

5. FEDERAL RESPONSIBILITY AND EXPENDITURES FOR COLLISION DATA
GATHERING

The Federal Government through the Department of Transportation, has undertaken the responsibility for setting safety and damage-limiting standards for motor vehicles. The costs of standards put into effect thus far is more than \$2.5 billion annually. It would appear that prudent and responsible rulemaking would imply that each such standard should be promulgated only after acquiring through data collection and large scale experiment a thorough understanding of the frequency of occurrence of the hazards to which the standard was addressed, the extent to which a design to the standard would mitigate the outcome in terms of damage or injury, and the consequent benefits as related to the estimated costs. But because of the dearth of data, rulemaking has been based instead on guesswork and judgment. Fortunately, two standards (energy absorbing steering column and belt restraints) appear on the basis of limited evidence to be highly successful. Two others, HPR glass and head restraints, appear to be beneficial; but the others remain to be evaluated, and in the meantime, their costs continue to be borne by the public.

Motor vehicle collision loss is an enormous national problem that requires centrally coordinated solutions, both in terms of motor vehicle standards and highway designs. Implicit are both the need and the responsibility for centrally supported collection of collision data, representative of all the States, from which may be drawn inferences regarding the need for and benefit of vehicle and highway design changes. The establishing of a central collision data file further implies a need and responsibility for standardization of reporting systems and formats so that input data from

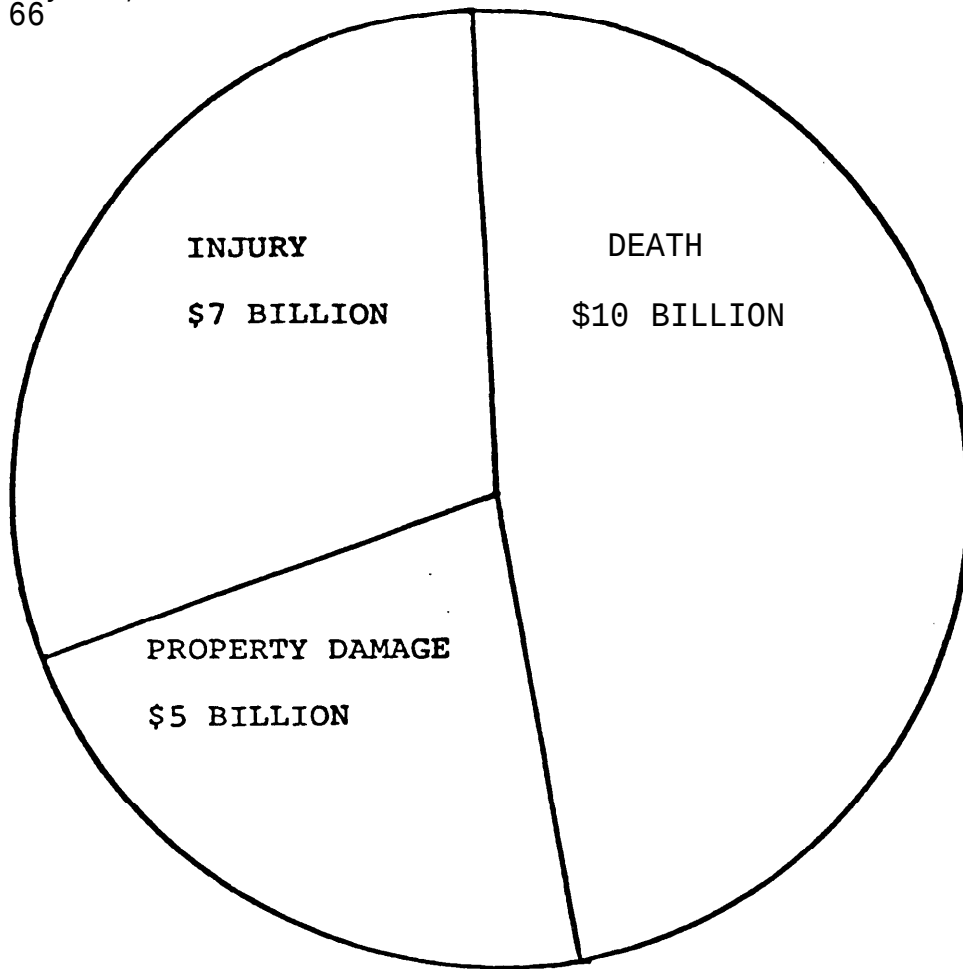
many sources can be combined. The federal government should undertake these responsibilities as the central and coordinating activity for collection of crash data.

In addition to the question of responsibility, there is the question of capability. On this question, John Versace of Ford Motor Company^{16/} has the following comment.

"Mass accident data acquisition, processing, analysis, and broad scale distribution requires great effort and much resource. Only the federal government has the necessary resource and easy access to the agencies which can supply information. Furthermore, it seems that it is the responsibility of the federal government to assemble data which will allow an accurate public review of the real dimensions of the crash and injury problem on our highways."

The current level of Federal expenditure for the collection and analysis of automobile collision data is \$5-6 million yearly. A few examples will be presented to illustrate that the justifiable levels of expenditure may be much higher than the current amounts.

1. Each traffic fatality is a catastrophe that costs society approximately \$200,000.^{2/} current Federal expenditures for collision data gathering average less than 0.06% of the cost of traffic deaths.
2. 28 million automobile accidents cost the United States \$22 billion annually. Federal expenditures to collect data average less than 22¢ per accident-involved automobile, and less than 0.03 % of total losses (see Figure 1).



ANNUAL COST OF MOTOR VEHICLE ACCIDENTS



\$6 Million

NHTSA EXPENDITURES ON CRASH DATA COLLECTION

FIGURE 1. Comparison of the cost of motor vehicle accidents with Federal expenditures to acquire and analyze crash data.

3. The cost of 5 mph no-damage bumpers front and rear has been estimated as \$119 per car (first cost) plus about \$100 in added lifetime fuel costs. The total consumer expenditure required to equip all cars is about \$2.2 billion per year. Because of the paucity of hard statistics or the frequency distribution and cost of low-severity accidents whose damage the bumpers tend to mitigate, there is an uncertainty of at least 10% or about \$200 million, in the estimate of the benefits; this uncertainty alone is more than 30 times the current Federal data collection expenditures.
4. Continuing uncertainties about the effectiveness of seat belts lead to differences in estimates of numbers of lives saved (at 50% belt usage) of at least 8000 annually representing a societal gain or loss of \$1.6 billion. This uncertainty is more than 250 times the current Federal expenditures on data collection and analysis.

Thus high levels of expenditure appear justified by the magnitude of the motor vehicle collision loss program and its uncertainties. They are not necessarily required to do the job. The actual amounts needed must be determined after the development of a comprehensive plan that specifies in detail the information needed, the quantities of data and rates at which it is to be gathered, and how the plan is to be implemented.

The benefits of a data collection and analysis effort can be easily seen when it is used to resolve a choice between two approaches to solving a problem. The benefits are less obvious, just as in any research effort, when the outcome is unpredictable in terms of establishing the measures and costs of reducing damage, injury and death.