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REPORT TO THE
COMMITTEE ON COMMERCE
UNITED STATES SENATE

Need To Improve Benefit-Cost Analyses In Setting Motor Vehicle Safety Standards

B-164497(3)

National Highway Traffic Safety
Administration
Department of Transportation

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES

Contents

ABBREVIATIONS

GAO	General Accounting Office
NSC	National Safety Council
RECAT	Committee of the Office of Science and Technology studying the Cumulative Regulatory Effects on the Cost of Automobile Transportation

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-164497(3)

The Honorable Warren G. Magnuson
Chairman, Committee on Commerce
United States Senate

Dear Mr. Chairman:

As part of our review of major activities of the National Highway Traffic Safety Administration pursuant to your request dated January 22, 1973, we are furnishing you with a report on the Safety Administration's ability to make benefit-cost analyses of motor vehicle safety standards.

This report is the first of several reports we plan to furnish to you on specific Safety Administration activities in which you are interested.

As agreed with your office, we are sending copies of this report to the House and Senate Committees on Government Operations; the House and Senate Committees on Appropriations; the Secretary of Transportation; the Administrator, National Highway Traffic Safety Administration; and the Director, Office of Management and Budget.

We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,

Elmer B. Staats

Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT TO
THE COMMITTEE ON COMMERCE
UNITED STATES SENATE

NEED TO IMPROVE BENEFIT-COST ANALYSES IN SETTING MOTOR VEHICLE SAFETY STANDARDS

National Highway Traffic Safety Administration
Department of Transportation
B-164497(3)

D I G E S T

WHY THE REVIEW WAS MADE

At the request of the Chairman, GAO reviewed major areas of the auto safety program, administered by the National Highway Traffic Safety Administration.

This report discusses the Safety Administration's capability for making benefit-cost analyses of motor vehicle safety standards. It compares the Safety Administration's estimate of accident costs with estimates of the National Safety Council and an Office of Science and Technology ad hoc committee.

FINDINGS AND CONCLUSIONS

The Safety Administration uses benefit-cost analyses primarily to establish an order of priority for planning and implementing safety standards. It also uses these analyses, along with other factors, to evaluate merits of a proposed safety standard. (See p. 1.)

A benefit-cost analysis involves estimating, in dollars, the benefits from establishing a standard and the cost to comply with the standard. The Safety Administration measures benefits by estimating how much accidents, fatalities, injuries, and property damage will cost society and by evaluating a standard's effectiveness in reducing such costs.

The Safety Administration measures compliance costs by estimating the consumer's cost for a safety improvement required by the standard. (See p. 2.)

Estimates of motor vehicle accident costs (benefit analysis)

The Safety Administration, the National Safety Council, and an Office of Science and Technology ad hoc committee have estimated the annual costs of motor vehicle accidents.

The Safety Administration's estimate ($46 billion) was significantly higher than the Council's ($15.8 billion) and the Office of Science and Technology's ($18.7 billion) because data sources, statistical bases, assumptions, and calculations of costs varied. For example:

--The Safety Administration attempted to measure all costs which directly or indirectly caused a reduction in society's total welfare and included inconvenience and hardship costs associated with motor vehicle accidents.

--The Council did not include inconvenience and hardship costs because it believed that, although such costs were important to the individual who suffered as a result of an accident, they did not represent a cost to the rest of society.

--The Office of Science and Technology considered that its estimates fully measured the economic loss caused by motor vehicle accidents, including earnings lost, medical costs, property damage, and certain other indirect costs.

The Safety Administration, the Council, and the Office of Science and Technology also differed greatly in estimating annual earnings lost due to fatalities and injuries and in calculating the present value of such amounts.

The Safety Administration discounted costs at a 7-percent rate and the Council at a 3.5 percent rate. The Office of Science and Technology did not discount costs. (See pp. 3 through 11.)

The Safety Administration recognizes that including some cost categories in its estimates and the values placed on the categories are a matter of controversy. The Safety Administration feels the estimates should be viewed as interim measures subject to revision as new data and methodology become available. (See p. 11.)

Estimating effectiveness of proposed safety standards

The Safety Administration spends about $6 million a year to collect accident data and make analyses to evaluate the effectiveness of proposed standards in reducing accidents, fatalities, injuries, and property damage.

The Safety Administration uses data ranging from basic information in police accident reports to in-depth analyses conducted by multidisciplinary accident investigation teams to estimate effectiveness of proposed and existing standards. This data is of limited value, however, for projecting the effectiveness of proposed safety standards because of the inherent problems associated with data collection and the lack of sufficient information on the causes of accidents.

In the absence of fully usable accident data, the Safety Administration has to rely on judgment in estimating the effectiveness of a proposed standard. (See pp. 13 through 17.)

Estimating cost and production leadtime (cost analysis)

The Safety Administration has developed a standardized cost-estimating methodology to estimate reasonably accurate consumer costs for proposed motor vehicle safety standards but has been unable to use this methodology because it lacks necessary cost and production leadtime data.

The Safety Administration, consequently, has had to rely on the experience and judgment of its safety standards engineers and other personnel in estimating the consumer cost and leadtime necessary to implement a proposed standard. These personnel obtain information through informal contacts with manufacturers, available price lists for automotive parts, research contracts, previous comments on proposed standards, and any other available sources. (See p. 20.)

Reasonable cost and leadtime estimates are essential for making realistic benefit-cost analyses. Because of the lack of specific detailed data for use in estimating, the Safety Administration is not in a good position to defend its cost and leadtime estimates. (See p. 22.)

The Safety Administration has sponsored pending legislation (S. 1824 and H.R. 7505) which would give it authority to obtain cost data and other information required to establish standards from vehicle and equipment manufacturers. The House Committee on Interstate and Foreign Commerce reported out a bill (H.R. 5529) which would give the Secretary of Transportation broad authority to obtain such data and information relating to standards. (See p. 22.)

RECOMMENDATIONS

The Secretary of Transportation should:

--Explore with the Safety Administration ways in which the development of an authoritative accident cause data system might be expedited.

--Require the Safety Administration to make an intensive, concerted effort to obtain cost and leadtime data from major domestic and foreign motor vehicle manufacturers on a continuous basis.

AGENCY COMMENTS AND UNRESOLVED ISSUES

The Department said essentially it was doing as much as it could to develop and use benefit-cost analyses and that continued use of the analyses depended a great deal on the availability of manpower and resources and on industry's cooperation.

The Department said it recognized the need for revising its estimated accident costs but was not aware of any new information which would materially alter the estimates, although an adjustment for inflation was open for consideration.

The Council said that this report would be useful in highlighting the different methodology and philosophy of the three groups and in showing the effect that these differences can have on benefit-cost analyses.

In commenting on estimating the effectiveness of proposed standards, the Department said it was fully aware of the need to collect and analyze real world accident data and mentioned several improvements which had been started.

A major improvement, the development of a nationally representative sampling plan, may not be fully operational until at least 1980. Actions being taken are a step in the right direction, but more intensive efforts are needed to develop statistically valid accident cause data.

The Department also said that some progress had been made in obtaining cost and leadtime data from individual manufacturers but that enactment of legislation requiring the industry to furnish such data would overcome the industry's continued reluctance as a whole to provide this data.

Manufacturers indicated to GAO a general willingness to provide such data to the extent it was available or could reasonably be developed. Therefore, legislative action may not be necessary, and the Safety Administration should seek manufacturers' cooperation in improving cost and leadtime estimates.

MATTERS FOR CONSIDERATION BY THE COMMITTEE

This report points out wide differences in the various estimates. Such differences can affect the relative ranking

of alternative safety programs and the development of benefit-cost analyses in support of motor vehicle safety standards.

Therefore, the Committee may wish to discuss with the Safety Administration the need to reevaluate the data, data bases, and assumptions used in estimating accident costs. This reevaluation should consider estimates made by and data available to other organizations to determine that all identified cost elements are considered, data bases are reasonable, and assumptions and discounting rates are realistic. (See p. 12.)

GAO recommends that the Committee give the Safety Administration an opportunity to seek manufacturers' cooperation in providing cost and leadtime data and, if these efforts fail, that the Committee favorably consider legislation requiring the industry to furnish such data. (See p. 24.)

CHAPTER 1

INTRODUCTION

Congressional concern over the increasing number of motor vehicle deaths led to the enactment of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1381), the purpose of which was to reduce motor vehicle accidents and the deaths and injuries resulting from such accidents.

MOTOR VEHICLE SAFETY STANDARDS

As one means of reducing such deaths and injuries, the act directed the Department of Transportation to establish motor vehicle safety standards. The National Highway Traffic Safety Administration does this for the Department. The act required that the standards be reasonable, practicable, and appropriate for the particular type of motor vehicle or item of equipment to which they applied.

In reporting on the proposed legislation which became the 1966 act, both the Senate Commerce Committee and the House Committee on Interstate and Foreign Commerce stated that safety was to be the overriding consideration in issuing a standard. Both Committees pointed out, however, that the motoring public's cost to purchase and maintain safety equipment required by a standard also should be considered. In this regard, the Senate Committee said that, in addition to the technical feasibility of the standard and adequate lead-time for the industry to develop and produce safety equipment, reasonableness of equipment cost should be considered. The House Committee said that all relevant factors, including economic ones, should be considered in determining practicality of a standard.

BENEFIT-COST ANALYSES

The National Highway Traffic Safety Administration uses benefit-cost analyses primarily to establish an internal order of priorities among all safety standards. The analyses are an important factor to be considered in evaluating the merits of a proposed safety standard. Other factors are technical feasibility; research results; legislative mandates; congressional, public, and industry views; and legal considerations.

A benefit-cost analysis of a safety standard involves estimating, in dollars, the benefits from establishing the standard and the consumer costs to comply with the standard. Comparing these totals, usually by dividing dollar benefits by dollar costs, gives a benefit-cost ratio. A ratio greater than 1 indicates that the estimated dollar benefits from establishing a safety standard exceed the estimated cost to comply with the standard.

The Safety Administration measures benefits by estimating how much accidents, fatalities, injuries, and property damage cost society and by evaluating a standard's effectiveness in reducing such costs. Costs to comply with the standard include the consumer's cost for the safety equipment.

The Safety Administration does not generally publicize its estimates of the benefits and costs of a safety standard.

CHAPTER 2

COMPARISONS OF ESTIMATED COSTS OF MOTOR VEHICLE ACCIDENTS

The Safety Administration, the National Safety Council (NSC), and an Office of Science and Technology ad hoc committee each have estimated the annual costs of motor vehicle accidents. The Safety Administration's estimates were for use in benefit-cost analyses, NSC's estimates were for use by State highway officials in requesting appropriations and by research workers and others in the field of safety, and the Committee's estimates were for a study of the cumulative regulatory effects on the cost of automobile transportation (RECAT). The estimates shown in the table below vary widely because of differences in base years, data sources, statistical bases, assumptions, and calculations of future costs.

ESTIMATED COSTS OF MOTOR VEHICLE ACCIDENTS

Type of cost	Safety Administration	NSC	RECAT committee
	(000,000 omitted)		
Costs estimated by all:			
Future earnings lost	$18,100	$ 3,700	$ 7,700
Medical costs	1,950	1,100	6,100
Property damage	7,100	5,000	4,900
Total	27,150	9,800	18,700
Costs not estimated by RECAT committee:			
Insurance administration	6,600	6,000	-
Costs estimated only by Safety Administration:			
Home and family duties	4,500	-	-
Pain and suffering	3,800	-	-
Legal and court costs	1,050	-	-
Service to community	900	-	-
Time and money losses to others	800	-	-
Miscellaneous losses	800	-	-
Asset losses	300	-	-
Employer losses	50	-	-
Funeral costs	50	-	-
Total	12,250	-	-
Total costs	$46,000	$15,800	$18,700

The Safety Administration and NSC estimates are based on 1971 data and are given in present value terms. Under the present value method, the current value of future costs is calculated by using a discount rate. Discounting future costs makes them comparable to present costs, i.e., the present value of costs. The higher the discount rate used, the lower the value that is placed on future costs. The Safety Administration used a 7-percent discount rate and NSC used a 3.5-percent discount rate. Costs were not discounted in the Committee's estimate, which is based on 1970 data.

The Safety Administration measured all costs which directly or indirectly caused a reduction in society's total welfare. The Safety Administration pointed out that each vehicle accident diminished individual and societal welfare. It contended that society's welfare was considerably more than its economic wellbeing and that money could be used only as a proxy measure for estimating changes in welfare. It further contended that, although the severe shortcomings of measuring welfare in terms of money were obvious, there was no better standard of value useful for public policy decision. Accordingly, the Safety Administration attempted to measure and translate identifiable inconvenience and hardship associated with motor vehicle accidents, such as pain and suffering, inability to perform home and family duties, loss of service to community, and similar types of costs, into dollar and cent equivalents.

NSC and the RECAT committee tried to measure economic costs in what they considered to be the real dollars lost as a result of motor vehicle accidents. NSC did not include inconvenience and hardship costs in its estimates because it believed that such costs, although important to the individual who suffered as a result of an accident, did not represent a cost to the rest of society. RECAT believed that its estimate fully included all measurable economic loss. More detailed comments on differences in the estimates follow.

COSTS ESTIMATED BY ALL

Future earnings lost

The main reasons for the different estimates of earnings lost were (1) the differences in statistical bases, assumptions, and computations

used in estimating average annual earnings lost and the number of injuries and (2) the use of discounted costs by the Safety Administration and NSC and undiscounted costs by the Committee.

	Safety Administration	NSC	RECAT committee
	(billions)		
Fatalities	$ 7.3	$ 2.4	$ 7.7
Injuries	10.8	1.3	-
Total	$18.1	$ 3.7	$ 7.7

Fatalities

The Safety Administration estimated that $132,000 in average lifetime earnings would be lost for each of 55,000 traffic fatalities. The estimate was based on assumptions that, in the absence of an accident, a person would be productively employed between the ages of 20 and 65 and would earn $9,196 annually at the time of death.

The computation assumed that a child who died in an accident otherwise would have entered the work force at age 20 and remained productively employed for 45 years and that an adult who died in an accident otherwise would have remained productive for an average 20 more years. The Safety Administration separately determined the earnings lost for children and for adults and computed a weighted average wage loss, using the ratio of child to adult fatalities.

The Safety Administration based its estimate on gross earnings, adjusted for annual income growth, because it contended that, if a potential accident victim was prevented from dying as a result of some safety investment, society's benefit was equal to the full amount of the person's earnings. In comparison, NSC used net earnings--earnings less the cost of self-maintenance--on the assumption that loss to the family of the deceased more properly measured the economic loss resulting from a traffic fatality.

NSC estimated that average lifetime earnings of $44,000 would be lost for each of 54,700 traffic fatalities. NSC grouped people by sex, race,

and age and for each group determined motor vehicle fatality rates and net earnings lost, considering annual income growth, unemployment, and mortality rates.

RECAT estimated that average lifetime earnings of $140,000 would be lost for each of 54,800 traffic fatalities in 1970, for an estimated total of $7.7 billion. It arrived at its estimate by multiplying an estimated per capita income of $3,786 by an expected loss of 36.9 years at time of death.

Injuries

A major cause of variation in the estimate of earnings lost was the difference in estimates of the numbers of injuries and average earnings lost. The Safety Administration estimated that about 3.8 million people suffering injuries of varying severity would lose earnings of about $10.8 billion. The Safety Administration based its estimate of total injuries on a 1969 National Health Survey adjusted to 1971. Its estimates of the severity of injuries--8,000 persons permanently, totally disabled; 250,000 persons permanently partially disabled; and 3,545,000 persons temporarily disabled--were derived from an analysis of a 1970 Department of Transportation study on automobile personal injury claims. Calculations of average income lost were made under the assumptions established for estimating income lost in fatality cases and were adjusted for the degree of severity of the injuries.

NSC estimated that persons suffering injuries of varying severity would lose about $1.3 billion in earnings. NSC could not provide us with the exact procedures and sources for its estimate, but the data NSC did provide indicated that it used one-half as many injuries as the Safety Administration used. This difference is attributable to the fact that the Safety Administration included all individuals who have had to restrict their activity or receive medical attention because of injury, whereas NSC did not include less seriously injured individuals in its estimates. Another factor contributing to the wide difference between NSC and Safety Administration estimates of income lost because of injury was that NSC's method of determining average income lost resulted in a much lower estimate than that of the Safety Administration. The RECAT committee did not include an amount for income lost due to

injury in its earnings lost estimate but it did consider wages lost due to injury in its injury costs estimate discussed in the following section.

Medical costs

Major differences in the estimates of medical costs resulted primarily from (1) differences in the Safety Administration's and NSC's estimates of average medical costs for the several classifications of injury severity and (2) the different methods and data sources used by the RECAT committee to estimate injury costs.

The Safety Administration used the same number of fatalities and injuries for estimating medical costs that it had developed for estimating earnings lost. It based its estimates of average costs on a Department of Transportation study on automobile insurance and compensation and on a medical cost study prepared by the Social Security Administration. The average costs ranged from $315 for each of an estimated 3,545,000 persons experiencing temporary disability to $7,900 for each of 8,000 persons suffering permanent, total disability.

NSC could not provide us with the exact procedures and sources for its 1971 estimate. However, it did provide us with information on the method and data supporting its 1972 estimate, which it said was comparable to the 1971 estimate. NSC's estimate of average medical cost for 1972 was based on National Center for Health Statistics data and information from state accident reports, Social Security bulletins, and the American Hospital Journal. The average costs ranged from $8 for each person experiencing a nondisabling injury to a high of $1,090 for each person suffering a disabling injury requiring hospitalization.

The RECAT committee's estimate for 1970 was based on NSC reports of accident involvement and the average direct costs of each involvement as reported by Massachusetts, New Mexico, Utah, and Illinois, adjusted to 1970. By using the States' data, we determined that the Committee's estimate for injury costs included amounts for such items as medical costs ($900 million), legal and court costs ($950 million), damage awards ($1.4 billion), work time lost due to injury ($800 million), and similar costs.

Property Damage

Differences in the estimates of property damage appear to be primarily attributable to differences in sources used by the Safety Administration, NSC, and the Committee.

The Safety Administration's estimate was partly based on accident cost studies made for Washington, D.C., Illinois, and Ohio. NSC's estimate was based on the consumer price index for auto repairs and maintenance and on data made available by insurance companies. The Committee used NSC reports of accident involvements and average cost data reported for Massachusetts, New Mexico, Utah, and Illinois, adjusted to 1970.

COSTS NOT ESTIMATED BY RECAT COMMITTEE

The Safety Administration's and NSC's estimates included amounts for insurance administration costs. NSC defined these costs as the difference between premiums paid to insurance companies and claims paid by them. Insurance claims paid were included in NSC's estimates of earnings lost, medical and hospital expenses, and property damage. Thus, on the assumption that, in the absence of accidents there would be no need for automobile insurance, including insurance administration costs has the effect of including all automobile insurance costs in the estimate of automobile accident loss. NSC determined that insurance administration costs amounted to $6 billion for 1971.

The Safety Administration also included insurance administration expenses as a cost of automobile accidents, although it recognized that there was a problem in trying to determine the extent to which the expenses could be reduced if the number of accidents decreased. The Safety Administration used NSC data but made several errors in distributing the factor among the various levels of accident severity, i.e., fatality, permanent total disability, etc. As a result, its estimate was $600 million greater than the amount NSC reported. The Safety Administration told us that these errors had been corrected and that revised data was now being used. Although the Committee did not include insurance administration expenses in its estimates, it did report that these expenses were about $5.2 billion in 1970.

COSTS ESTIMATED ONLY BY THE SAFETY ADMINISTRATION

Unlike NSC and the Committee, the Safety Administration measured and included in its estimate about $12.3 billion which it associated with the inconvenience and hardships of automobile accidents. Comments on those items of inconvenience and hardship to which the Safety Administration assigned the highest costs follow.

Home and family duties

The Safety Administration has decided that certain nonemployment-related activities, such as housekeeping and home and yard maintenance, contribute to individual and societal welfare, although they are not represented in the gross national product.

The Safety Administration assumed that the average person involved in an accident spent about one-fourth of his working hours, or 10 hours a week, on home-related productive activities. The Safety Administration placed a value on inability to perform home and family duties equal to about a quarter of the amount computed for income lost. The average losses computed ranged from $50 for each of 3.5 million persons experiencing temporary disability to $35,000 for each of 8,000 persons suffering permanent, total disability. The overall loss was estimated at $4.5 billion.

Pain and suffering

The Safety Administration decided that society's welfare decreased because of pain and suffering incurred by the victim of a traffic accident, regardless of whether the victim or his estate was compensated. On the basis of a review of a number of court awards for pain and suffering, the Safety Administration computed average amounts for accident victims suffering injuries of varying degrees of severity. These amounts ranged from $100 for each of 3.5 million persons experiencing temporary disability to $50,000 for each of 8,000 persons suffering permanent, total disability. Overall, the Safety Administration estimated the loss associated with pain and suffering at $3.8 billion.

Other estimated costs

The Safety Administration placed dollar values on some additional categories of costs, such as legal and court costs, loss of service to the community, time and money losses to others, and miscellaneous losses which in total amounted to about $4 billion. Legal and court costs were based on a study by the Travelers Research Corporation which showed that police and court costs associated with accidents amounted to about $1 billion annually. The cost of loss of service to the community amounted to about $900 million and was based on the Safety Administraton's estimate that the average person spends about 2 hours a week for volunteer work in the community.

Time and money losses to others were estimated at about $800 million on the basis that the family and friends of accident victims suffered large noncompensated time and money losses. The estimate included travel costs to visit accident victims and attend funerals, costs of time spent visiting and attending funerals, and costs of time spent by members of the family attending accident victims.

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Estimated costs of motor vehicle accidents form the basis for determining the benefit to be derived from a proposed safety standard. Therefore, reasonable cost estimates must be used to show fairly whether a proposed safety standard is cost effective. The foregoing estimates of the Safety Administration, NSC, and the RECAT committee varied widely for each motor vehicle accident, fatality, injury, or property damage. These estimates are as follows:

	Average cost		
	Safety Administration	NSC	RECAT committee
Each accident	$ 2,800	$ 960	$ 1,130
Each fatality	200,700	52,000	140,000
Each injury	7,300	3,100	2,750
Each property damage	300	440	178

The effect of these differences can be seen from the benefit-cost ratios which are obtained when NSC's and the Committee's average costs for each fatality and injury are substituted for the costs for each fatality and injury used by the Safety Administration in its benefit-cost analyses for the following standards.

	Benefit-cost ratio		
Standard	Safety Administration	NSC	RECAT committee
Windshield zone intrusion	16 to 1	6 to 1	7 to 1
Bus passenger seating and crash protection	2.22 to 1	.88 to 1	.96 to 1

The Safety Administration recognized that including some cost categories in its estimates and the values placed on the categories were a matter of controversy. Also, in commenting on its estimate the Safety Administration stated that:

> "There are problems of comparability, reliability, and comprehensiveness with the studies that have produced data on the various components. Therefore, the estimates produced for this analysis should be viewed as interim measures and subject to revision as new data and methodology become available."

SAFETY ADMINISTRATION AND NSC COMMENTS AND OUR EVALUATION

The Safety Administration stated (see app.) that it had long recognized the need to reevaluate, update, and refine the data, data bases, and assumptions used in estimating accident costs as new and pertinent information became available. The Safety Administration said that it had considered all available quantitative and qualitative information in developing its estimates and that it was not aware of any new information which would materially alter its estimates, although the possibility of adjusting the estimates for such factors as inflation was open for consideration.

The Safety Administration also pointed out that it used accident cost estimates primarily to rank alternative safety programs and that for this purpose only the relative values of society's losses per fatality ($200,700), injury ($7,300), and property damage accident ($300) were important. The Safety Administration cited a case involving the choice between two programs--one which would reduce a limited number of fatalities and another which would reduce a substantial number of property damage accidents--and said that:

> "Using NHTSA estimates, the savings on one human life is worth (in terms of societal costs [$200,700]) at least as much as preventing 700 property damage accidents [$300]. Using NSC estimates, one life [$52,000] is equivalent to 125 property damage accidents [$440]."

The foregoing comments highlight the significant difference in relative values which can be obtained when different data and assumptions are used to estimate accident losses. Such differences can significantly affect the relative ranking of alternative safety programs and the development of benefit-cost analyses in support of motor vehicle safety standards.

We also obtained informal comments from NSC on the accident cost estimates of the Safety Administration, the Committee, and NSC. NSC said it had no major disagreement with the presentation of their estimates but pointed out that one of the reasons for the wide variance in estimates, besides the use of different estimating methodologies, was a basic difference in philosophy. NSC believed that our report would be useful in highlighting these differences and the effect they can have on benefit-cost analyses.

MATTERS FOR CONSIDERATION BY THE COMMITTEE ON COMMERCE

Because of the widely different estimates and the effects they can have on the relative ranking of alternative safety programs and on the development of benefit-cost analyses in support of motor vehicle safety standards, the Committee may wish to discuss with the Safety Administration the need to reevaluate the data, data bases, and assumptions used in estimating accident costs, taking into consideration estimates made by and data available to other organizations, to determine that all identified cost elements are considered, data bases are reasonable, and assumptions and discounting rates are realistic.

CHAPTER 3

UNCERTAINTY IN ESTIMATING EFFECTIVENESS OF PROPOSED SAFETY STANDARDS

The potential effectiveness of a proposed motor vehicle standard is measured by the reduction in fatalities, injuries, and/or accidents which can be expected to result directly from its implementation. The estimate of effectiveness is an integral part of the benefit-cost analysis because, multiplied by the Safety Administration's average estimated costs of fatalities, injuries, or accidents, it represents the anticipated benefit. For example, if a proposed standard were expected to reduce accidents by 400,000 annually, the estimated benefit would amount to about $1.1 billion (400,000 accidents times the estimated average accident cost of $2,800).

The effectiveness of a proposed standard can best be estimated by using analyses of accident data showing how the vehicle contributed to an accident, injury, and/or fatality and the extent of that contribution. The Safety Administration spends about $6 million a year to collect accident data and make analyses to evaluate the effectiveness of proposed and existing safety standards. Although it has collected accident data ranging from basic information in police accident reports to in-depth analyses conducted by multidisciplinary accident investigation teams, this data is of limited value for projecting the effectiveness of proposed safety standards because of the lack of sufficient data on the causes of accidents and the problems associated with collecting data, as discussed below.

In the absence of fully usable accident data, the Safety Administration has to rely on judgment in estimating the effectiveness of a proposed standard. The difficulty of attempting to issue standards in the absence of adequate accident data is shown in the following example.

In January 1971, the Safety Administration proposed a revision of Safety Standard No. 111, "Rearview Mirrors," because "Today's standard rearview mirrors offer the driver inadequate indirect fields of view to the sides of the vehicle and a limited one to the rear." To support this position the Safety Administration reported that:

"Analysis of the statistics published in Accident Facts (1969 ed.) indicates that 22.5 percent of all motor vehicle crashes, or approximately 6 million crashes per year, occur in the indirect field of view area to the sides and rear. Systems providing broad and clear vision to the rear, in general use, have the potential of reducing this number of accidents by over a million per year."

The Automobile Manufacturers Association, Inc., criticized the Safety Administration's accident statistics, commented that broad, clear rearview vision does not have the potential of eliminating over 1 million accidents a year, and cited a research study which concluded that lack of rear vision causes less than 3 percent of all collisions--not a significant contributor. Many motor vehicle manufacturers supported this position and added arguments of their own. One manufacturer said, "In our view, there is insufficient data available to support the proposed indirect visibility system***." For this and other reasons, the Safety Administration, in March 1973, decided to do more research before issuing a safety standard.

The Safety Administration commented to us that 3 percent of all collisions can represent a significant absolute and that in 1972, for example, 3 percent of all collisions accounted for some 510,000 accidents or 900,000 involvements.

It is not our intention to question the projections of either party. We cite this example only to demonstrate the Safety Administration's critical need for valid and acceptable accident data to support and substantiate proposed motor vehicle safety standards. The Safety Administration is still having difficulty obtaining adequate accident data to support future establishment of a safety standard for indirect visiblity.

Inadequate accident data also contributes to difficulties in making after-the-fact studies of the actual consequences of established standards. For example, a Safety Administration contractor recently completed a study in which it attempted to estimate the effects of current standards. For many of the standards examined, the contractor reported, in effect, that quantitative data was inadequate to estimate effect.

COLLECTING ACCIDENT DATA

The Safety Administration has developed a national multilevel investigation system to collect accident data. Major data sources include (1) summaries of basic-level police accident reports, (2) bilevel investigations in which police data is supplemented by more detailed inquiry into specific topics, and (3) multidisciplinary accident investigation teams which conduct clinical in-depth studies of selected accidents. The Safety Administration also contracts for "tri-level studies" which use data from the above three sources.

Police accident reports

This basic level of investigation provides limited causal data on a large volume of accidents. Although the Safety Administration has obtained certain data from police reports on over 15 million accidents since 1968, the reports rarely pinpoint specific vehicle-related factors which contribute to accidents, injuries, and their severity. The reports therefore have limited usefulness for evaluating benefits from safety standards.

Bilevel investigation data

Accumulating accident data from bilevel studies is extremely slow and time consuming. Over 88,000 accidents have been investigated at this level. The administrative procedures for requisitioning the work to be done, briefing police or investigators, waiting for the specified type of accident or injury to occur, collecting and summarizing data, and analyzing the data can involve a period of 2 years or longer. If the investigation is made to evaluate the potential benefit of a proposed safety standard, implementation of the standard could be greatly delayed.

Multidisciplinary accident investigation data

This is a major source of detailed accident and injury data for a small number of accidents--about 5,500. Team members from various disciplines, including medicine, law, and engineering, are organized by universities, municipalities, and private corporations to make in-depth

studies of selected accidents. The teams examine the precrash, crash, and postcrash phases of an accident to determine the involvement of the basic elements of the system--the occupant, the vehicle, and the environment. Findings range from obvious motor vehicle system and component failures to subtle causal factors that cannot be detected by any less sophisticated methods. Careful sorting and analysis of the data can give the Safety Administration insight into specific problem areas, but, because of the limited number of investigations and the selective basis on which samples are chosen, the data gathered has limited usefulness for developing and evaluating standards.

The Safety Administration also obtains trilevel studies, which use the accident data gathering techniques from all three of the foregoing levels of data collection, to focus on specific problems, such as:

1. Determining the relationship between vehicle defects and crashes.

2. Examining the influence of interior vehicle component modifications on injuries.

3. Evaluating the probability of injury in relation to dissimilar vehicle weights.

Trilevel studies appear to represent the best current method for developing a data system having enough scope and depth to explore specific aspects of a safety question, identify trends, and estimate frequency probabilities, but the time and resources required offset some of the benefits.

Collecting data at all three levels is expensive, and the leadtime to set up alerting systems, collect police reports, and assemble and process data usually requires a year or two. Consequently, it takes 2 to 3 years before meaningful results can be obtained.

NEED TO OBTAIN BETTER ACCIDENT DATA

Auto safety authorities recognize that accident and injury data currently being collected is generally not statistically sound. The analyst must work

from a large number of accident reports which contain few specific details or analyze a small number of reports that contain much detail but which are not representative of all accidents. Thus, even when good, detailed data is available the analyst cannot properly use the findings to make national projections. It is therefore difficult to use data from the Safety Administration's present sources to project the effectiveness of existing or proposed safety standards.

The RECAT committee recognized the lack of pertinent data concerning the causes of accidents and commented that:

> "This deficiency needs to be rectified through an intensified data-gathering program aimed at identifying and classifying vehicular safety hazards and their relative quantitative relationship to collision rates. Probably the best of the current efforts in this area are those of the Multidisciplinary Accident Investigation Teams funded by DOT, but all suffer from both a quantitative and qualitative lack of basic collision data. We suspect that some hazards that are intuitively considered important are in fact trivial, and conversely, that some that are ignored are extremely important."

The Department has also recognized the critical need to collect and analyze "real world" accident data which describes and characterizes all elements of the highway traffic system. The Assistant Secretary for Systems Development and Technology, in providing guidance to the Safety Administration on its fiscal year 1975 research and development program, stated that the need to collect and analyze real world accident data is so basic to the effectiveness of the total program that one can rationalize holding all research and development program elements, except those with a known high payoff or those related to the needed technical base, in abeyance until the data for intelligent planning and related decisionmaking is in hand. He stated furthermore that such data is essential to provide the fundamental underpinning for overall safety strategy, rulemaking plans, assignment of priorities, and allocation of resources.

SAFETY ADMINISTRATION COMMENTS AND OUR EVALUATION

The Safety Administration stated that it was fully aware of the need to collect and analyze real world accident data and cited the national multilevel accident data acquisition program (see pp. 15 and 16) as indicative of the prime importance it assigns to accident data.

The Safety Administration mentioned several improvements which have been started in the area of data collection and evaluation and said that their continuation depends, in part, on the availability of resources. These improvements involve (1) efforts to develop a national accident data system which will incorporate a nationally representative sampling plan and a rapid response capability, (2) the Safety Administration's continued emphasis on trilevel accident studies, and (3) the special study concept which permits many facts to be collected on a particular problem. The Safety Administration said that, although its data collection efforts were time consuming and of limited initial value, the data was useful for special studies and analyses.

Although these improvements are a step in the right direction, we believe the development of a nationally representative sampling plan has the most potential for major improvement in identifying the cause of accidents. Safety Administration officials told us that this sampling plan will involve several case studies to be undertaken in 1975, that evaluation of the plan would take about 2 years and that, if it is workable, it could be fully operational by 1980.

The need to know the causes of motor vehicle accidents is crucial to the Safety Administration's ability to develop programs and standards which will allow it to carry out its mission to save lives and reduce injuries. We question whether a program which may not provide the needed data until 1980 represents a level of effort in keeping with the Safety Administration's mission.

RECOMMENDATION TO THE SECRETARY OF TRANSPORTATION

We recommend that the Secretary of Transportation explore with the Safety Administration ways in which the development of an authoritative accident cause data system might be expedited.

CHAPTER 4

UNCERTAINTY IN ESTIMATING COST AND LEADTIME

Developing reasonable cost estimates and production leadtime requirements is essential for proper benefit-cost analyses of proposed safety standards. Such estimates should be based on detailed knowledge and data on required design changes, current cost and production data, and process operation. The Safety Administration generally does not have such specific data available to it when estimating the cost and leadtime for proposed safety standards.

The Safety Administration has developed a standardized cost-estimating methodology to estimate reasonably accurate consumer costs for proposed motor vehicle safety standards but has been unable to use this approach because it lacks the necessary cost and production data. Consequently, the Safety Administration has had to rely on the experience and judgment of its safety standards engineers and other personnel in estimating the consumer cost and leadtime of a proposed standard. These personnel obtain information through informal contacts with manufacturers, available price lists for automotive parts, research contracts, previous comments on proposed standards, and any other sources they can devise. These personnel do not maintain any supporting data, working papers, notes, and similar information in support of the cost estimates.

Leadtime estimates represent the Safety Administration's judgment as to the minimum leadtime needed to implement a vehicle change and to schedule implementation to coincide with manufacturers' normal production cycles. The intent is to permit simultaneous retooling for new models and safety equipment to minimize costs; however, in the absence of clear support for a leadtime estimate, the Safety Administration is not in a position to insist on adherence to the originally proposed effective date. Frequently, the effective dates have been postponed because of industry objections. Similarly, the Safety Administration does not have assurance the effective date selected rèpresents the earliest practicable date from a benefit-cost standpoint.

ATTEMPTS TO OBTAIN BETTER DATA

The cost of a safety standard plays an important role in the Safety Administration's decisionmaking process. The Safety Administration said that one difficulty in estimating consumer costs results from the fact that it issues performance rather than design standards. Performance standards can often be met with a variety of design options and with a wide range of costs which are difficult to predict. To analyze cost effectively, the Safety Administration must have the cooperation of the motor vehicle industry. Accordingly, it has taken several approaches to obtain the needed information.

In May 1972, the Safety Administration made formal requests to the four major domestic manufacturers and seven leading foreign manufacturers inquiring about their expected increases in price and weight to meet the 1973 and 1974 bumper standard requirements. Seven of the manufacturers responded, but Safety Administration officials told us that only a few provided most of the requested information and that this response was not sufficient to develop industrywide cost and weight averages.

Also in May 1972, the Safety Administration asked two equipment manufacturers to provide cost data on air cushion restraints. The manufacturers advised the Safety Administration that they could not respond to its request because, among other factors, costs vary with specifications, which are determined by the individual vehicle manufacturer; thus, the price to vehicle manufacturers is highly sensitive information.

In late 1972, the Safety Administration initiated discussions with a number of motor vehicle manufacturers to establish an informal, voluntary information exchange program. The Safety Administration wanted the vehicle manufacturers to voluntarily provide generalized historical cost data for use as a data base for its cost-estimating methodology and to provide comprehensive cost and leadtime information on specific standards and proposals when they were being developed. The Safety Administration continued these discussions for several months but, in mid-1973, this effort was deferred because of other

higher priority work in the agency. Also, the Safety Administration solicited contract proposals for a study to develop a generalized cost data bank, based on historical industry costs, which could be used to implement the cost-estimating methodology. It received no responses.

During the preliminary discussions with vehicle manufacturers in 1973, the Safety Administration sponsored legislation (S. 1824 and H.R. 7505) which would provide it with the authority to obtain cost data and other information. In addition, the House Committee on Interstate and Foreign Commerce reported out on July 11, 1974, a bill (H.R. 5529) to amend the National Traffic and Motor Vehicle Safety Act of 1966, which would give the Secretary of Transportation broad authority to require the submission of reports or answers to specific questions relating to any function in connection with setting motor vehicle safety standards.

Estimates of costs and leadtime to manufacture safety equipment are essential to make realistic benefit-cost anlyses. Because of the lack of specific detailed data for use in estimating, the Safety Administration is not in a good position to defend its cost and leadtime estimates. For example, the Department is not in a position to independently meet the requirements of section 103 of the Safety Act which states that a standard shall go into effect no sooner than 180 days and no later than 1 year after the order for a standard is issued unless the Secretary finds, for good cause shown, that an earlier or later effective date is in the public interest and publishes his reasons for such finding. The Safety Administration needs the assistance of the industry to establish a viable cost and leadtime estimating capability.

MANUFACTURERS' COMMENTS AND OUR EVALUATION

We obtained informal comments from four domestic and two foreign motor vehicle manufacturers about furnishing cost and leadtime data to the Safety Administration. Several manufacturers believed that the Safety Administration could not adequately estimate the cost and leadtime impact of safety standards without the participation of the motor vehicle

Industry. All of the manufacturers indicated a general willingness to provide certain cost and leadtime data to the Safety Administration to the extent that such information was available or could reasonably be developed. They said that recent requests for cost and leadtime data had been infrequent, that requested data had been provided, and that the Safety Administration had never formally notified them of incomplete responses. Most manufacturers' major concern was that cost and leadtime data furnished to the Safety Administration be appropriately safeguarded as proprietary information.

The need for specific legislative authority requiring manufacturers to furnish cost and leadtime data may not be necessary in view of the comments we received from manufacturers. The extent to which manufacturers' cooperation can actually be obtained and the reliability and usefulness of data furnished by them could be determined by the Safety Administration in a relatively short time.

RECOMMENDATION TO THE SECRETARY OF TRANSPORTATION

We recommend that the Safety Administration be directed to make an intensive, concerted effort to obtain cost and leadtime data from major domestic and foreign motor vehicle manufacturers on a continuous basis.

Safety Administration's comments

The Safety Administration stated that, although some progress had been made in obtaining cost and leadtime data from individual manufacturers, industrywide data had not been collected because the industry as a whole was reluctant to provide this data. It further commented that enacting legislation to require the industry to furnish data would overcome this problem, as experience with the Motor Vehicle Information and Cost Savings Act of 1972 (Public Law 92-513) showed. Although Safety Administration officials told us in July 1974 that the Safety Administration also plans to resume efforts to obtain voluntary industry cooperation in providing cost and leadtime information for safety standards pending passage of legislation requiring the submission of such information, they do not expect these efforts to be very effective.

MATTERS FOR CONSIDERATION BY THE COMMITTEE ON COMMERCE

We recommend that the Committee give the Safety Administration an opportunity to seek motor vehicle manufacturers' cooperation in providing cost and leadtime estimates and, if these efforts are unsuccessful, that the Committee then favorably consider legislation requiring the industry to furnish such data.

CHAPTER 5

SCOPE OF REVIEW

We made our review at the National Highway Traffic Safety Administration headquarters in Washington, D.C., where we examined the methodology for making benefit-cost analyses. We reviewed, on a selected basis, the data sources, assumptions, and analytical techniques used in estimating accident costs, safety equipment costs, and the effectiveness of safety equipment in reducing accidents, fatalities, injuries, and property damage. We also reviewed NSC's and the RECAT committee's estimates of accident costs and compared them with estimates of the Safety Administration.

We discussed the methodology of benefit-cost analysis with officials of the following organizations.

American Automobile Association
Center for Auto Safety
Consumer's Union
Highway Safety Research Institute
Insurance Institute for Highway Safety
National Academy of Engineering
National Safety Council
National Transportation Safety Board

OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

ASSISTANT SECRETARY
FOR ADMINISTRATION

June 10, 1974

Mr. Henry Eschwege
Director
Resources and Economic Development
Division
U. S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Eschwege:

This is in response to your letter of May 8, 1974, requesting the Department of Transportation's comments on the General Accounting Office (GAO) draft report on the need to improve the capability for performing benefit cost analyses in setting safety standards.

The GAO recommends in the report that the National Highway Traffic Safety Administrator be required to

(See GAO note, p. 31.)

We agree that the National Highway Traffic Safety Administration (NHTSA) should periodically update and refine cost estimates as new data becomes available, and we would like to point out that NHTSA recognizes this need. Further, NHTSA is using benefit-cost analyses as one of the means to establish an order of priority for planning and implementing motor vehicle safety standards, and it will continue to strive for the improvement of these important tools in the accomplishment of its primary mission--to reduce accidents and the resulting fatalities, injuries, and property damage.

I have enclosed two copies of the Department's reply.

Sincerely,

William S. Heffelfinger

Enclosure

DEPARTMENT OF TRANSPORTATION REPLY

TO

GAO DRAFT REPORT TO THE COMMITTEE ON COMMERCE

UNITED STATES SENATE

ON

NEED TO IMPROVE CAPABILITY FOR PERFORMING

BENEFIT-COST ANALYSES IN SETTING SAFETY

STANDARDS, B-164497(3)

SUMMARY OF GAO FINDINGS AND RECOMMENDATIONS

During the period February 1973 through May 1974, representatives of the General Accounting Office, at the request of the Chairman of the Committee on Commerce, United States Senate, conducted a review of the National Highway Traffic Safety Administration's use of benefit-cost analyses in setting motor vehicle safety standards. The General Accounting Office recommends that the Secretary of Transportation require the National Highway Traffic Safety Administration to:

(See GAO note, p. 31.)

SUMMARY OF DEPARTMENT OF TRANSPORTATION POSITION

The National Highway Traffic Safety Administration agrees in principle with the recommendations of the General Accounting Office to the Secretary of Transportation.

(See GAO note, p. 31.)

The need to periodically (but not necessarily continually) update and refine cost estimates as new data become available is recognized. It would be a mistake, however, to use such estimates without first assuring their validity and industrywide application through verification and validation of the basic data used to arrive at these estimates. This process of validation and verification is difficult at best, because of the many variables involved. Not only must the many different engineering and design features themselves be considered and taken into account but also necessary adjustments must be made for fundamental changes in technology and inflationary trends. NHTSA believes that its preliminary report of April 1972 on "Societal Costs of Motor Vehicle Accidents" readily lends itself, because of its modular arrangement, to such periodic updating and adjustment if and when warranted.

The importance of having available authoritative accident cause data is recognized by NHTSA, as acknowledged in the GAO draft report. The high priority placed on the expansion and refinement of accident data and its use in the determination of accident causes (as a basis for the development and implementation of motor vehicle safety standards) is evidenced by the efforts to develop a nationally representative sampling plan from which detailed accident data could be obtained; by the continued emphasis placed on tri-level accident studies; and the introduction of the special study concept which permits the collection of significant numbers of accident facts on a particular problem area (e.g., restraint system effectiveness, damage extent).

The National Highway Traffic Safety Administration is using benefit-cost analyses as one of the means to establish an order of priority for planning and implementing motor vehicle safety standards. It is also using benefit-cost analyses, along with other factors, to evaluate the merits of a proposed motor vehicle safety standard. Finally, the NHTSA is using accident data to evaluate the effectiveness of proposed and existing standards in reducing accidents and the resulting fatalities, injuries, and property damage. The NHTSA will continue to use these benefit-cost analyses, together with all other available pertinent data, in setting priorities for the establishment and implementation as well as the evaluation of motor

vehicle safety standards. This continued use is heavily dependent, of course, on the availability of manpower and resources to validate and evaluate basic data, develop necessary benefit-cost analyses, and arrive at statistically meaningful accident cause data. As recognized in the GAO draft report, it is also dependent on the availability of basic data and the cooperation of industry to provide such basic data. NHTSA will continue to strive for the improvement of these important tools in the accomplishment of its primary mission: to reduce accidents and the resulting fatalities, injuries, and property damage.

POSITION STATEMENT

With respect to the specific observations and recommendation in the draft report concerning the evaluation of data in connection with the development of benefit-cost analyses, NHTSA has the following comments:

(See GAO note, p. 31.)

The need for reevaluation, updating, and refinement of the data, data bases, and assumptions used in estimating accident costs, as new and pertinent information becomes available, has long been recognized. This recognition has been the primary reason for the modular arrangement of NHTSA's preliminary report of April 1972 on "Societal Costs of Motor Vehicle Accidents." While the Administration is not aware of any new information which would materially alter the estimates set forth in that report, the possibility of adjusting these estimates for such factors as inflation is open for consideration.

In developing the report, all available quantitative and qualitative information was considered. This explains some of the differences between the estimates of the NHTSA, the National Safety Council, and the Office of Science Technology. Thus, for example, NHTSA assumed each individual a member of society and treated any diminution of an individual's welfare a reduction in the average for all society. Obviously, nearly 4 million injuries and 55,000 fatalities will have an effect on average welfare. This approach differs from that of the National Safety Council (as described on page 2 of the draft report) which "believes that such costs are important to the individual who suffers as a result of an accident but that they do not represent a cost to the rest of society."

Another difficulty in estimating consumer costs results from the fact that NHTSA issues performance standards, not design standards. These performance standards can often be met with a variety of design options and with a wide range of costs. Predicting the cost of an unknown design is often a difficult task.

GAO is correct in identifying an error in NHTSA's distribution of insurance administration costs. This error has been recognized, and revised data are now being used by NHTSA. The following table of insurance administration costs (for each single event by type--fatality, disability, and property damage) reflects both old and revised data.

Insurance Administration Costs
(By Type of Involvement)

	Old Data	Revised Data
Fatality	$4,700	$4,700
Permanent and Total Disability	4,300	3,300
Partial Disability	4,300	3,300
No Permanent Disability	800	700
Property Damage Only	100	100

The revised data have no significant effect on the estimated total cost of the number of injuries. NHTSA's report emphasizes (and GAO recognizes) that the primary use of the cost estimates is for the relative ranking of alternative safety programs. For this purpose only the relative values of the societal losses per fatality, injury, and property damage accident are important. The absolute numbers are only proxy measures of losses in human welfare including the so-called hard economic data presented by the National Safety Council. For example, wage losses represent a loss to the rest of the society only if there is full employment and the deceased person cannot easily be replaced. Medical costs represent a transfer of funds from individuals and insurance companies to doctors and hospitals and do not result in a decrease in Gross National Product. The true loss in this instance is the opportunity cost involved when automobile accident patients use the time and space of medical personnel and facilities which could be used elsewhere.

Although the estimates of societal losses in absolute dollar terms may not be particularly meaningful, the relative values have considerable significance in assigning priorities to various alternatives. For example, a case involving the choice between two programs--one which would reduce a limited number of fatalities, and another which would reduce a substantial number of property damage accidents--readily shows the importance of such relative values in identifying

alternatives and trade-offs. Using NHTSA estimates, the saving of one human life is worth (in terms of societal costs) at least as much as preventing 700 property damage accidents. Using NSC estimates, one life is equivalent to 125 property damage accidents.

Regarding the observations and the recommendation on the use and expansion of an accident data collection system, NHTSA has the following comments:

(See GAO note.)

The NHTSA, as is acknowledged in the report, is fully aware of the need to collect and analyze real world accident data as a basis for its overall safety strategy, rulemaking plans, assignment of priorities, and allocation of resources. The development of the national multi-level accident data acquisition program to collect accident and supportive data is indicative of the primary importance NHTSA assigns to accident data.

Administration emphasis toward utilization of the tri-level accident studies for a National Accident Sampling Strategy further underscores the significance of this program. Additionally, the Administration has developed under contract a set of procedures for a "Rapid-Response System to Generate Highway Crash Data." This system will be combined with a recently initiated National Accident Sampling Strategy study contract as the nucleus of a future national system. Too, the special study emphasis, added to the multi-disciplinary accident investigation efforts, has expanded the limited value of these particular elements of the accident data system. The special study concept provides the ability to produce statistical findings by utilizing a "Level 2" (technicial level) accident investigation capability. This enables the teams to collect significant numbers of accident facts on a particular problem area; i.e., restraint system effectiveness and damage extent.

It must be emphasized, finally, that these data collection efforts, although time-consuming and of limited initial value, generate data which can be accessed continually by data users and serve as the basis for special focus studies at least on an annual basis. Where data are collected in the same universe year after year, meaningful measurements can be made as to such things as leading causes of injuries and shifts in injury production mechanisms.

GAO note: The deleted comments refer to matters included in the draft report but omitted from the final report.

A comment appears in order concerning the discussion of Safety Standard No. 111, "Rearview Mirrors," on page 21 of the report. According to the report, "the Automobile Manufacturers Association, Inc. criticized the Safety Administration's accident statistics, commented that broad and clear rear view vision does not have the potential of eliminating over one million accidents a year, and cited a research study which concluded that rear vision causes less than 3 percent (emphasis added) of all collisions--not a significant contributor. Many motor vehicle manufacturers supported this position and added arguments of their own. One manufacturer said, 'In our view, there is insufficient data available to support the proposed indirect visibility system . . . .'" NHTSA takes the position that 3 percent of all collisions can represent a very sizable and, indeed, significant absolute. In 1972, for example, 3 percent of all collisions accounted for some 510,000 accidents or 900,000 involvements.

As discussed in the foregoing, and acknowledged by GAO in the draft report, NHTSA places great importance on obtaining and analyzing cost estimates and accident data to serve as a basis for the development and implementation of motor vehicle safety standards and for evaluating the effectiveness of these standards. The Administration is also aware of the need for updating and refining these data as new information becomes available.

Considerable improvements have been started in the area of accident data collection and evaluation. Their continuation depends, in part, on the availability of resources. Similarly, while some progress has been made to obtain cost and leadtime data from individual manufacturers, the collection of industrywide data has failed because of the continued reluctance of the industry as a whole to provide these data. Enactment of the specific legislative authority to require the industry to furnish required data will overcome this problem, as experience with the Motor Vehicle Information and Cost Savings Act of 1972 (P.L. 92-513) would tend to show.

James B. Gregory
Administrator
National Highway Traffic Safety
Administration