash. In addition, an injured person can seek noneconomic losses including damages for what is often referred to as “pain and suffering.” To recover, the injured party must prove the injuries resulted from the “fault,” or negligence, of another party.

In tort liability states, there are two types of automobile insurance coverage for injuries. One is called medical payments coverage, which pays for injuries and related costs to a vehicle’s owner and others injured while riding in the insured vehicle. This payment is made without regard to who is “at fault,” but the benefit typically is limited to \$5,000 per person or less. The second is called bodily injury liability coverage, which pays for injuries and related costs to other people when an insured vehicle’s owner is “at fault.” The amount of coverage typically is limited to \$100,000 per claim and \$300,000 per crash, although more coverage can be purchased.

Thirteen states (Colorado, Florida, Hawaii, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Dakota, Pennsylvania, and Utah) have instituted some form of no-fault insurance, under which insured motorists are reimbursed for their injuries by their own insurers

without regard to who was “at fault” in the crash. Payment for injuries to insured motorists is paid under PIP coverage. All injury costs must first be filed as a PIP claim, and a person can go to court and sue for further damages only if his or her expenses exceed a “tort threshold.” This is in keeping with the fundamental purpose of no-fault insurance, which is to eliminate many of the minor injuries from the legal system while still providing prompt reimbursement to injured parties for their medical bills.

At present, there are two types of tort thresholds. One sets a monetary threshold based on costs incurred as a result of the crash. For example, in Colorado medical and rehabilitative expenses must exceed \$2,500 before an injured motorist can sue. Unfortunately, the dollar threshold often becomes a target for claimants to exceed so they can sue under the tort system. Another problem with dollar thresholds is that they rarely are updated, so dollar amounts that seemed substantial 10 years ago can easily be exceeded today even in relatively low-severity crashes.

Florida, Michigan, and New York have “verbal” no-fault thresholds. In these states, the line drawn between claims that can and cannot end up in court depends on the type of injury sustained by the motorist, regardless of the costs associated with the injury. This means claimants may sue when they incur significant permanent injuries such as dismemberment, loss of a body part, or loss of one of the senses.

Just as in states with tort-based insurance systems, bodily injury liability coverage is available in no-fault states to provide insured motorists with protection against claims brought by other people injured in a crash.

## **Vehicle Damage Coverage**

**Collision coverage:** There are three basic types of vehicle damage coverage sold by U.S. insurers. The first type, referred to as collision coverage, is a first-party coverage, under which an insured vehicle’s owner is reimbursed for damage to that vehicle in a crash. Collision coverage is sold with a deductible, so an owner pays the first several dollars of crash damage costs. The deductible amount can vary, but typically it is \$500 per claim for new vehicles.

**Comprehensive:** The second type of vehicle damage coverage is called comprehensive, which reimburses a vehicle’s owner for noncrash damage to the insured vehicle from events such as theft, damage to glass, vehicle fires that are not the result of a crash, vandalism, and acts of nature such as floods and hailstorms. Comprehensive coverage typically has a \$100 deductible.

**Property damage liability:** As mentioned earlier, collision coverage is first-party insurance. It reimburses an owner for damage to his or her own vehicle. In contrast, property damage liability coverage is third party. It insures against physical damage that an insured person’s vehicle inflicts on another vehicle or on other property in a crash in which the insured driver is deemed “at fault.” Generally, there is no deductible.

## **Typical Factors Used to Determine Premiums**

Although every company calculates insurance rates and premiums in a slightly different way, U.S. automobile insurers use four basic categories of statistical information to determine rates and premiums. The first category concerns the driver and includes his or her age, gender, and driving record. For example, research on fatal crashes shows that the motor vehicle death and injury rate is especially high among 16-24 year-olds, so premiums for teenage drivers and other youthful drivers are much higher than for older drivers. Young men are considered especially high risk, based on years of research data. Research also has shown that drivers who have traffic law violations or crashes on their records have much higher subsequent crash involvement rates than drivers with clean driving records — they are “higher risk” drivers. As a result, when drivers receive serious traffic citations or cause crashes, they may pay more for insurance coverage. Whether a driver will pay more depends on several factors. First, an insurer may not be aware of the traffic citations issued to a driver, because citations are not automatically reported to insurers by the police, courts, or the state departments that maintain driver histories of traffic citations. Insurers can check motor vehicle records to learn of citations, but the frequency of such checks varies from insurer to insurer. The accuracy of the citation information can vary from state to state. And depending on a driver’s prior claims history and the individual insurance company’s policy, a single citation or claim may or may not affect the driver’s rates.

The second category is related to usage of the vehicle — for example, typical miles driven and type of driving (business, commuting, pleasure, or farm). Miles traveled by themselves are not so important, largely because not all miles are the same in terms of crash risk. Road type counts much more. For example, California data show that crash risk per mile driven is almost three times higher on nonfreeways than on freeways.

The third statistical category of information insurers look at is location related (where a vehicle is garaged). Research by the Highway Loss Data Institute (HLDI) has found consistently that insurance losses for both injuries and vehicle damage are substantially higher for vehicles garaged in high-density areas — that is, urban areas. These higher losses can be explained in part by the fact that insurance claims are dominated by relatively minor crashes and the soft tissue injury claims, such as whiplash neck injuries, they often generate. Such crashes occur more frequently in urban areas.

The fourth statistical category is vehicle related. HLDI research on collision, injury, and comprehensive claims shows that losses vary widely by type, size, and make/model of vehicle. In determining collision and comprehensive premiums, insurers look at the initial cost of the vehicle and its actual loss experience. In determining premiums for PIP coverage or medical payments, insurers consider the presence of improved vehicle safety features such as airbags.

## **Reducing Losses**

In the United States, the role of the insurance industry is not limited to compensating injured people for their losses. Another primary function is to prevent or reduce the losses, which serves the public interest as well as insurers' economic interests. An early example of this loss-control function in the United States occurred in 1867 when the Hartford Steam Boiler Inspection Insurance Company was formed to help prevent boiler explosions as well as to share the risk of such explosions. U.S. insurers also founded Underwriters Laboratories to set minimum standards for electrical products to reduce the possibility of injuries and property damage.

Another example of U.S. insurer commitment to loss control is the work of the Insurance Institute for Highway Safety (IIHS) and its companion organization, HLDI. The mission of IIHS and HLDI is finding out and communicating what works and, just as important, what does not work to reduce motor vehicle crash losses. IIHS research focuses on potential countermeasures aimed at each of the major factors involved in motor vehicle crashes — human, vehicle, and physical and legal environment. Human factors research areas include graduated licensing systems for new young drivers, alcohol-impaired driving, truck driver fatigue, and safety belt use.

Vehicle factors research focuses on both crash avoidance and crashworthiness. IIHS began crash testing vehicles in 1969 when it started evaluating the performance of bumpers in low-speed impacts. In the 1970s, IIHS conducted high-speed tests to illustrate, for example, the vulnerability of fuel systems in rear impacts, the problem of cars underriding trailers in rear-end crashes, the effect of vehicle size in collisions between large and small cars, and the importance of airbags and safety belts in occupant protection.

This work expanded with the 1992 opening of the Vehicle Research Center in central Virginia. Frontal offset crash testing has become the focus of research at this world-class facility. Initiated in 1995, offset tests evaluate the performance of popular new passenger vehicles in 64.4 km/h mph frontal crashes into a deformable barrier to determine how well the vehicle structure performs to protect its occupants in crashes. IIHS crash tests air on national network television, and results are reported by print, broadcast, and electronic media outlets around the world.

Research aimed at physical and legal environmental factors include evaluations of red light cameras and other traffic law enforcement technologies, as well as assessment and elimination of roadside hazards.

## **Crashworthiness Evaluations**

The success of U.S. insurers in influencing vehicle designs to reduce losses is illustrated by recent IIHS testing. The test series involved 10 models with wholly new designs or substantial engineering changes that could affect crashworthiness. Three passenger vans, three midsize cars, and four small cars were tested. The tests confirmed that when automakers redesign their passenger vehicles, more of them

than ever are paying attention to aspects of occupant crash protection that go beyond government requirements. In particular, vehicles' structural designs are being improved to do a better job of preventing intrusion into the occupant compartment and preserving the space needed for occupants to survive high-severity crashes.

The tests showed that the Honda Odyssey, Mitsubishi Galant, and Hyundai Sonata performed substantially better in the 64.4 km/h crash test compared with their predecessor models. The structural performance of the Saab 9-3 and Volkswagen New Jetta also improved, but the Nissan Quest — reengineered to accommodate a fourth door — performed significantly worse than the three-door version. Structurally the Ford Windstar, Mazda Protege, Kia Sephia, and Dodge Neon performed about the same as their predecessors.

What is especially promising about these test results is that the design improvements are not happening because any government regulation is demanding them. Instead, vehicle manufacturers are responding because IIHS and insurers have widely publicized the results of these tests to give the public objective information about the relative safety performance of different vehicle makes and models. This, in turn, brings additional pressure on manufacturers to improve safety performance. In this way, insurers are helping to reduce losses for themselves and for the general public. The approach used in the United States can serve as a model for insurers in other countries to use testing to improve vehicle design in order to reduce losses.