REVIEW OF PROGRAMS DESIGNED TO ENCOURAGE USE OF SAFETY BELTS

Prepared by

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The 1978 Surface Transportation Act has directed that the Secretary of Transportation arrange with the National Academy of Sciences to conduct a comprehensive study and investigation of methods to encourage increased use of safety belts. The study will be conducted by the Transportation Research Board under contract with the National Highway Traffic Safety Administration.

This report has been prepared by Dr. Bruce Bigelow of NHTSA Research and Development staff for the TRB's Study Committee to summarize activities and efforts to promote safety belt use by drivers of and passengers in motor vehicles. It is intended to provide background information about a wide range of programs dealing with safety belt use.

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Statement of the Problem. The latest statistics from NHTSA indicate that only 14 percent of American drivers use the seat belts in the automobiles. This poor rate of usage, down from that of previous years, mandates a high priority rating for an active program to reverse the current trend. Fifty thousand lives are lost on the nation's highways evert year. Three million five hundred thousand injuries add to the toll. Lost productivity, disabilities, human grief and disrupted lives add to the cost. Each one of these tragic points would call for action; taken together, they demand it. While seat belt usage would not eliminate all the losses, figures indicate that from 15,000 to 20,000 lives might be saved annually if belts were universally worn. Serious injuries and the attendant costs in time, money and emotional resources would diminish accordingly.

If usage were increased only to 70 percent, over 9,000 lives could be saved each year, and a financial saving to society of over $2 billion would accrue annually.

Background

Occupant restraints refers to three different kinds of systems used to protect vehicle occupants:

- The active safety belts which have been required under Federal law on all new cars sold in this country since 1968;
- Child car seats and infant carriers for children too small to use regular safety belts;
- Automatic belts and airbags (passive restraints) that provide protection without requiring any deliberate act on the part of vehicle occupants to engage them.

The nature of the behavioral problem of nonuse and its solution will be different for each type of restraint system.

The main cause of injury and death in motor vehicle accidents is the "second collision" in which vehicle occupants are thrown against parts of the vehicle's interior or each other or are thrown from the vehicle and strike outside objects. The "first collision" occurs when the vehicle, striking an unyielding object, stops suddenly. Unrestrained occupants continue to travel at nearly the car's speed until they, too, are stopped suddenly by colliding with the windshield, steering wheel, dashboard, or other parts of the vehicle's interior. This "second collision" occurs a fraction of a second after the initial crash and cannot be prevented by bracing oneself; it can be prevented only through the proper use of occupant restraint systems.

Many studies done in Europe, Australia, and the United States have documented the benefits of safety belts. The studies all show that belts are highly beneficial. For example, in a NHTSA study of 15,000 towaway accidents, belts reduced minor injuries (AIS 1) by 30 percent, moderate injuries (AIS 2) by 57 percent, severe injuries (AIS 3) by 59 percent, and serious and fatal injuries (AIS 4-6) by 60 percent.

Child restraints may be even more effective. An 8-year study in the State of Washington showed a 90 percent reduction in fatalities and a 67 percent reduction in disabling injuries for children who were restrained.

Despite the known effectiveness of belts in reducing death and injury and the fact that almost all U.S. passenger cars are equipped with belts, most vehicle occupants in the United States do not use their belts. NHTSA surveys of usage in the United States indicate that only about 14 percent of front-seat vehicle occupants use the active restraint system (belts) in their cars. Estimates of belt usage in rear seats are even lower. (2)

The problem of nonuse of restraints is even more serious for young children riding in motor vehicles. Recent observations have shown that only 34 percent of infants and only 18 percent of children aged 1 to 4 years were restrained in child restraint systems. However, the Insurance Institute for Highway Safety found that in about 77 percent of the cases in which a child was in a child restraint, the device either was not restrained by the car lap belt or did not have a required tether strap attached, or the child was not strapped into the device.

In 1977, the Secretary of Transportation issued a final rule requiring passive crash protection in new passenger cars. The standard requires that passive restraints be provided beginning in 1982 model full-size cars, in 1983 intermediate and compact cars, and in 1984 subcompacts. Airbags, passive belts, or any other system the manufacturers develop can be used to meet the requirements of the safety performance standard. As a result, passive belts are already available as options on some models.

The problem of nonuse of passive restraints is based on the expectation that in many models of cars, manufacturers will meet the standard by supplying passive belt systems. There is concern that a substantial number of vehicle occupants will defeat this system by disconnecting the belts. A defeat rate of about 20 percent has already been observed in Volkswagen Rabbit models equipped with passive belts as an option. Restraint and system usage in active belt VW's is twice as high as in other make cars, indicating that VW drivers are probably more safety conscious than most drivers. If that many owners defeat systems ghey purchased voluntarily, it can be expected that a higher proportion will attempt to defeat passive belts when such systems are required equipment on cars.

Goals of the Program. The safety belt program of NHTSA has two complementary goals: (1) to increase the regular and habitual usage of safety belts and (2) to increase the acceptability of belt systems (by making them more comfortable and easy to use). These two goals must be taken in tandem since the failure to attend to each will gend to undercut the effectiveness of the other. Success of the program depends upon the success of both of its constituent parts.

Population Breakdown. For the purposes of the safety belt program, the population can be broken down into two critical groups: users and non-users. In turn, each of these groups can be subdivided, isolating those relatively small groups of confirmed users and non-users on either end of the usage spectrum.

Confirmed users of belts are those who will wear belts regardless of the difficulties they might encounter in putting or keeping them on. Likewise, there seems to be a slightly larger group of confirmed non-users who state that nothing that the government or the manufacturer can do will make them wear belts. Between these extreme groups are larger and more ill-defined marginal users and non-users, each of which may on some occasions use belts or has the potential to change from a current user to a non-user or vice versa.

Working Assumptions of the Program

1. Little the government can currently do with respect ot manual belt systems will influence either group of confirmed individuals in a significant way. Confirmed users will continue to buckle up regardless of the comfort, convenience or design of the belts. Confirmed non-users seem determined to defeat any system with which they are faced, regardless of its own intrinsic properties or any government regulations.

2. Identification of significant characteristics, tendencies or beliefs of the two confirmed groups might lend insight into ways of approaching the individuals in the marginal groups, both to keep them from becoming confirmed non-users and to persuade them to join the group of confirmed users.

3. Once habits of either use or non-use are formed, they are usually difficult to break. Consequently, it is essential that all efforts be made to prevent non-use from becoming a habit and to encourage the formation of habits of usage from an early age.

4. It is possible that only one difficulty with a belt system or one reason for complaint against the design or operation can turn a user into a non-user or to convert the habit of non-use into a pattern of behavior.

5. Non-users may tend to justify their non-use by generalizing their dissatisfaction with one aspect of the system's deployment to a displeasure with many or all aspects of the apparatus, thus reconfirming their own behavior and potentially spreading their attitudes and perceptions to others.

Ways of Responding to Problems and Their Application to Safety Belt Usage.

Social scientists and educational theorists have identified four basic methods of responding to problems which require the cooperation of large numbers of people to solve. No one of these can effectively solve most problems in isolation from the others, and a consideration of all of them is necessary before an effective response can usually be made. They are as follows:

1. To do nothing: To refrain from action or to pull from a problem, either by adopting a stance or neutrality; or by ignoring the problem altogether is to take just as critical a position as to adopt a more action-oriented role. Some have argued that the best way for the government to respond to the safety belt usage problem is to take just this position and do nothing, leaving the decisions up to the individual, both because, they assert, that is where such authority inherently belongs and because there is no effective means of depriving the individual of that decision if he chooses to make it.

2. To appeal to a higher authority: This method may take the form either of the use of a commonly accepted authoritative source (the Bible, the Constitution) or of a resort to institutions and organizations which carry with them either the implicit or the explicit threat of coersive measures; such institutions may include the government, the police, the corporation or organization for which one works, or institutions like banks or insurance companies which influence or control one's access to and supply of monetary resources.

3. To appeal to technology: Often one can bypass the negative effects of a problem by turning to technological innovations which overcome some or all of the adverse characteristics of the system with which one's problem is associated. In the case of safety belt usage, such a response might include the development of passive restraints or the structural changes in automobile manufacture and belt design which eliminate the comfort and convenience difficulties heretofore encountered and which make the automobile itself a safer vehicle in which to ride.

4. To appeal to reason and/or conscience: Persuasion, either verbal or through demonstration and experience, relies upon the ability either to apply arguments which appear to the subjects as reasonable and logical or to assert a position which is identified by the subjects as ethically and morally correct. Both the widespread dissemination of factual information about automobile safety, crash dynamics and the effectiveness of safety belts and the attempts to increase the safety consciousness of the American public fall under this category.

NHTSA has consciously opted to use the last three alternatives to the exclusion of the first. It has been decided, as a matter of policy, that the Federal government, as represented by NHTSA in this instance, has a responsibility to take positive action of some sort to counter the trend of decreasing safety belt usage. The social costs of the failure of large numbers of individuals to take upon themselves the responsibility for ensuring their personal safety and the safe operation of the vehicle they are driving has dictated that government at various levels of jurisdiction accept that responsibility. The viable alternatives open to NHTSA at this time are, therefore, to assert or urge the use of authority, sanctions and material incentives, to improve the technological construction of the automobiles and the safety systems employed therein, and to appeal to popular wisdom, reason and conscience.

The remainder of this progress paper will be devoted to outlining the efforts and results of NHTSA research and safety programs over the last eight years and to suggestions for future programs, both those already included in NHTSA plans for the next five years and those not yet investigated but identified as possible new approaches by the NHTSA staff. In some instances, committee members may want to look at the detailed findings of these projects or examine some of the materials developed by NHTSA for distribution and public information. These can be made as needed.

The Occupant Restraint Usage Coordinating Group, a loose confederation of organizations, including NHTSA, interested in and active in the promotion of safety belt usage, is now in the process of developing a composite listing of national resources and programs, which we would also be glad to share as it becomes available.

Past and Current Efforts

I. One of the most important components of NHTSA research over the last decade has been the collection of information about rates of and factors associated with belt usage. This has been conducted by several contractors and continues as an on-going monitor of the nation's belt usage habits. These surveys have shown a steady decline in the overall usage rates over the last eight years, with the exception of a rise in 1973-74 because of the presence of the safety belt interlock system on cars of that model year. The latest figures indicate, as noted above, that only 14 percent of the driving public uses safety belts regularly. (2) These surveys also have identified those conditions under which belts are likely to be worn with greater frequency than the average and those subhroups of the general population which tend to use the belts at a higher rate than "normal". A listing of those factors and suggestions of the reasons that these conditions and subgroups stand out are as follows:

Various studies have already identified categories of persons, special driving situations or motivating factors which seem to influence the use of restraints. None of these categories in and of themselves will predict belt usage in any given instance. All indicate trends at best and identify conditions or situations under which people will wear belts at a slightly higher or lower than average rate. They therefore provide guidelines for further research and suggest approaches to public information or regulatory campaigns that promise some measure of success. (3,4,5)

The reasons or possible characteristics given are likewise based upon a composite of survey conclusions and inhouse analysis. They are neither exhaustive nor absolute. Rather, they are meant also as guidelines to suggest some of the probable reasons that the designated categories of persons, circumstances or motives have stood out. In making these suggestions, NHTSA recognizes that even within some of these categories there are groups of persons who operate for reasons opposite to those indicated in this report. However, that there are significant subgroups of these categories which are belt wearers can nonetheless probably be explained by the reasons given in the right-hand column.

1. Those groups, significant portions of which tend to wear more frequently include:

	Groups	Hypothetical Bases
a.	Women	Greater sense of vulnerability
		Greater sense of responsibility to family
		Less need to assert personal control over situation and to demonstrate independence
b.	College educated	More easily persuaded by logical argument and "facts"
		Able to take more "abstract" perspective and translate statistics into personally meaningful information

Groups	Hypothetical Bases
b. College educated (continued)	May tend to travel more and longer trips
	Tend to be aware of complexity and inherent interdependency of world and be less threatened by overt reminders of dependence
c. Small car owners	Tend to focus on non-glamour factors of automobiles (safety, economy)
	Tend to feel more threatened with serious injury in smaller vehicle
	Feel less need to use car as means of demonstrating interdependence and status and more as efficient means of transportation
	May view their car from a "race car driver" perspective and wear belts just as most race car drivers do in a race
d. Professional and executive workers	Generally same reasons as college educated
	Already have publically recognized outlets for demonstrating independence from "outside" control
e. Those living in the West	Spend more time on the highway or taking longer trips
	More attuned to acceptance of new technological innovations
f. Those traveling long distances on major highways	Feel more threat from the high speeds or prolonged exposure to danger
	It is easier to settle into a routine on a longer trip
g. Those with children in the car	Tend to be more conscious of setting a good example for children
	Tend to feel a high sense of responsibility for children/family
	Tend to be more concerned with general safety factors than might be the case were they alone

	Groups	Hypothetical Bases
h.	Those in occupations calling for high degree of accuracy, control, cool analytical thinking	Response to appeals to logic Tend to be professionals and college educated Tend to be less willing to gamble Less need to assert personal independence from other forces
i.	Non-smokers	Less willing to gamble with their own health More easily persuaded by statistics and factual information
j.	Those who drive in winter (slightly higher than for other seasons)	More threatened by slippery roads and less favorable driving conditions More professional and less vacation (non-serious) driving

2. Those groups, significant portions of which belong in the category of or tending towards confirmed non-users:

	Groups	Hypothetical Bases
a.	Men	Tend to drive alone more often Tend to need to show personal independence from technical "crutches" more often than women Tend to have more confidence in their own ability to drive Tend to think more often of matters tangentially related to driving (e.g. business, personal problems) and to "forget" to use belt
b.	Young people (this category may vary or may not belong here) - some studies support this category; others do not	Less certain of their own vulnerability More subject to peer group pressure and not wanting to be "un-cool" Still in the process of forming driving habits Often tend to be in a hurry and do not take time to fasten belts

Groups	Hypothetical Bases
c. Less well educated (high school or less)	Tend to perceive problems one at a time rather than as part of system
	Tend to mistrust authorities "telling them what is good for them"
	Tend to see automobiles and their control over them as status symbol
d. Persons over 65	Tend to believe they know how to operate a car after many years experience and resent government telling them they have been doing it wrong
	Tend to view themselves as cautious drivers and do not need belts
	Small irritations in belt design, comfort and convenience may be augmented for older people
	Travel mostly on short trips
e. Smokers	Opposite of non-smokers
f. Fatalistic	Believe individual has little, if any, control over his own fate
	Strong belief in power of God to save or destroy life
	Belief that one is "tempting fate" by trying to forestall the "inevitable"
g. Those mistrustful of technology	Hold general belief that mechanical objects are bound eventually to fail
	Not well educated and generally do not understand technology
	Mistrust the purveyors of technological innovations as desiring to take control over the individual--feel acute need to maintain as much personal control as possible

II. Safety belt laws--reliance on governmental authority

The following discussion centers only on past experience with and consideration of legal mandates, both in the United States and abroad. It is taken from a recent NHTSA Task Force Report on safety belt laws and represents a comprehensive analysis of the subject. The place of mandates, if they have a place at all, in future programs for increasing usage will be detailed later in this report.

A) FEASIBILITY AND TIMING REQUIRED TO ENACT AND IMPLEMENT SAFETY BELT USAGE LAWS IN THE UNITED STATES (6)

1. Federal Involvement

The first truly national involvement of the Federal Government in passenger restraint systems occurred in February 1966. That was the date of the Motor Vehicle Safety Standards which require safety belts in all passenger cars manufacturered for sale in the United States after January 1, 1968. The next major Federal involvement in restraint system usage occurred in 1969 and 1970 when the Department of Transportation issued its first notices of proposed rulemaking on passive restraints.

The latter actions, combined with the stated experiences of other countries with belt usage laws (e.g. Australia and Canada) generated much discussion concerning the comparative effectiveness of passive restraints versus increased belt usage (achieved through the belt usage laws).

The Department of Transportation--although a strong advocate of passive restraints--recognized that increased belt usage could save thousands of lives. Accordingly, in 1972 the Department requested the Congress to enact a concurrent resolution requesting the States to "enact safety belt usage laws." However, the events that occurred in 1973--at both the Congressional and Executive levels--have had a lasting impact on belt usage laws in the United States.

First, the Congress responded to the Department's request for a concurrent resolution, by enacting an incentive program which authorized a reward up to 25 percent of state highway funds for the enactment of a belt usage law.

Enactment of the incentive grant by the Congress intensified interest in belt usage laws at both Federal and State levels. In November of 1973, the Department sponsored a Safety Belt Usage Conference in Washington D.C.

The purpose of the Conference was "To identify key action areas for State passage, implementation, and evaluation of mandatory safety belt usage laws." Conferees included State legislators, judicial officers, law enforcement agencies, and State, local and private sector safety officials. After three days of meetings and working sessions the Conferees endorsed the concept of mandatory belt use laws.

Also, in 1973, the Department issued a Federal Motor Vehicle Safety Standard (FMVSS) 208 which required starter interlocks on all passenger cars manufactured after August 15, 1973. Promulgation of the interlock requirement was greeted with mixed and vocal reaction, but it did meet its immediate objective --belt use was increased. Usage rates in 1974 cars were 76 percent in February of 1974. These rates were as high or higher than in most countries which had enacted

usage laws. However, these rates dropped to 43 percent in June of 1975 and to only 14 percent by November 1978."

Somewhere between 15 and 40 percent of the interlock systems malfunctioned. Most were poorly designed and resulted in severe discomfort for many wearers. The high incidence of equipment malfunction and the poor initial design made them inconvenient and boosted their nuisance value severly. Growing dissatisfaction by the public and the media resulted in an outcry which reached the Congress. As a result, the Congress in 1974 enacted an amendment which directed that the interlock rule be suspended. A 4-8 second duration buzzer and light replaced the interlock in the Federal standard.

In the debates on the repeal amendment, the issues of "Big Brotherism" and "Government control over the individual," were raised in a fashion that can easily be applied to mandatory belt use laws. An example of the attitudes that were displayed follows:

> "It is not up to the Federal Government to impose on the whole nation a mandatory seat belt use law. That is up to the State legislatures. If States want to have mandatory wearing of belts that is up to each State legislature." (Congressional Record, August 12, 1974, Page H8130)

Similar attitudes were present in the Congress during its review of the Department's FY 1975 appropriations request for the safety belt incentive grant funds, authorized by Section 219 of the Highway Safety Act of 1973. The Congress, in August of 1974 disallowed the Department's request for funds. Floor debate indicated that some members felt it was an inappropriate role for the Federal Government to be using funds to entice States to enact such laws. The Committee Chairman reassured a colleague that the funds were omitted in the bill by the following statement:

> "I want to assure the gentlemen that by striking out the $5 million which was added by the Senate, there is no money for incentive grants for mandatory seat belt use. I know there will be no money expended by the Department of Transportation for this purpose." (Congressional Record, August 13, 1974, Page H8203)

Subsequently, the Department has (in terms of monetary incentives) had few funds with which to encourage State enactment of belt usage laws since Congress has not appropriated wuch monies. However, a continuing effort has been made to assess the effectiveness of such laws in other nations and the Department has developed materials for use by State, community and private sector safety officials to encourage voluntary safety belt usage.

2. State Activities

The Congressional action authorizing incentive grants for States which enacted belt usage laws, and the Department's National Safety Belt Usage Conference stimulated numerous efforts in State legislatures to enact belt usage laws.

In the 1973 and 1974 period approximately 50 bills for mandatory safety belt usage were introduced in 27 States. All were defeated except for a bill in the State of Maine requiring belt use among passengers and drivers of school buses (if the bus is so equipped).

During the 1975 and 1976 legislative sessions approximately 40 bills concerning safety belt usage were introduced in approximately 20 States. The only bill successfully enacted into law was a Wisconsin bill which prohibited the State Department of Motor Vehicles from requiring seat belt usage.

There were about 23 bills introduced in 10 State legislatures during the 1976-1977 legislative sessions. Only one bill dealing with passengers and drivers of motor vehicles passed one chamber of the legislature. Additionally, however, a Tennessee bill requiring the use of child restraints was enacted into law.

The Oregon House of Representatives passed the bill requiring seat belt usage by occupants of passenger cars. The Oregon Governor's Highway Safety Representative said the action came after working for a similar bill during three sessions of the legislature over the past six years. The support of Chairman of the House Transportation Committee was enlisted. Eventually the bill reached the floor of the House with 23 of the necessary 31 votes. The rest were obtained by gaining special permission to show the film "Where Have All the People Gone" on the floor of the House. The bill passed the House but never got out of the Senate Committee.

There are some indications that the film made the critical difference in the House. However, a number of actions were important such as strong editorial support from major papers and endorsement by the Governor who promised publicly to sign the bill. Women Highway Safety Leaders also helped lobby. One element which was missing was a systematic public information program. Efforts to establish a media effort failed.

Later, letters to the editors began to appear, mostly opposed to the law and the impression was left that the public opposed the proposed law. An effective media effort may have been able to counterbalance this impression.

"Proponents of the usage law were able to handle every objection except the issue of personal freedom to protect oneself." Although a rebuttal to the personal freedom argument may be made by citing the cost in hospital treatment, emergency medical services, increaded insurance rates, etc., many people have continued to cling to their assertions that they have a right to take the risks of not wearing a belt if they so desire. Furthermore, they have managed to persuade some state legislators to think-and to vote-along the same lines.

"It was felt that an earlier 1973 attempt to pass a similar usage law paved the way for the recent House action and for the press support which was displayed. The 1973 bill lost on the floor of the Senate. It was not considered in the House but had the support of the Governor.

The Oregon case shows that safety belt usage bills can be passed in legislative champers. To accomplish this requires a great deal of concentrated activity and often several years of effort.

In addition to the Oregon bill, the State of Tennessee has enacted into law a bill requiring the use of child restraints for children under the age of four. The enacted law was weakened by a number of amendments. Thus, its enforceability and potential effectiveness is questionable. It requires that a child under four years of age be restrained or held by an older person if riding in a passenger car owned by the child's parent. The bill also provides that failure to comply cannot be introduced as evidence in litigation.

"Tennessee also had a general usage bill introduced in the 1976-1977 session. This bill was introduced and sponsored by the Chairman of the House Transportation Committee. However, the bill failed for lack of a majority. It received only 38 of the required 50 favorable votes.

Summary

"Congressional support does not appear to be as much in evidence for a National Safety Belt Usage Law as it was for the National Maximum 55 MPH Speed Limit. State legislatures and executives--although timidly supporting such laws--do not appear convinced of the public acceptability of them. The backlash experienced from the "interlock" is undoubtedly present at the National and State

" There are few strongly organized groups either pro or con on safety belt usage laws. Strong opposition, however, could be expected if enactment were imminent. Enactment of such laws--if left to the initiative of the individual States--may be slow in coming. As Section Three of this report indicates, this factor significantly influences the ultimate effectiveness of such laws if the nation as a whole.

3. Analagous State Legislative Experiences

a. Time Required to Enact Laws in the States

" Experience with other laws which impact upon the majority of the motoring public can provide a basis to judge the timing required to obtain safety belt usage laws in most of the States.

" In June of 1967, the first thirteen (13) Highway Safety Standards were promulgated as authorized by the 1966 Highway Safety Act. This original Act carried a requirement that the States implement the Standards or face a loss of 10 percent of their highway construction funds.

" There is no current Federal requirement for safety belt usage laws. However, certain legislative elements of three of the standards may shed some light on what to expect for widespread enactment of belt usage laws. The following table shows the number of States (and, in some cases, other jurisdictions) adopting legislation over the years since 1966.

"(1) Adoption of a .10 Blood Alcohol Concentration (BAC) as presumptive evidence of intoxication.

1966 (and Prior) - 7	1971 - 10
1967 - 2	1972 - 11
1968 - 2	1973 - 4
1969 - 8	1974 - 3
1970 - 3	1975 - 2
	Total 52

(2) Motor Vehicle Annual Inspection.

1966 (and Prior) - 22	1971 - 0
1967 - 10	1972 - 0
1968 - 0	1973 - 0
1969 - 1	1974 - 0
1970 - 0	1975 - 2
	Total 35

(3) Adoption of Motorcycle Helmet Laws.

1966 (and Prior) - 0	1971 - 2
1967 - 21	1972 - 1
1968 - 16	1973 - 1
1969 - 3	1974 - 2
1970 - 2	1975 - 1
	Total 49

The first two areas of activity impacted the total driving population. As can be seen, progress was slow in the alcohol area. However, after ten years, all jurisdictions now comply. Periodic motor vehicle (PMVI) inspection has seen very little recent activity at the State level. Significant legislative activity was seen early in the motorcycle helmet area, an area which affected a small proportion of the driving population. However, as the next Section indicates, repeal legislation is now receiving considerable attention at State legislative levels.

The public and legislative reactions to the "interlock system" have already been discussed. Similar reactions could be anticipated in response to any Congressionally mandated pre-emptive law, as well as to any State enacted law. Obviously, this assessment, although logical, is only speculative at this time. However, one recent experience provides us with some insight into possible reactions to belt usage laws. That experience is with the motorcycle helmet use legislation.

b. The Motorcycle Helmet Use Law Experience

The first motorcycle helmet use laws were adopted in 1966. By the close of 1969 more than 40 States had adopted such legislation.

Helmet legialation has never been popular with most motorcyclists but, in the early years, the opposition was unorganized and not very vocal. However, the motorcycling press always opposed helmet use laws and this provided a forum for organizing to defeat new helmet use legislation and to advocate repeal of existing legislation.

Much of the vocal opposition to helmet use legislation originated in California which was the location of most motorcycle publications and where there were large numbers of motorcyclists and motorcycle organizations. In fact, California was the only State in which organized opposition had been successful in preventing adoption of a helmet use law of any type. ABATE (A Brotherhood Against Totalitarian Enactments) originated in California and spread to other States where it coordinated efforts to repeal helmet use legislation.

"The other main source of organized opposition to helmet use legislation was the American Motorcycle Association (AMA). Members of the AMA's legislative staff testified in opposition to helmet legislation in a number of States. They also lobbied for removal of DOT's sanction authority under the Highway Safety Act of 1966 and testified in opposition to sanctions at the public hearings held by DOT for the States of California, Illinois and Utah.

"Opposition to helmet legislation has principally been in the form of letter writing campaigns to National and State legislators, public demonstrations by large numbers of unhelmeted motorcycle riders and attendance and testimony by motorcyclists at legislative hearings.

"Lobbying efforts to repeal or weaken helmet laws were relatively unsuccessful prior to 1976. However, in 1975, the Department initiated sanction procedures against the three States that did not have fully effective helmet laws. California and Illinois had no laws and Utah only required helmets on roads posted above 35 mph. Reaction was swift and decisive. The States and the organized opposition petitioned Congress to remove the Department's authority to sanction States for lack of a helmet law.

"In May 1976, Congress enacted the 1976 Highway Safety Act. Section 208(a) of that Act explicitly prohibited the Secretary of Transportation from requiring that a State adopt or enforce a motorcycle helmet use law. The debates on the anti-helmet amendments left no doubt about the sentiment of many members of Congress that the Government should not pass laws to protect people from themselves. The parallel to seat belt use laws is too clear not to be raised in any subsequent debate in Congress. As a result of this enactment, twenty-seven (27) States have repealed or weakened their motorcycle helmet use laws within the last two years. Most of the remaining States are considering such action. Typical comments made by State legislators during debate of these repeal bills were:

- "If they want to kill themselves, let them!"
- "A person interested in his own safety will probably wear a helmet."
- "We do not want the Federal Government telling us what to do."

Summary

"The attitude within the State legislatures and the United States Congress can be seen as being generally opposed to mandated actions which impose upon the rights and freedoms of individuals. Based on our experience with motorcycle helmet use legislation, we might anticipate vocal opposition to seat belt use legislation.

c. The 55 MPH Maximum Speed Limit Experience

"The 55 MPH Maximum Speed Limit was originally imposed as an emergency fuel conservation measure by Congress as a result of the oil embargo which began in the fall of 1973. Because the 55 mph speed limit also resulted in dramatic

safety benefits, it was made permanent by the Congress during January 1975 (Federal-Aid Highway Amendments of 1974, Public Law 93.643). Under the permanent law, the Governor of each State is required to certify annually that the 55 mph limit is being enforced and DOT is empowered to withhold approval of Federal-Aid Highway construction projects in any State which fails to enforce the limit.

"During the Embargo period, a majority of the public complied with the "55" because long lines at gas stations were clear evidence of a shortage of fuel. However, as months passed and fuels again became plentiful, the public no longer believed that an energy crisis existed and speeds began increasing all across the country.

"Public pressure to increase the speed limit resulted in attempts by various State legislatures (especially in Western States) to reduce the penalties for violations of the speed limit; to modify the limit to permit higher speeds on certain roads; to repeal the law; and/or to hinder police capability to enforce the law through budget restraints.

4. Attitudes Concerning Seat Belt Usage Law Enactment

a. Public Attitudes

"Due to changeability of public attitudes and interests, measurements of public opinion are only as useful as they are current. However, a survey in February of 1975 by the Highway Users Federation showed that 41 percent of the public favored State laws requiring safety belt use. Forty-nine percent opposed. Four in ten respondents who favored such legislation said they supported a fine of $25 for non-use.

"Another survey was conducted by Yankelovich, Skelly, and White, Inc., in 1976. It involved a national probability sample of 1,815 households having drivers of voting age. The survey was funded by the Motor Vehicle Manufacturers Association of the United States. Several direct questions dealt with the acceptability of safety belt usage laws. The questions and answers of most interest were as follows:

- Question: Tell me in your own words, and in light of your own experience with seal belts, how you would feel if a seal belt usage law were enacted in your State?

Unaided Reactions	Percent of Total Drivers
Would cause me to use them	40
Consider rights infringed	35
Would not like it at all	8
Would break law	5
Very angry, feel like breaking law	3
Not sure (questions raised)	9
	Total 100%

- With regard to the question of whether the enactment and enforcement of a mandatory seat belt usage law would be acceptable, the following reactions were obtained:

Response to Law Enacted/Enforced	Percent of Total Drivers Responding
Acceptable	30
Not Acceptable	64
Uncertain	6
	Total 100%

Summary

"In public attitudes, the issue of individual choice appears to be the major factor influencing the public's reaction to safety belt usage legislation. During the past several years, the American public has increasingly vocalized its opposition to mandated regulatory measures by both State and Federal Governments. However, there appears to be neither organized public support for nor specifically against against safety belt usage laws at the present time.

b. State Safety Officials

"The public held views are also reflected by State safety and enforcement officials. The opinion of officials were solicited by NHTSA staff in order to more accurately measure the general attitude of the safety community. Discussions were held with the Governors' Highway Safety Representatives in 49 States and the District of Columbia. Several key questions were asked of these officials. Those questions and the summary of the comments received are:

- Question: What positions have been taken on mandatory safety belt usage laws by members of the executive branch of State government, the legislature of the private sector?

  Responses: Few positions have been publicly expressed. There appears to be no organized opposition to usage laws, but neither is there much support. Safety organizations and advocates such as Governors' Representatives favor usage laws, but even they say that the issue of personal freedom is overriding. Legislative bodies, particularly, are reluctant to consider usage laws. First, they remember the defeats of usage laws in sessions from 1974 through 1976. Second, the experience with the safety belt interlock undercuts mandatory approaches. There is a general assumption among executive agency spokesmen, legislative leaders, and the private sector that "the public is simply not ready."

- Question: Has any legislation for mandatory safety belt usage laws received serious consideration in the 1977 legislative session?

  Responses: Tennessee enacted a child restraint law. The Oregon House passed a mandatory belt use law. However, the Senate tabled

this legislation. Additionally, some 23 bills were introduced in 10 States but few of them received serious consideration, and none was reported out of committee. Iowa was considering a Department of Public Instruction bill to require school bus operators to wear belts. In Michigan, State agencies are requiring belt use by employees. There seems to be more interest in developing a wide range of incentives for voluntary belt use than to seek to enact mandatory belt use laws.

"In addition to the above questions, thirteen (13) Governors' Representatives were asked their personal opinion regarding various aspects of pursuing safety belt usage legislation. The following responses were received:

- Question: How would you go about enacting a mandatory use law?

  Responses: Virtually every Governor's Representative contacted said that a one to two year public information and education program would be necessary. They felt that such a campaign should not promote a usage law, but explain the benefits of belt use. Their recommended approach included a need for using expert witnesses, medical authorities, and representatives of the power structure (e.g., labor) in a carefully orchestrated program which would peak at an optimum time for influence on the legislature.

- Question: What features in a bill would give it the best chance of passage? Would it help to use a gradual approach limiting initial coverage to certain roads or age groups?

  Responses: Those contacted indicated that there needs to be a balance between a bill so severe as to defy passage and one so weak that it cannot yield significant increases in belt usage. Most Governors' Representatives prefer a bill which would apply to all vehicle occupants because "We are trying to educate the public to wear belts at all times, under all conditions." A sunset provision which would limit the life of a bill was recommended by some and was a feature of the bill in Oregon. They felt that usage bills should not refer to "mandatory" laws but should be termed "occupant restraint legislation." Many agreed such laws should have meaningful penalties. Several respondents warned against camouflaging the intent of usage laws, suggesting instead a straight forward approach.

- Question: Who is most likely to oppose a usage law, what grounds would they use?

  Responses: The main hurdle appears to be the concern of legislators about the law's unpopularity with the public. Rather than neutralizing organized opposition, the problem is one of gaining public understanding and support. Clearly, the issue is one of public health vs. individual freedom. Safety advocates have lost many of these kinds of battles in recent months (e.g., with motorcycle helmet laws).

- Question: Do you favor a Federal incentive program to encourage States to enact usage laws?

  Responses: States' Representatives appear to be ambivalent about incentives. They say a law obtained only in response to an incentive grant wouldn't be worth having. However, a number of Governors' Representatives say that Federal incentives do have some attraction, especially to energize officials to undertake particular emphases or priorities. Nearly all expressed dissatisfaction with past incentive approaches which provide awards based on fatality reduction, which they claim is tantamount to the luck of the draw. Governors' Representatives would be clearly attracted to a meaningful incentive program tied to usage rates rather than to enactment of laws. Some say such a program would help obtain passage of belt use laws.

- Question: What kind of incentives would be most effective?

  Responses: Most respondents felt that any impression that Federal money would be used to buy or bribe a legislature should be avoided. Monetary rewards would have to be significant and be based on increasing and maintaining certain usage levels as measured by independent surveys. One Governor's Representative recommended a large monetary incentive for increasing usage to a 65 percent or 70 percent level. Some of the award would be granted if the usage rate were maintained in the second year with the remainder of the award being given for sustaining usage for a third year. The cumulative award money might be more attractive than the incentive provided by a one time grant. They felt that incentive funds should flow directly to localities to the extent possible. One source of funds for incentives might be to return to the States one or two cents of the Federal taxes collected on each gallon of gasoline sold in their States. Most Governors' Representatives point out, however, that even incentives would not help passage until legislators are assured that belt use laws would not be resented by the public.

- Question: Would you favor Federal penalties for failure to enact a use law?

  Responses: Virtually all respondents said no. Penalties work against the Federal/State partnership concept. Again, obtaining a belt use law is only part of the goal. If a law is not supported with enforcement and vigorous public education it will not produce favorable results.

c. Enforcement Personnel

In addition to the inquiries made to Governors' Representatives, NHTSA staff also contacted seventeen (17) State Plice and/or Highway Patrol agencies to assess their views regarding safety belt usage laws. The inquiries addressed to these agencies and their responses were:

- Question: What problems do the police see in enforcing seat belt usage legislation?

  Responses: Police representatives felt that the major problem would be one of proving that a belt was not being used. Except for the shoulder harness, the officer has no visible evidence that a driver does not have the belt secured. Most heads of police agencies felt that the majority of cases would be contested. The driver could say he had just unbuckled the belt or he could fasten it before the officer arrived at the vehicle.

- Question: Would citations for non-use be given only when a vehicle was stopped for some other cause or would non-use in and of itself be a basis for stopping vehicles?

  Responses: Most said it would be enforced in the regular course of traffic law enforcement and not by road checks. When and if all cars are equipped with combination lap and shoulder harnesses, it would then be possible to stop a vehicle for a seat belt violation which would be clearly visible to the officer.

- Question: How, if at all, would warnings be used?

  Responses: Most stated that warnings would be used entirely for the first six months to educate and inform drivers what is expected of them. After an introductory period, use of a warning would be left to the judgment of the officer who would asses the circumstances at the time of apprehension and take action in conformance with departmental policy. Basically the policy would be to warn for anything less than reasonable evidence of willful violation of the law. One Police Chief stated that warnings would be used almost entirely. He felt that arrests would accomplish little; would overload the courts; and would result in a high percentage of failures to appear or post bail.

- Question: Are the police in favor of safety belt use legislation?

  Responses: Most said no. They support the requirement that every car be equipped with seat belts for all occupants and that research be continued to improve the belt and its fastening mechanism with the ultimate objective of a passive belt system. All were opposed to any Federal sanctions for failure of a State to enact belt usage laws.

State enforcement agencies recommended that one or two States enact a law and that data be obtained from those States prior to large scale adoption. This is the same approach which was endorsed by the International Association of Chiefs of Police (IACP) in 1972. In a 1978 resolution, however, the IACP strongly endorsed and urged mandatory belt usage legislation.

5. Foreign Experiences with Seat Belt Usage Laws

"On December 22, 1970, the State of Victoria in Australia became the first jurisdiction to pass legislation requiring vehicle occupants to wear safety belts. Since that time twenty other nations have followed this lead and have passed usage laws (See Table I).

TABLE I

FOREIGN JURISDICTIONS WITH SAFETY BELT USE LAWS AND DATES IN WHICH THEY BECAME LEGALLY EFFICTIVE

Australia	Jan. 1971	The Netherlands	Sep. 1975
New Zealand	Jun. 1972	Norway	Sep. 1975
France	Jul. 1973	Denmark	Jan. 1976
Czechoslovakia	Jan. 1974	Switzerland	Jan. 1976
Puerto Rico	Jan. 1974	Soviet Union	Jan. 1976
Sweden	Jan. 1975	West Germany	Jan. 1976
Belgium	Apr. 1975	Canadian Province	
Luxembourg	Jun. 1975	of Ontario	Jan. 1976
Finland	Jul. 1975	Canadian Province	
Israel	Jul. 1975	of Quebec	Sep. 1976
Austria	Jul. 1975	Yugoslavia	Jan. 1977

"As Figure 1 shows, most of the countries that have enacted such legislation have experienced increases from about 20 percent usage to 70 to 90 percent usage (7). This is discussed further in Section III, along with fatality reduction effects.

"The pre-enactment activities pursued by other countries provide a useful source of information for the United States. Unfortunately, activities which preceded the enactment of seat belt usage laws in most foreign nations have not been well documented. Most published reports on the matter describe the post-enactment period. A search of the literature, however, uncovered some salient characteristics of the pre-enactment period in Australia, Canada, and France.

a. Australia

"The campaign for compulsory installation of seat belts in vehicles began around 1960. Based on the experiences of other foreign nations, the news media began regularly publicizing the value of belts even though the position of some government officials was that compulsory installation of belts was impractical. Later in that same year, the Australian Labor Party, which was the opposition party in both the Victorian and Australian parliaments, recommended legislation for both compulsory installation and compulsory wearing of belts. The Government at this point was of the position that it was preferable to attempt to encourage seat belt installation by the motorists rather than force auto makers to install the belts themselves.

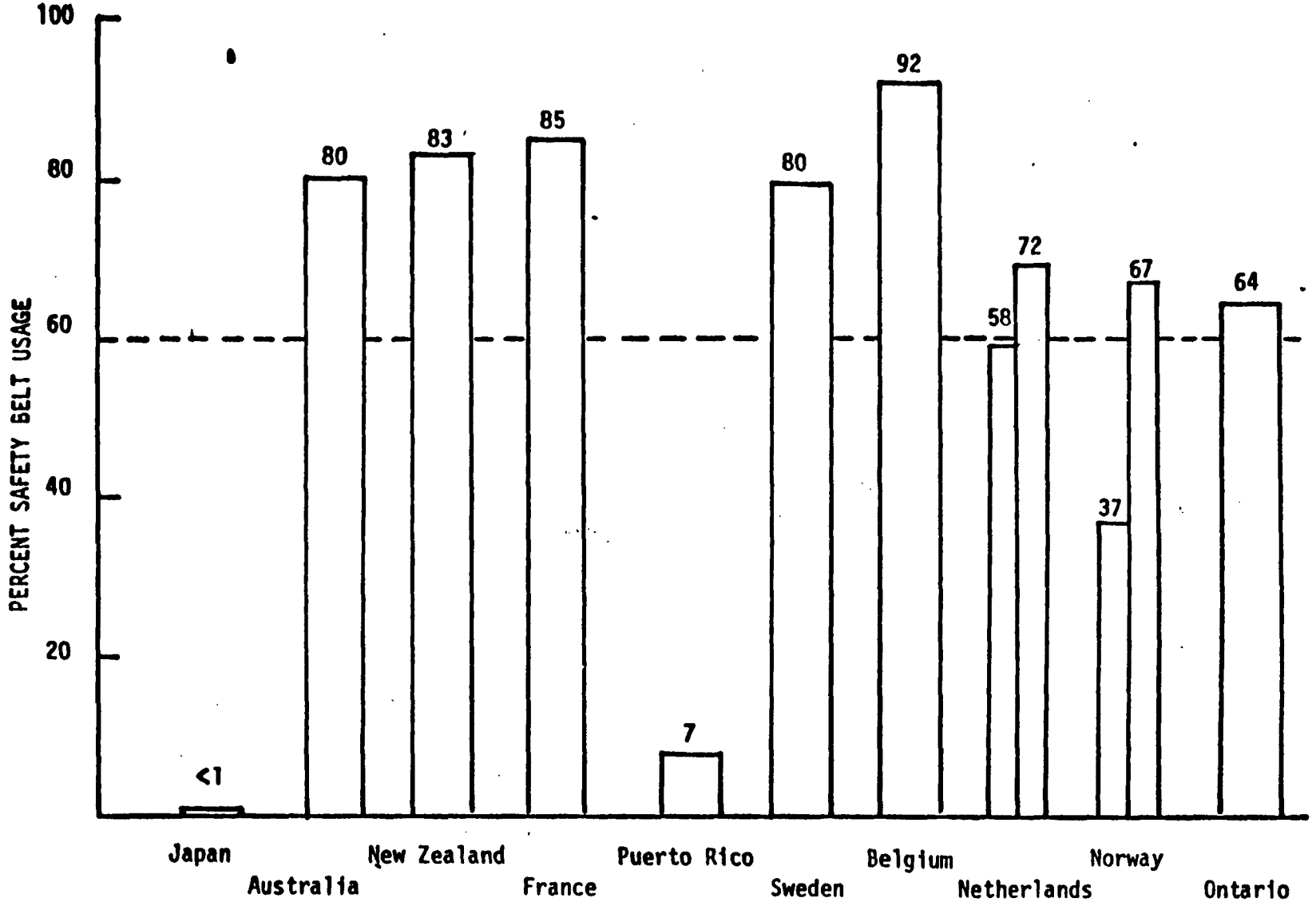


FIGURE 1. Reported Belt Usage* In Nations With Mandatory Usage Laws

*The usage rates in many of these nations have varied considerably. The rates given for Belgium, Netherlands, Norway, and Ontario are within 6 months after passage of the law. The remainder are 1976 estimates.

"However, in 1966, the six State Governments and the Central Australian Government agreed to develop what is known as the Australian Design Rules of Motor Vehicle Safety (similar to our FMVSS's). The first of these design rules legislated in 1967 made seat belts compulsory in all passenger cars sold after January 1, 1969. The news media has claimed considerable credit for this apparent turn of events.

"By 1971, 73 percent of all outboard front seat positions of cars in the Melbourne metropolitan area had been fitted with seat belts, compared with 20 percent in 1965. With increasing numbers of cars having seat belts as standard equipment, an attempt was made to encourage their use through education and publicity. As had been the case in a number of countries, including the United States, this did not achieve high-wearing rates, even with intense promotion. In Victoria, the wearing rate was approximately 20-25 percent prior to mandatory legislation.

"In 1967, the Victorian Parliament established a Joint Select Committee on Road Safety with the function of reporting and making recommendations to the Pariament. Taking into account recommendations from numerous groups, the Committee's third report, published in 1969, dealt with the compulsory wearing of seat belts. Two of its key recommendations were that:

(1) an intensive educational campaign should be undertaken 12 to 24 months in advance of the law's effective date;

(2) all occupants of motor vehicles should be required to wear seat belts within two years.

"According to reports from representatives of the news media, the report "fell quietly into a Government pigeon hole" and seemed destined to stay there. Yet there seems to be an increasingly strong feeling in Victoria that positive steps needed to be taken to counter the rising road death toll. Given this feeling, several groups decided to support a safety belt usage law.

"Accordingly, in May of 1970, the Royal Australian College of Surgeons decided to mount a campaign to convince the Government. The Australian Medical Association also took up the cause and began emphasizing that compulsory seat belt usage legislation would be the largest single contributing factor to reducing road deaths and injuries. The Royal Automobile Club of Victoria also came out in support of compulsory seat belt usage. Newspapers, television, and radio throughout the Nation picked up on the promotion. Surveys carried out by the Victoria police and the Victorian Traffic Commission also lent support to the existing evidence of the effectiveness of seat belt usage.

"In November of 1970, following a series of serious crashes in Victoria, the Government appeared to be changing its position as the Deputy Premier announced that mandatory safety belt usage legislation would be introduced. Legislation was passed on December 22, 1970. In spite of initial objections, all other States followed, and by 1972 all had enacted similar laws. As shown in figure 1, the effect of this law has been to dramatically raise belt usage rates to approximately 80 percent.

b. Ontario, Canada

"Ontario began promoting seat belt usage in the mid to late 1960's. Like most nations attempting to promote belt usage on a voluntary basis, they were only minimally successful. The Provincial Government apparently began looking seriously at the possibility of enacting belt usage legislation in 1974 when it was referred to in the traditional Premier's Speech from the Throne (similar to our State of the Nation Address).

In this speech, the Premier of Ontario asked that a Committee be established to develop a course of action leading to possible implementation of seat belt legislation. Representatives from several ministries met over the next two months and presented a report to the Premier in May of 1974. That report included:

(1) a proposal for a campaign to inform the public of pending legislation; and

(2) recommendations concerning possible contents of actual legislation.

"Before making their recommendations, the Committee looked closely at the experiences of Australia and New Zealand. The Committee felt that based on the apparent 25 percent drop in driver and passenger fatalities in Australia a direct annual savings in medical costs of approximately $58 million could be expected in Ontario.

"At that time (1974), it was estimated that about 15 percent of Ontario's auto drivers and passengers were voluntarily making use of their seat belts. There had been previous public information campaigns of small size. They were directed at increasing belt usage rather than preparing the public for impending legislation. These campaigns had little or no success.

"The Ontario Government decided that before making belt usage mandatory, another intensive public information campaign should be introduced to convince occupants to "buckle up" voluntarily. A budget of $650,000 was provided by the Ministry of Transportation. The program began in June of 1974 and continued right up until the time of legislation in January of 1976.

"The primary objective of the education program was again to increase seat belt use, not to pass a seat belt usage law. Some of the secondary objectives of the program were (1) to increase public understanding of the value of seat belts; and (2) to produce positive attitudes towards wearing seat belts. The main elements of the program were:

(1) Advertising, including the purchase of space in media such as radio, newspapers, billboards, etc;

(2) Films developed by the ministry for showing to groups and organizations throughout Ontario (2 films);

(3) Printed Information, such as folders and booklets which were distributed through schools, local clubs and safety organizations; and

(4) Local Action Programs designed to encourage and assist safety oriented groups across the Province to plan and implement seat belt campaigns in their own communities.

"Additional components included bumper stickers, decals, and T-shirts, as well as unique promotional events which included five mile per hour impact sleds on inclined ramps equipped with bench type car seats and lap/shoulder belts. When released from the top of the ramp, the sleds would slide to the bottom and hit a shock absorber demonstrating to the sled user the considerable forces present in even such a low speed "crash". These are known as seat belt "convincers" and are currently in use throughout the States. These devices were looked on by the Government as very successful components of the program in terms of creatinginterest and providing face-to-face contact.

"Another part of the program was a public school information and teaching package including a film, other audio visual aids, and a series of children's TV spots. This program was presented at the schools by the Provincial police.

"A Province-wide roadside survey was carried out during the first quarter of 1975. Approximately 6,000 drivers were stopped and it was found that the estimated seat belt usage rate was up only two percentage points (to 17.4 percent).

"While the information campaign had little effect in terms of increased belt usage, it was felt that the program facilitated acceptance of the law. The media campaign was, or at least appeared to be, entirely separate from any attempt to pass belt usage legislation. The legislation, in fact, appeared to come as a surprise to many involved in the informational campaign.

"Finally, seat belt legislation came up for discussion in the Ontario legislature in late 1975 and passed by a unanimous vote. There appeared to be two reasons. First, the Premier supported it and, secondly, the two opposition parties chose to back the Premier. As figure 1 shows the result of this legislation was to raise belt usage to approximately 64 percent within six months. Usage has since fluctuated to some extent depending on the level of enforcement efforts. As of May 1977, usage was estimated at approximately 53 percent.

c. France

"The Government of France tried to increase the voluntary use of safety belts with a six-month campaign in early 1973. A survey near the end of the campaign indicated a usage rate of 28 percent. The failure to significantly increase usage was one of the arguments for the mandatory usage regulation which was promulgated on July 1, 1973. The 1973 regulation, established by executive order, applied only to front seat occupants on rural roads. This law was later amended to require belt usage on urban roads at nighttime.

"Recent surveys have shown a usage rate of 80 percent on rural roads and 30 percent in the cities (at night). Little effort appears to have been made to enforce the regulation in urban areas. Periodically, however, the rule has been strictly enforced on rural roads. In 1975, for example, there were 108,036 citations for non-use.

"Immediately after the rule went into effect in 1973, the use rate reached 80 percent. However, once it appeared that French police were not enforcing the regulation, the usage rate dropped. After a directive was ordered to increase enforcement, usage rates rose again. As table 1 shows, the effect of the French legislation was to raise usage to approximately 85 percent on rural roads. Usage in the cities is considerably less.

Summary

"A paper by the American Safety Belt Council in 1977 summarizes the experience of seven European countries with mandatory safety belt laws. Among the conclusions: "...Use laws are highly effective when they have been preceded by a public education program and they have been supported by a civil fine or penalty and reinforced by sustained, conscientious police enforcement."

B) REEXAMINATION OF THE EFFECTIVENESS OF SAFETY BELT USAGE LAWS

1. Introduction

"Any prediction of the impact of usage legislation must be based on (1) the protection provided by the belts if worn, and (2) the increase in belt usage to be expected as a result of the law. It will be clear from the following discussion that precise information on safety belt usage and effectiveness is not always available. Thus, the estimates in this paper include some element of judgment. In this section, an attempt is made to develop a reasonable range of fatality reduction estimates which are as objective and accurate as possible.

2. Protection Provided by Safety Belts When They Are Worn

"The injury reduction estimates for seat belts when worn, as submitted to the Secretary in April 1976, are shown in table 1. The greatest uncertainty in these estimates is for the most severe injury categories (particularly fatal injuries), since so little data are available for these levels.

TABLE III

BELT SYSTEM EFFECTIVENESS VERSUS CRASH SEVERITY

INJURY LEVEL (AIS)		EFFECTIVENESS FACTOR	
		LAP BELT	LAP & SHOULDER BELT
1.	Minor	.15	.30
2.	Moderate	.22	.57
3.	Severe	.30	.59
4-6.	Serious to Fatal	.40	.60

"Too few crashes have been included among those carefully controlled studies which have been conducted to date. For example, data from the NHTSA study of more than 15,000 towaway crashes (8) provide the best basis for our estimates. These data included 86 fatalities (AIS injury level 6). Of these fatalities, 4 were wearing lap belts only and 12 were wearing lap and shoulder belts. With such a small number of cases the results are very unreliable. Thus, the 60 percent effectiveness estimate shown in Table III is based on grouped data for AIS categories 4, 5 and 6.

"Another example of the problem of getting sufficient data on fatalities is shown by a more recent study of 1,126 injury accidents in Britain (9). can be seen from the data which is presented in Table IV, this study found an 86 percent effectiveness for safety belts as AIS levels 4-6. However, this result was based on a total of 37 cases, only two of which were wearing belts.

TABLE IV

INJURY SEVERITY OF UNBELTED AND BELTED FRONT SEAT OCCUPANTS OF AUTOS (9)

AIS Injury Level	Severity	Unbelted Injuries No. (%)	Belted Injuries No. (%)	Injury Reduction (%)
0	Uninjured	327 (28)	208 (42)	
1-3	Non-Life Threatening	801 (69)	280 (57)	(17)
4-6	Life Threatening	35 (3)	2 (.4)	(86)

"Campbell has reviewed the major recent investigations of safety belt effectiveness and has come to the conclusion that effectiveness increases as the severity of the injury increases. His analysis suggests that the effectiveness of lap and shoulder belts in reducing "life threatening" injuries is greater than 60 percent.

"Mohen and co-workers for the Insurance Institute for Highway Safety (10) have independently analyzed data from NHTSA files and have concluded that the lap and shoulder belt combination is 72 percent effective in frontal crashes. Since the lap and shoulder belt combination is proportionately more effective in reducing injuries from non-fatal impacts (8), their estimate supports a higher than 60 percent effectiveness figure.

"In another recent analysis of NHTSA data, Huelke, et al (11) reports that lap and shoulder belts reduce the frequency of severe to critical injuries (AIS 3-6) from 57 to 77 percent.

"Since the 60 percent protection figure is based on all levels of injuries from AIS 4-6, and since there is a clear trend for safety belts to be more effective as the seriousness of the crash increases, it is likely that when sufficient cases are available, lap and shoulder belt combinations will be shown to have a higher than 60 percent effectiveness in preventing fatalities.

3. The Level of Safety Belt Use in the United States

In spite of the known effectiveness of belts in reducing death and injury (when they are worn) and in spite of the fact that virtually all U.S. passenger cars are now equipped with belts, most vehicle occupants in the U.S. do not use their belts. NHTSA survey data in Table V point out that as of 1978 only about 14 percent of the drivers were wearing belts (12). According to ongoing surveys, this has not changed appreciably.

TABLE V

SAFETY BELT USE AND AVAILABILITY (2)

	% of Vehicles With Belts	Usage Rate
Lap Belt Only	4.0%	8.9%
Separate Lap and Shoulder Belts	32.8%	14.0%
Integrated Lap and Shoulder Belts	63.2%	14.1%
Weighted Average for all Behicles on the Road in 1976	100.0%	14.1%

4. The Effects of Foreign Mandatory Usage Laws on Observed Usage Rates

"Table VI indicates that most usage laws, if accompanied by a reasonably effective mass campaign and an effective enforcement program, will result in an increase of at least 50 percentage points to a total of 70 to 80 percent usage. Actually rates in excess of 80 percent have been reported.

TABLE VI

ESTIMATED SAFETY BELT USAGE RATES
BEFORE AND AFTER LEGISLATION*

	Before	After
COUNTRIES ENFORCING USAGE LAWS		
Australia	25%	72-83%
New Zealand	20%	72-79%
France	28%	85% (rural)
Denmark	24%	87%
COUNTARIES NOT ENFORCING USAGE LAWS		
Japan	0%	1% (Freeway only)
Puerto Rico	3%	7%
Norway	37%	61% (rural)

*Data compiled from reports to NHTSA (7)

5. The Effects of Foreign Mandatory Usage Laws on Fatality Rates: Observed Versus Expected Reductions

"As can be seen from Table I most nations which have adopted usage laws have done so relatively recently. The results of these efforts in terms of fatality and injury savings are just beginning to become available. Much of this data is difficult to interpret because the results of belt usage surveys are often not available for the same periods as when the casualty figures were collected.

"However, where such data are available it is possible to compare the actual fatality savings following the adoption of a usage law with the savings that would be expected on the basis of observed usage rates and the known effectiveness of belts (.60) when worn.

"Where "before" and "after" usage rates are available on lap and lap and shoulder belt combinations, expected occupant life savings have been calculated and compared with actual observed reductions in fatalities. Data for the Province of Ontario, Canada which implemented a usage law in January 1976 provide one case in point. These comparisons are shown in Table VII.

TABLE VII

BELT USE AND FATALITY SAVINGS IN ONTARIO, CANADA

A. BELT USAGE (14)

Before Law (Dec. 1975)		After Law (Feb. 1976)		After Law (June 1976)	
Lap only	7%	Lap only	12%	Lap only	15%
Lap and Shoulder	21%	Lap and Shoulder	63%	Lap and Shoulder	33%
Total	28%	Total	75%	Total	48%

B. FATALITY REDUCTION (15)

	Jan.-Mar. 1976	1976 Total
Observed Reduction	33%	15%
Predicted Reduction (*)	35%	17%

(*formula from reference 16)

"As this Table VII shows, using the 40/60 percent belt effectiveness estimate produced a 35 percent estimated reduction in fatalities. This is very close to the 33 percent reduction reported for the first three months of the program by the Ontario Ministry of Transportation (17).

"After the first few months, the Ontario law was weakened to exclude shoulder belt use in pre-1974 cars. The usage rate then dropped from the high of 75% percent in February to 48 percent in June of 1976. Fatality reductions

TABLE VIII

Safety Belt Usage and Occupant Fatality Savings in Victoria, Australia

(1) Years	(2) Belts Fitted	(3) Belts Used	(4) Overall Wearing Rate	(5) Average Wearing Rate[6]	(6) % Increase In Wearing Over 1970	(7) Estimated[2] Fatality Reduction	(8) Estimate Fatality Reductions Discounted 30%	(9) Observed[3] Fatality Reduction
1970	60	25	15	15	-	-	-	-
1971 (May)[4]	74/66[5]	76/66	55/44	31	36	22	15	15
1972 (June) (Nov)	79/73 82/79	83/68 84/77	66/50 69/61	61 63	46 48	28 29	20	19
1973 (June)	81/76	83/76	67/58	64	49	29	21	13
1974 (Feb)	88/86	91/85	80/73	78	63	38	26	31
1975 (Feb)	90/90	88/85	79/77	78	63	38	26	NA

1. All figures in percentages (data from reference 15, Table 2 and Figure 2.
2. Based on 60% (Effectiveness) % increase in usage over 1970.
3. Occupant fatalities for year as a whole with 1970 as the base.
4. Month in which usage survey conducted.
5. First figure is the City of Melbourne, (population 2,600,000 the second figure is for rural Victoria (population 1,100,000).
6. Weighted average based on population.

were lowered accordingly. As shown in Table VII, the prediction (17 percent) based on the June wearing rate of 48 percent quite accurately reflected the lower fatality savings (15 percent) for 1976 as a whole.

"Since separate lap and shoulder belt usage and availability rates are not generally available from most nations with seat belt laws, it is not possible to test the accuracy of the NHTSA formula on most of these countries. However, the State of Victoria, Australia does provide another opportunity to test the 60 percent effectiveness estimate for the lap and shoulder belt combination.

"Victoria has required integrated belts in all cars since 1967. The numbers of vehicles equipped with such belts during 1970 (the year prior to the effective date of the usage law) and for the next five years is shown in Table VIII. As can be seen the initial impact of the Victoria usage law was limited by the proportion of vehicles (60 percent) which were equipped with belts. In 1973 a law was passed requiring the retrofitting of belts in vehicles without them. This ultimately raised the number of vehicles with belt systems to over 90 percent and the overall wearing rates to 78 percent.

"By averaging the wearing rates for Melbourne and rural Victoria and applying the 60 percent effectiveness estimate, a set of estimated fatality savings are obtained for 1971 through 1975. When these are compared with the actual observed reductions, we find that these estimates appear to be somewhat high for each year where data are available.

Summary

"For the two cases in which it was possible to make a rough check of the accuracy of NHTSA effectiveness predictions, the Ontario, Canada estimate appears to be on target, while the estimate for Victoria, Australia appears to be too high.

"These earlier estimates and data are now being revised by a NHTSA contractor who is looking closely at the experience of foreign countries with safety belt laws and will have a report to NHTSA by October 1979 (18).

6. Factors Which Affect Fatality Reduction Estimates

a. Confounding Events

"The closeness of the estimate for Ontario may be deceiving since in February of 1976, just one month after the usage law became effective, speed limits were lowered by 10 mph on freeways and higher speed roads. Since the fuel crisis and imposition of the 55 mph speed limit were effective in reducing vehicle occupant fatalities in the United States (19), a similar effect would be expected in Ontario. Therefore, it is likely that some of the reported savings in Ontario could be attributed to speed reduction.

"Chodkiewicz and Dubarry (20) reporting on the French seat belt program, indicated that on the major highways in France there was little evidence for effectiveness until the safety belt law was combined with a speed limit law.

b. Failure to Wear Belts Properly

"One other factor to be considered which may be reducing the effectiveness of belts is the failure of the public to wear their belts properly. A study of drivers in Victoria, Australia in 1971 (17) indicated that only 13.5 percent were wearing their belts correctly. About 40 percent wear them too loose. This type of problem is perhaps more likely to occur in Australia where most belts are not on retractors which automatically tighten them.

c. Differential Use Rates: Estimating Use Rates for Crash Involved Occupants

"There is other evidence leading to the conclusion that the impact of usage laws may be somewhat lower than would be predicted by a direct multiplication of the effectiveness estimates for belts (.60) by the observed usage rate. There are indications from a number of studies (14, 22, 23) that higher risk groups of drivers, such as young drivers, drinking drivers and nighttime drivers are least likely to wear their belts. These groups appear to be the last to conform to either mandatory or voluntary attempts to increase usage.

"Evidence for this comes from several sources. For example, Robertson (14) in his study of belt use in Ontario, reported that individuals under age 20 did not change their safety belt usage rate when the usage law was implemented. Since teenage drivers are overrepresented in crashes, the failure of this group to conform to the law would be expected to reduce its potential impact.

"Data from an alcohol study conducted in the U.S. (24) indicated that belt usage was 33 percent for drivers who had less than .10% blood alcohol concentration (BAC), but that belt usage was only 10 percent for drivers who had a BAC in excess of .10%. The results reported by Dalgaard (23) from a study of crash involved drivers in Denmark (See Table IX) provide further input on this point.

TABLE IX

SEX, ALCOHOL AND SEAT BELT USE (23)

Occupant Characteristics	Percent Using Belts
Men	26%
Women	41%
Sober (BAC .02)	44%
Drinking (BAC .02)	17%

"These data show that in Denmark, which has a mandatory use law, fewer men than women appear to use their belts. Since men have a higher crash rate than women, this difference also has the effect of reducing the potential impact of a seat belt law. Even more ominous is the low rate of usage reported for drinking drivers. Since approximately half of all fatal crashes in the U.S. are related to alcohol, a low rate of usage by these drivers would appear to have a significant potential for lessening the impact of a mandatory use law.

"Thus, there appears to be evidence that belt use by the occupants who get into crashes may be lower than the observed belt use for all drivers using the road. It would appear that observations of increases in belt use as a result of usage laws should be discounted in order to account for this factor. There is no adequate data for determining the exact magnitude of this effect. However it should be noted that by applying a thirty percent discount on the predictions for the State of Victoria we obtain a set of estimates for fatality reductions which are much closer to the observed results (Table VIII, columns 8 and 9).

"With the 30 percent discounting procedure we assume that while there was an observed 35 percent increase in safety belt wearing by all drivers on the roadways in Victoria in 1971, this amounted to only a 24 percent increase in use (.70 x .35) by vehicle occupants in crashes.

"The amount of discount required to predict usage among those drivers who are actually involved in crashes will probably vary depending on the overall percentage of drivers using belts. Still,

it is clear that some provision for the lower usage rate by vehicle occupants in crashes should be made in order to be reasonably accurate in estimating seat belt usage law effectiveness. Depending on one's optimism in interpreting the results of past studies, a number of estimates of the fatality reduction impact of a belt use law (assuming a substantial increase in usage) are possible. Some of these are as follows:

(a) liberal estimate: a 30 percent reduction in occupant fatalities. This assumes an increase in belt usage of 50 percentage points (i.e., to approximately a 67 percent wearing rate) and that nearly all of this increase will be in combined lap and shoulder belt use. It assumes no discount for differences in the wearing rates of on-the-road and crash involved drivers.

(b) moderate estimate: a 25 percent reduction in occupant fatalities. This assumes an increase in combined belt usage of 50 percentage points. It also allows for a 15 percent discount for the difference in wearing rates between crash involved and non-crash involved vehicle occupants.

(c) conservative estimate; a 20 percent reduction in occupant fatalities. This assumes a 50 percentage point increase in combined belt usage and it allows for a 30 percent discount for the difference in usage rates for crash involved occupants.

"It appears that a case could be made for any of the three levels described above. However, in view of the recent observations regarding the impact of foreign usage laws, it would appear that either the medium or conservative value will be the most accurate.

d. Speed of Adoption of Laws

"Another factor which must be considered is the speed by which such laws can be adopted. Federal action would most probably have to take the form of some incentive or penalty system to motivate the States to pass usage laws. Assuming that such an effort would be ultimately successful, the timing of the implementation could vary significantly. This, in turn, would affect the fatality impact estimates over time. A review of the history of other legislative efforts indicates at least three scenarios for the adoption of usage laws by the States assuming that most of the States must conform.

(a) Fast Rate of Adoption: Under the impetus of a national fuel crisis, the 55 MPH National Maximum Speed Limit was implemented by the States within five months between November 1973 and March 1974 as shown in Table X.

TABLE X

ADOPTION OF THE 55 MPH LAW
(Fast Adoption Rate)

MONTHS	STATES	% OF NATION
1	10	20%
2	9	38%
3	9	56%
4	5	66%
5	17	100%

(b) Moderate Rate of Adoption: The motorcycle helmet usage law which was embodied in the NHTSA Standard on motorcycle safety provides an example of a moderate rate of adoption. In the two years, beginning with 1967, 37 States adopted such a law. It then required four more years for another eight States. Two States never did comply. See Table XI.

TABLE XI

ADOPTION OF MOTORCYCLE HELMET LAWS
(Moderate Adoption Rate)

YEAR	STATES	% OF NATION
1	21	42%
2	16	74%
3	3	80%
4	2	84%
5	2	88%
6	1	90%

(c) Slow Rate of Adoption: The requirement for making a blood alcohol concentration (BAC) of .10 Percent or greater presumptive evidence of intoxication (as specified by the NHISA Standard on Alcohol Safety) illustrates a slower course of adoption. Here, there was much less initial support than for motorcycle helmets. This law was adopted by the States between 1967 and 1973. See Table XII.

TABLE XII

ADOPTION OF THE .10 BAC LAW
(Slow Adoption Rate)

YEAR	STATES	% OF NATION
1	7	14%
2	2	16%
3	2	18%
4	8	34%
5	3	40%
6	10	60%
7	11	82%
8	4	90%

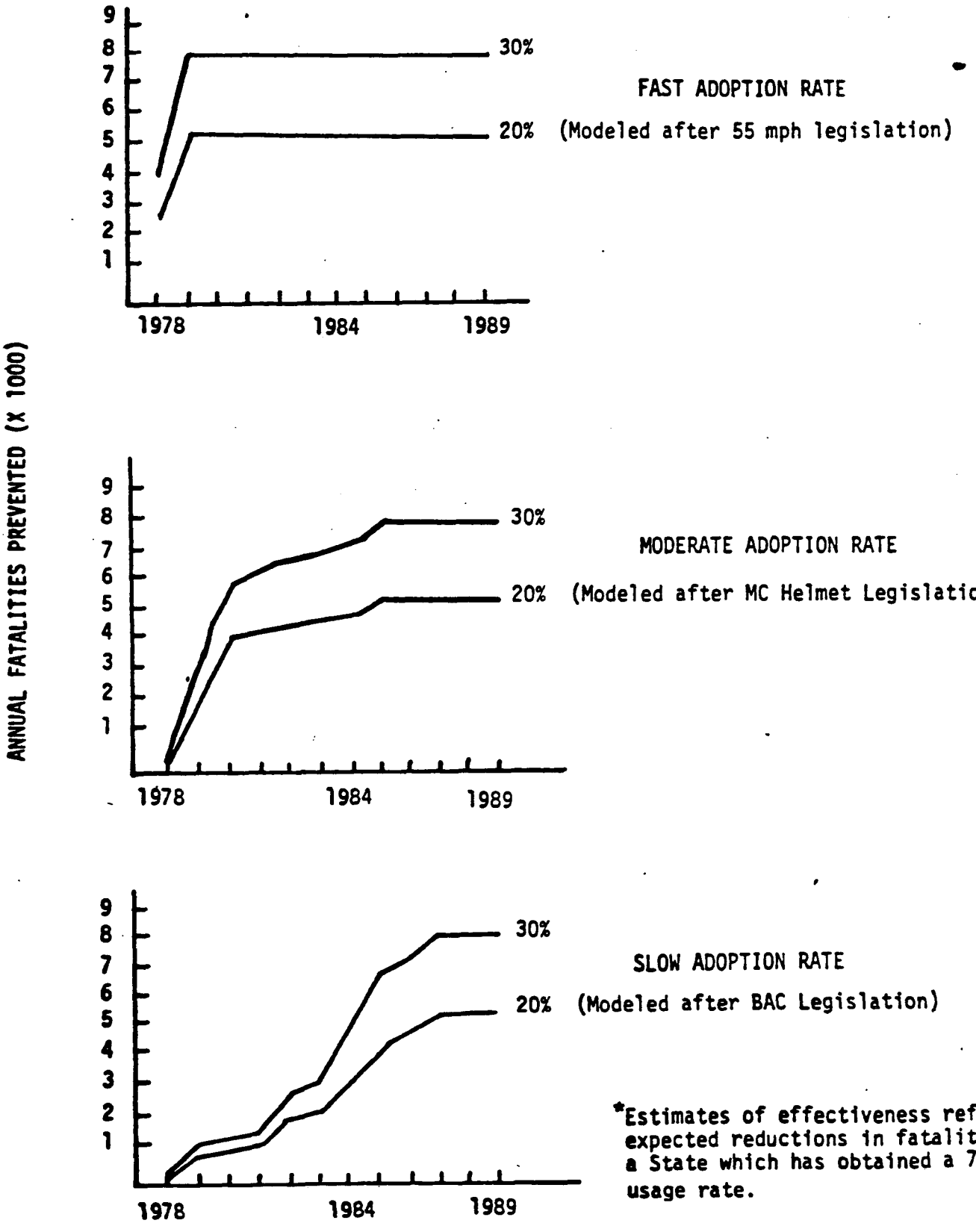
"It should be noted that each of these scenarios took place under conditions which permitted the Secretary of Transportation to sanction States which did not conform. While no sanction were actually used, it is probable that a slower rate of adoption would have occurred if, as is currently the case for Highway Safety Standards, no sanctioning action could be taken.

7. Estimates of Fatality Savings for the U.S. as a Result of Mandatory SBU Laws

"The data presented in the previous section permit the estimation of the number of fatalities prevented by usage laws over time. Figure 2 provides for the number of fatalities forestalled each year through 1989. For each scenario these figures use 1975 as a data base. Each graph presents the "optimistic" (30% savings estimates) and the "conservative" (20% savings estimates) thereby creating a band of values within which the actual savings would be expected to fall.

FIGURE 2

ESTIMATES OF ANNUAL FATALITIES PREVENTED FOR THREE RATES OF ADOPTION OF STATE MANDATORY BELT USE LAWS AND TWO ESTIMATES OF EFFECTIVENESS



*Estimates of effectiveness refer to expected reductions in fatalities f a State which has obtained a 70% be usage rate.

"Table XIII summarizes the savings from January 1978 through December of the year 2000 for each scenario. The figures in Table XIII were developed on the basis of the following formula:

$$\text{SAVINGS} = \sum_{i=1}^{23} p_i \times (\text{USAGE}_c \times \text{EFFECT}_w) \times \text{FATALITIES}_{75}$$

Where: $\sum_{i=1}^{23}$ = the sum across the 23 years from 1978 through 2000

P_i = Proportion of the nation with Usage Laws. This is calculated as the number of States with laws divided by 50.

USUAGE_c = Safety belt usage by crash-involved occupants. This is calculated by assuming a 50 percentage point increase in usage (i.e., to approximately 67% usage) and discounting this value by 0, 15 or 30% to predict the proportion of crash involved occupants using belts. This yields net usage rates of 50%, 45.5% and 35%, respectively.

EFFECT_w = Fatality reduction effectiveness of lap and shoulder belts when worn. This is estimated as 60%.

(USAGE x EFFECT) = The expression (USAGE x EFFECT) yields three values: (.50 x .60) = 30%; (.42.5 x .60) = 25%; and (.35 x .60) = 21% (rounded to 20% for Figure II).

FATALITIES_{75} = Occupant fatalities during Base Year 1975 (27,200). Note that in 1975, 11% of occupants used lap belt alone and 9% used lap and shoulder belts. As a result, some occupant lives were already being saved by belts. Thus the base rate for occupant deaths for 1975 could be considered to be higher than 27,200. The use of the 27,200 figure makes these calculations somewhat more conservative.

TABLE XIII

SAVINGS IN FATALITIES FROM THREE USAGE LAW IMPLEMENTATION SCENARIOS, AND THREE USAGE RATE EFFECTIVENESS ESTIMATES
(January 1978 Through December 2000)

Implementation Scenario	Three Usage Rate Effectiveness Estimates 20%	25%	30%
FAST	122,400	153,000	183,600
MODERATE	112,064	139,536	167,824
SLOW	95,472	119,136	143,072

8. A Scenario for SBU Efforts and their Effects in the United States

"In order to compare the ultimate benefits to be obtained by automatic restraints when they are present in all vehicles, it is desirable to have a prediction of maximum safety benefits for the 1990 decade. This estimate is based on the following assumptions:

(a) NHTSA would continue to require a three point combined lap and shoulder belt and would implement rules to improve the comfort and convenience of using safety belts. By 1990 all vehicles in the fleet would be equipped with improved belts and, at a minimum, their utilization under voluntary use conditions would be the 25 percent observed for 1975 cars.

(b) NHTSA would implement rules requiring a "use inducing" system within the current limitations set by Congress (not an starter interlock) which together with improved comfort and convenience design of the three point belt would result in a 5 to 10 percent increase in the 1975 use rate to a total of 25-30 percent of vehicle occupants wearing the three point belt under voluntary conditions.

(c) NHTSA would, with the assistance of the Congress and the States, initiate the passage and enforcement of safety belt usage laws in each of the 50 states within the next 10-12 years.

This would result in an increase in the belt usage rate to a total of 80 percent usage of the three point belt.

An 80 percent usage rate of the three point belt with an effectiveness of 60 percent in fatality avoidance should result in a 48 percent reduction in the number of occupant fatalities which would otherwise occur in 1990. At a maximum, a 21 percent reduction (.60 x .35) could be achieved in 1990 by voluntary methods without usage laws. The usage laws would add a 27 percent reduction (.60 x .45)."

III. Technological innovations and special efforts:

Technological innovation has taken two forms over the last several years: A. modifications and improvements in belt style, placement and safety; B. experimentation with technical devices associated with the systems and designed to induce higher use of the system. Let me address each of these in turn.

A. Modification of belt design:

Two directions have also been apparent here -- (1) efforts related to comfort and convenience and safety features; (2) development of automatic safety belt systems.

(1) Comfort/convenience and safety:

In every survey conducted in which motorists have been asked why they do not wear safety belts, the most frequent reason given has been that the belts are uncomfortable to wear and inconvenient to use. As an outgrowth of these findings, as study was conducted in 1974 to determine the reasons belts are uncomfortable and inconvenient to wear and to develop remedies for these problems. This study involved

- o Laboratory analysis of specific problems associated with belt systems;
- o The development and fabrication of an "optimum" system; and
- o The development of proposed standard modifications that would require manufacturers to produce more acceptable belt systems.

Additional in-house studies were conducted to evaluate other new belt systems. The general conclusions from these studies were that

- o Manufacturers built belt systems to fit their cars and not occupants;
- o The most prevalent problem is the shoulder belt rubbing across the or neck;

- There were significant problems associated with belt retraction, difficulty in buckling, and interference upon entrance into the back seat; and

- Most of the newer belt systems using single retractor systems have resulted in greater difficulty in reaching and grasping the belt from its stored position and in trying to fasten the latch plate into the buckle.

A recent study also evaluated the comfort and convenience aspects of safety belts in 1979 model cars. This study provided a ranking of all belt systems, along with a description of related problems for each system evaluated. Eighteen domestic and twelve imported cars were evaluated.

The results showed that the most prevalent problems are associated with discomfort while making upper torso movements, pressure of the belt on the occupant, proper fit of the belt and difficulty in finding the latch plate and extending it to the buckle to fasten it. Even in the car judged to be the "best" of those evaluated, 35 percent of the test subjects reported a moderate or serious problem with some aspect of comfort of convenience. The percentage for all cars tested ranged from 35 to 85 percent.

These data are being considered for modification of standards (FMVSS 208) to assure that no aspect of comfort and convenience causes persons to turn from marginal users into marginal or total nonusers. While there is some evidence that improvements in comfort and convenience will not result in significant gains in the usage rate, NHTSA has operated under the rationale that all comfort and convenience problems should be eliminated before the other attempts to increase usage are free from the threat of being undermined or nullified.

(2) Automatic (passive) systems

For several reasons, including the limited effectiveness of use-inducing systems and the limited success of educational efforts to increase restraint usage, Federal requirements for passive restraints began to gather impetus as the only viable solution to occupant protection. Volkswagen introduced a passive safety belt as an option in their 1975 Rabbit. Because of the great interest in passive belt systems, approximately 3,000 owners of the VW Rabbit "passive" and "active" safety belt systems were asked about their usage of, and reaction to, these systems. After about 1 year of ownership, 80 percent of the owners of the passive belt system and 50 percent of the active system owners claimed they always wore the safety belt system in their Rabbit. About 73 percent of the owners of the passive system and 54 percent of the active owners found their belt system comfortable to wear. (25)

NHTSA's on-the-road survey during 1977-78 observed belt usage in these cars and found usage of active systems was 33 percent and passive belt usage was about 78 percent. It should be noted that passive belt usage data may be biased in an upward direction because (1) these cars are equipped with a starter interlock; and (2) before purchasing the

car, most owners knew it would come equipped with a passive system. It is likely, therefore, that those buyers who would not wear the passive belt system purchased another car.

Secretary Adams issued a regulation in 1978 requiring all automobiles manufactured in the United States to be equipped with some sort of automatic restraint systems for front seat passengers. The requirement will be phased in over three years from 1982-1984, beginning with the full-sized cars in 1982, mid-sized cars in 1983 and smaller automobiles by 1984.

Currently, 85 percent of motorists simply ignore their safety BELTS. Passive belts, however, will be difficult to ignore, unless the belt is disconnected. If these passive belt systems cause comfort and convenience problems, many will remove the system and many will complain not only to NHTSA and the manufacturer, but to Congress. Such complaints present a potential threat of precipitating congressional action similar to that which occurred with the interlock. Consequently, NHTSA has developed specifications, support data, and compliance procedures for support of Federal standards directed to assure that automatic belt systems will be asceptable to the public in terms of comfort and convenience. Basically, these recommended specifications may include (a) proper fit of the belt to the occupant; (b) limits for pressures exerted against the occupant by the belts; (c) ample clearances of the belts for the occupants to enter and exit the vehicle without interference of confusion; (d) limitations on convenience hooks for storing the belts so that they cannot be misused; and (e) ample clearance of belt systems from occupant so that any motorized or mechanical movement of the belt does not pass the webbing too close to the occupant.

The inclusion of automatic restraints in new automobiles will not obviate the need for manual belt systems and for NHTSA efforts to increase the use of those systems. Not only will there still be a large number of pre-1982 model cars on the road long after the automatic restraint regulation goes into effect, but rear seat passengers will still have to use manual belts. In addition, a large number of vehicles (e.g., vans, light trucks) are currently not covered by the mandate to carry automatic restraints. Furthermore, some two point automatic systems, such as the one tried on a limited number of 1978 and 1979 Chevettes, are accompanied by a manually deployed lap belt. Automatic systems may increase the total use of safety belts coniderably, but there will still be a need for other carefully planned and implemented programs for increasing usage and for avoiding a negative response to automatic belt systems.

B. "Use-inducing Systems"

Dsigned either to remind or to force the driver to fasten his belt upon entering the car, these systems have met with mixed success. The most elaborate of these was the starter interlock system on 1974 model automobiles described earlier in this report. In spite of its significant success in raising the usage rates for those in which it was installed, perceptions of it as an irritant and as an infringement upon personal freedom made it politically impractical and led to its demise.

Efforts since 1974 have centered on various kinds of reminder systems, including buzzers, chimes, lights and combinations thereof. Research has also been done on the effect of varying durations for these systems to be active, ranging from four seconds to until the belts are fastened. The shorter duration warnings did not seem to have a significant effect on usage. Therefore, a balance must be drawn between the realistic expectation that the more persistent systems will cause more people to use their belts and the political sensitivity such systems are likely to arouse.

IV. Appeals to public reason or conscience:

The public information and education programs already implemented by both NHTSA and private institutions like the American Seat Belt Council have fallen into generally three categories: (a) investigations of popular attitudes towards and awareness of the mechanics of safety belts; (b) development and dissemination and use of educational packages for a variety of audiences using a variety of media; (c) organization of direct interaction workshops on specific subjects or for a selected target group.

A. Investigations of attitudes and awareness

A number of studies have been done, sponsored both by NHTSA and by nongovernmental organizations, such as IIHS and General Motors. These studies reveal a startling amount of misinformation about seat belts within the population at large. They likewise underscore the popular tendency noted earlier in this report to seize upon any available reason to avoid wearing belt.

Although the public in general rates safety rather highly among the factors relating to their choice of an automobile, and the fear of an accident on the highway is widely held, a number of reasons are used to avoid belt usage. The general attitude of many Americans toward safety belts can be seen from this extended excerpt from recent analysis by Peter Hart Researchers (3):

> "American have had seat belts in their cars for a number of years, but seat belt use is still far from the general rule. The fact is that the majority rarely use seat belts or never use them, and only a distinct minority use them almost all or most of the time. There are few signs here that this situation will change. Even though the vast majority of American express considerable concern about auto accidents and acknowledge that there is a risk of being injured, they nonetheless decide not use seat belts. Nor is there any sign of increasing seat belt use among the young or those directly or indirectly touched by serious automobile accidents. Without remarkable changes in seat belt habits, it appears American will only get the kind of protection seat belts provide, if something more than the current seat belt is offered in automobiles.

Attitudes Toward Seat Belts

To understand Americans' attitudes toward the quality of current seat belts on four key dimensions, we asked them to rate, on a scale of 1(poor quality) to 7 (excellent quality), the ease of use, appearance, safety protection, and comfort of seat belts. From their responses we have calculated a median score, which represents the midpoint of attitudes. We have also calculated medians for the responses of frequent seat belt users and infrequent seat belt users. The results are as follows:

Safety protection. Seat belts get high ratings here, with nearly half of the respondents rating them at 6 or 7. The overall median score is 4.9, the highest for any quality tested. Frequent seat belt users give them a very high 5.8 median; infrequent users give them a 3.8. In other words, a considerable number of infrequent users disagree with frequent users that seat belts provide much safety protection.

Appearance. Respondents generally tend to find the appearance of seat belts acceptable (4.0 median score), with about equal numbers saying excellent (22%) and poor (27%). Frequent seat belt users are somewhat more positive (4.6) than infrequent users (3.2), but the gap is relatively narrow and the overall median scores suggest that appearance is not a major plus or a major minus with respondents.

Ease of use. The overall score here is 3.7 with an equal number, 29%, saying excellent and poor. There is a sharp difference, however, between frequent seat belt users (5.2) and infrequent users (3.1). Frequent users by and large have no trouble using seat belts; many infrequent users consider them difficult.

Comfort. Overall, comfort is the greatest weakness of current seat belts. The 2.6 median score given for comfort is based on 17% who rate it excellent, and 43% who rate it poor. Here there is an even sharper difference between frequent seat belt users (4.7) and infrequent users (1.3). Essentially frequent users are saying that seat belts have an acceptable level of comfort or better, but infrequent users are almost unanimously hostile in their complaints.

Interpretation

Infrequent users outnumber frequent users of seat belts by better than three to one. What we see here suggests that there are strong and enduring reasons deterring infrequent users from changing their habits and using seat belts. Many, if not most, of them are ready to concede that seat belts provide some safety protection. But they find them very uncomfortable and, to a lesser extent, difficult to use. The seat belt is seen as cumbersome, and regarded with distaste. Despite the long experience Americans have now had with seat belts and their recognition of the need for safety protection and how it is provided by belts, they nevertheless retain these negative attitudes--and don't use their seat belts.

"To understand the full range of Americans' attitudes toward seat belts, we asked them to volunteer, in their own words, their favorable and unfavorable impressions of the seat belts currently used in cars. Unfavorable comments outnumber favorable ones by nearly a two-to-one margin (122% to 65% because of multiple comments), with 33% volunteering neutral or mixed attitudes. Among frequent seat belt users, favorable comments outnumber unfavorable ones by about a two-to-oen margin, but, even so, more than half the frequent users voice complaints. Among infrequent users, unfavorable comments outnumber favorable ones by an overwhelming four and one-half-to-one margin.

"Almost all of the positive comments center on safety. Thus 20% say that seat belts protect lives or prevent injuries; 14% say belts are important and should be used in more cars; 6% say they prevent various kinds of injuries; 5% say they restrain people and hold them in place, and 4% say they are good for children. Five percent volunteer that they have a sense of security when they use seat belts. Some respondents note simply that they use belts (5%) or that they like shoulder harnesses along with belts (4%). Only 1% volunteer that seat belts are comfortable.

"There are a number of comments which are neither entirely positive or negative. Thus 6% volunteer that belts are both good and bad, depending on the kind of accident; 4% say that although belts are good, they don't wear them; 2% say present belts are satisfactory and can't be improved. Some respondents in effect call for more seat belt use: 2% want the buzzer and interlock system or mandatory use; 2% say too few people wear seat belts; 1% say they should be put

in all cars for those who want them, and 1% say that people should get used to wearing them. Then there are suggested modifications: belts should be larger (1%), have better shoulder harnesses (1%), should be retractable (1%), or need a better system or location (1%). Preferences for automatic belts or Volkswagen belts and for air bags are volunteered by 1% each.

"Negative comments show considerable more enmity and fervor than positive ones. While the positive comments largely make the intellectual case for safety, negative comments concentrate on the lack of comfort and ease of use and also alleged safety defects in often vivid ways. Consider these comments pertaining to comfort: too confining, can't move, feel tied down (18%); uncomfortable (17%); the shoulder harness is uncomfortable, dangerous, or in the way (8%, such comments are volunteered most often by frequent users); the buzzer and interlock system are annoying (5%); they wrinkle your clothes (1%). There are also plenty of specific complaints about ease of use: bothersome, inconvenient, nuisance (17%); hard to use, should be easier to get on and off (10%, this comment is volunteered most often by frequent users); inconvenient for local driving, don't wear them in the city (4%). Considering the large number of negative comments about comfort and ease of use made by both seat belt users and nonusers, it is important to note that there is no significant number of complaints relating to the appearance of seat belts.

"Negative comments about safety are made almost entirely by infrequent seat belt users. They include: in an accident they trap you in the car, need emergency release (13%); don't really protect, don't always help (5%); can cause injury, more harm than good (2%); aren't necessary, I drive safely, little traffic here (1%). Finally, 13% say simply that they don't use seat belts; 4% say they wear them only on long trips or under hazardous conditions; 2% say they should be taken out, and 2% volunteer other negative comments.

Interpretation

"We see two rather different pictures of seat belts here--that supplied by the minority who use them regularly and that painted by the majority who soldom or never use them.

For seat belt users, the most important thing about belts is that the provide safety or a feeling of safety. While there are some vivid comments, most of them are couched in cool, intellectual terms, suggesting an intellectual but perhaps not emotional

commitment. For significant numbers of belt users, there are also drawbacks: the belts are hard to use, they are uncomfortable, and shoulder harnesses in particular are uncomfortable or dangerous.

"For infrequent seat belt users, there is little positive to say about belts and a great deal of negative things to say. Belts are confining, bothersome, uncomfortable, and, in the opinion of many non-users, have serious safety problems. While these last responses may be considered rationalizations by some observers, nevertheless they are volunteered with a frequency that suggests that at least some Americans have not been persuaded of the clear safety advantage of seat belts.

"When asked to select which one of the four qualities we tested about seat belts needs the most improvement, Americans show a clear agreement on two choices: comfort (43%) and ease of use (25%). Only 13% choose safety protection and 5% appearance. These results are consistent with the nature and frequency of negative comments volunteered about seat belts.

"Finally, to gauge attitudes about seat belts with more precision, we asked Americans to agree or disagree with a series of statements about seat belts.

o By a 54% to 31% margin, respondents agree that auto manufacturers could have designed seat belts that would be easier to use. A solid majority, 59%, of infrequent seat belt users agree. It appears many Americans do see some possibility of improved seat belts.

o By a 55% to 37% margin, respondents reject the statement: "Just having a seat belt around me in a car makes me feel safe." Only slightly more than one in three Americans agree. Even among the groups most likely to use seat belts--the college educated, professionals and executives, residents of the West, and those with increased safety concern--less than half agree.

Interpretation

"However much Americans may appreciate on an intellectual level the safety advantages of seat belts--and, as we have seen, that appreciation is by no means universal--they do not on an emotional

level feel they are safer with their seat belts fastened. This result, as much as any other, suggests the difficulties ahead for those who hope to persuade much larg er numbers of Americans to voluntarily use seat belts.

By a 66% to 25% margin, Americans reject the statement: "Getting killed or hurt in a car accident is just a matter of fate, so seat belts don't make that big a difference." The 37% of the driving population who are infrequent belt users, however, are almost evenly divided on this question, indicating a substantial degree of fatalism on the part of just those individuals who must be persuaded if seat belt use is to increase.

o By a similar 72% to 21% margin, Americans reject the statement: "The chances of getting into an accident are so small that seat belts aren't really worth the inconvenience." The rejection of this statement on an intellectual level contrasts vividly with the behavior of the majority of Americans who use seat belts only rarely if at all.

o Fully 37% agree with the statement: "There's nothing anyone can do that would make me use seat belts most of the time"; 52% disagree. Finally, nearly three-quarters of the respondents agree with the statement: "Seat belts on new cars are all pretty much the same, no matter what kind of car you buy."

Interpretation

"A very substantial minority insists, even after the interview has treated the subject of safety, that they will not use seat belts. The potential for increasing seat belt use is definitely limited.

This and other studies confirm the finding that comfort and convenience issues are by far the most prevalent reasons given for not wearing belts. For this reason NHTSA has directed efforts toward sharpening the regulations for belt design. There is not a large body of data to indicate that improving comfort and convenience of belt systems will result in a massive turning of Americans from nonusers onto users. A recent General Motors sponsored study (5) indicates that the positive effect of such modifications on design would be minimal. However, other research indicated that the negative effect of allowing these comfort and convenience difficulties to continue will be very large and would

serve to undercut the potential positive results of other measures to increase usage.

There are several other factors and findings which deserve special emphasis. First, a significant portion of the public admit that sheer laziness is the real reason for their not wearing belts most of the time. Accordingly, they do not object and in fact even encourage the mandatory requirement for automatic (passive) restraint systems. The Hart Survey quoted above also gathered data on the public's attitude towards automatic systems

"Preferences in Policy Direction

" Before introducing respondents to the subject of passive restraints, we asked for their own view about the most appropriate direction for government auto safety policy. Our question was framed in the following terms:

> "Currently, about 20% of Americans use car seat belts. Do you think it would be better if the government encouraged people to use their seat belt equipment, or do you think it would be better if the government required manufacturers to develop automatic passenger crash safety equipment?"

"Overall, 48% believe the government's emphasis should be on requiring the manufacturers to develop automatic crash protection equipment, and 25% -ay that government efforts should be directed mainly at encouraging greater use of seat belts. An additional 8% volunteer that government should rely on both approaches, 10% volunteer that the government should take neither of the two approaches, and 9% are not sure.

"Only 15% of those who use seat belts infrequently say the government should emphasize greater seat belt use, while 56% say the government's emphasis should be on requiring manufacturers to develop automatic safety protection devices. Frequent seat belt users are more divided in their views, with 41% stressing greater utilization of seat belts and 40% opting for the development of automatic safety systems. Individuals who say later in the survey that they would be willing to pay an extra $350 for an air bag-equipped car than for automatic belts are most likely to favor governmental efforts to promote the development of automatic safety equipment (63%), while those who prefer automatic seat belts over air bags split by a narrow 39% to 34% margin in favor of the policy that requires new technological innovation by manufacturers.

"In large measure, responses to the question of government's overall policy direction are consistent with positions respondents later take when asked specifically about the Secretary's passive restraint rule. Among those who say they support the rule,57% say they generally prefer an emphasis on requiring the development of more automatic equipment. Among those who say they oppose the Secretary's rule, 31% say the government should focus on encouraging greater seat belt use, while 32% prefer focusing on the development of automatic equipment and 25% volunteer that they prefer neither course.

"Interpretation

> In terms of a broad policy direction, a plurality of Americans accept the idea that there is more to be gained by requiring the development of new alternatives to active seat belts than by trying to persuade people to use their seat belts more frequently. This message comes through most strongly from non-users of seat belts-- the key target group for auto safety protection measures. As we have seen in an earlier section of this report, these non-users are relatively firm in their resistance to seat belts; now they appear to be saying explicitly that if they are to be reached by government safety efforts, it will be through technological innovation rather than through educatinn and persuasion in favor of seat belts.

The Passive Restraint Rule

"When we asked respondents whether they had heard about the U.S. Department of Transportation's new safety requirement for cars manufactured in 1982 and beyond, we found that 23% say they have heard of the new rule. Frequent new car buyers (34%), college-educated individuals (32%), frequent seat belt users (31%), and married men (30%) demonstrate the highest levels of awareness. When asked what effect this rule will have on new cars, 14% volunteer that it will lead to the mandatory use of air bags, while 4% mention higher prices as a consequence, 3% say in general terms that more safety devices will be required, and only 1% volunteer that the rule will lead to the use of automatic seat belts.

"To gauge public reaction to the Secretary's rule, we posed the following question to respondents:

> "Starting in the 1982 model year, cars will be required to be equipped with air bags or automatic seat belts. What is your opinion of this? Do you strongly favor, moderately favor, moderately oppose, or strongly oppose the requirement to equip

cars with air bags or automatic seat belts, or doesn't it make much difference to you?"

Overall, 58% of respondents say they favor the rule--27% strongly and 31% moderately. A combined total of 25% say they oppose the rule (9% moderately, 16% strongly), while 9% say the rule will not make much difference, and 8% are unable to give a definitive response.*

"As shown in the following table, 11 groups of respondents say with the greatest frequency that they "strongly" or "moderately" favor the rule requiring passive restraints in new automobiles:

	Favor Rule %
Total	58
Prefer air bag @ +$350	74
Very young children in household	73
18-24	68
25-29	68
30-39	68
Frequent seat belt users	68
Increased safety concern	67
Professional/executive	66
Prefer air bag @ +$200 or +$100	66
Older children in household	65
Subcompact household	65

Ten groups of respondents, listed below, say with the greatest frequency that they "moderately" or "strongly" oppose the rule requiring passive restraints in new automobiles:

* At the conclusion of each interview, after respondents had been more fully informed about air bags and automatic seat belts, we again asked for reactions to the Secretary's rule. Overall, divisions of opinion remained stable, with 52% saying they favor the rule and 28% saying they oppose it.

	Oppose Rule %
Total	25
Low safety consciousness	43
Unfavorable to government auto safety regulations	39
65 and over	34
Prefer automatic belt	34
Low accident fear	34
Frequent new car buyers	33
50-64	32
Infrequent seat belt users	32
Married men	31
Small towns	31

It should be noted that in nine of the ten most negative groups, a plurality of respondents still favor the Secretary's rule. Only among those who are classified as having "low safety consciousness" do more people oppose the rule than favor it.

Interpretation

In their initial consideration of the matter, a majority of Americans support the Secretary's decision to require the use of passive restraints in new automobiles. The sharpest variations in opinions occur by age, with people under age 40 providing the strongest core of support for the Secretary's rule. Divisions also occur by the type of passive restraint equipment people say they prefer, with those who favor air bags over automatic seat belts most likely to also favor the rule.

A second factor in the public's attitudes towards safety belts lies in the increasingly widespread opposition to any kind of government regulation. The Hart study has the following to say about regulation and the automobile:

Government Regulations and Regulators

"Respondents were read two statements about government regulation and the cost this regulation adds to the price of goods--both in general terms and specifically relating to auto safety--and asked which comes closest to their viewpoint. In each instance, the public believes government regulation does more good than harm, because it improves quality and safety without affecting prices too much. In the case of government regulation in general, the margin is 53% to 31%, and for auto safety in particular the margin is 56% to 33%.

SELECTED STATEMENT ABOUT THE ROLE OF GOVERNMENT REGULATION

Statement A: "Government regulation does more harm than good and basically hurts people because the good that comes from it is not worth the added price."	31%
Statement B: "Government regulation does more good than harm and basically helps people because it improves quality and safety without affecting prices too much."	53%
Neither (VOL)	7%
Not Sure	9%

SELECTED STATEMENT ABOUT AUTO SAFETY REGULATIONS

Statement A: "Government auto safety regulations have done more good than harm and have basically helped people by improving quality and safety without affecting prices too much."	56%
Statement B: "Government auto safety regulations have done more harm than good and have basically hurt people because the good that comes from them is not worth the added price.	33%
Neither (VOL)	4%
Not sure	7%

"The idea that government regulation is more beneficial than harmful meets with majority approval from all sections of the country, especially the East, with all age groups exept 50 to 64 year-olds, among whom 48% believe government regulation does more good than harm; and with both professional-and executive-level households as well as blue collar households. The only groups where a slight plurality believe government regulation in general does more harm than good are people who have a low accident fear and those who oppose the passive restraint rule.

"When it comes to the specific area of government auto safety regulation, people in the West are most positively disposed towards government auto safety regulation, although they do not feel as strongly about government regulation in general. A majority of all age groups (especially the young) and income brackets believe that government auto safety regulation does more good than harm. The greatest resistance to this idea comes from those who are infrequent seat belt users (40% say auto safety regulation does more harm than good, and 48% believe it does more good than harm), and those with low safety consciousness (46% more harm), while 51% of those who oppose the passive restraint rule believe the benefit that comes from government auto safety regulation is not worth the added price.

Interpretation

"It has been stated by opinion leaders that we are in a period of anti-government feeling--people are looking less and less to government to solve their problems and are generally critical of the government's performance, especially the federal government. Nevertheless, when it comes to government regulation both in general and specifically in the area of auto safety, the feeling is that government regulation does more good than harm, even though such regulations may add to the cost of the product. This opinion is fairly uniformly held, even in areas which have been traditionally resistant to government regulation. All of this suggests that the majority of Americans believe government auto safety regulation is worth the added cost.

"By cross-tabulating the responses to these general and specific regulation questions, we find that 42% of those who believe government regulation in general has done more harm than good surprisingly feel that government regulation of automobile safety has done more good than harm. Conversely, only 23% of those who believe government regulation in general has done more good than harm feel that government auto safety regulation has done more harm than good.

"Given these attitudes, it is not surprising to find that, by a 58% to 28% margin, Americans agree that "the people in government who deal with automobile safety issues really have my best interest at heart." A majority of most groups subscribe to this feeling. The only groups where opinion is equally divided on this matter are infrequent seat belt users, people with a low safety consciousness, those who oppose the passive restraint rule, and those unfavorable to government auto safety regulations. Even in these groups, however, more people agree than disagree.

"Perhaps people agree that the government is working on their behalf because they perceive past federal government requirements to improve the automobile as beneficial and worth the added cost. For example, 96% feel this way about safety glass, 91% about padded dash boards, 82% about dual braking systems, and 82% about more protective bumpers. In each case, only a handful of people feel that the requirement is not beneficial and not worth the additional cost. Other federal requirements such as fuel economy standards and seat belts are seen as beneficial and worth the added cost by two-thirds of the American people. In each of these instances, only about a quarter of the respondents believe these improvements are not beneficial and not worth the added cost. In the more controversial area of auto exhaust emission standards, 51% believe this improvement to be beneficial and worth the added cost, while a sizable 36% feel it is not beneficial.

"When asked which of these improvements the auto industry would have made on its own without federal regulations, 23% of the respondents say the private sector would have done none of them, and another 21% are not sure or do not answer the question. The two features which people believe auto manufacturers would most likely have instituted on their own are safety glass (38%) and padded dashboards (30%). About a quarter of the respondents believe auto manufacturers would have installed dual braking systems without government regulations. In other areas, such as seat belts, more protective bumpers, and fuel economy standards, about a fifth of the population say auto manufacturers would have instituted these features on their own. Only 8% feel the private sector would have adopted auto exhaust emission standards on its own.

"It is interesting to note that among those who oppose government safety regulations, perceptions about which features the automobile manufacturers would have offered on their own mirror almost precisely those of the total sample. This point is particularly relevant since 90%of these people feel the padded dashboard is beneficial, 83% feel the dual braking system is beneficial, 96% see safety glass as beneficial, and 78% see more protective bumpers as beneficial. In all of these areas, attitudes mirror those of the general population in terms of support for government regulations. Those who oppose government regulations are less likely to feel fuel economy standards are beneficial (57% beneficial, 33% not beneficial), seat belts are beneficial (53% beneficial, 40% not beneficial), or auto emission standards are beneficial (38% beneficial, 51% not beneficial).

Interpretation

"The American public generally perceives government regulators and the regulations they enforce as improving auto safety. While regulations may add to the cost of an automobile, the public largely believes this cost is worth the added protection. In reviewing past regulations, the public feels the government has provided beneficial safety improvements which justify increased costs. At the same time, few people believe automobile manufacturers would have provided most of these improvements on their own. Overall, the government receives high marks for its auto safety performance, and the American people believe that regulators have the public interest at heart.

"Although the majority of respondants favored a role for government in the regulation of auto safety features, the opposition in this case is a particularly vocal and adamant one and its influence has transcended its relative numerical significance. The success of the minority of motorcyclists displaying visible opposition to helmet laws is a case in point. Even many of those who agree with the reasons behind and goals of certain government regulations oppose them because of a belief that the final decision about an individual's personal welfare should rest with the individual alone, even if that individual makes what others would consider a foolish choice. The political power of a vocal minority has been demonstrated widely on a number of issues in recent years, including those affecting auto safety, and the government, both in the legislative and in the executive branches, has taken this factor into account when formulating policy and assessing the probable effect of its programs. There are many, both in and out of government, who believe that the proper function of government should be to inform and to educate, but not to require the public to behave in a prescribed manner beyond that absolutely necessary to protect the common welfare. One of the initial impetuses to this study was the desire of Congress to identify new methods of government's fulfilling that role as informer and educator, and it is upon these potentialities that the bill's sponsors hope the emphasis will be placed.

A third factor relating to public attitudes about belts concerns the body of false beliefs held by many people. Included among the most often cited of these falacious convictions are that belts are unsafe, that they are effective only on long trips or for high speed crashes, that they can pose a danger to pregnant women, that one is safer thrown from the car than held inside during a crash, and that belts will trap the wearer inside in the event of an accident involving fire or submersion. These issues are addressed in turn by the various pamphlets published by the

NHTSA. The fact that people continue to propound these theories in spite of the solid evidence to the contrary indicates that an even greater effort must be made to get the facts about safety belts to the public. NHTSA already has plans to do this, which this report will address in more detail later.

Finally, a special mention should be made about the role of perception of risk as a factor affecting popular attitudes towards and use of safety belts. This issue has been addressed in both NHTSA sponsored studies and in independent research sponsored by the National Science Foundation. (26) These studies have found that most people tend to view the risk of having an accident only over the duration of any given trip. For that reason, they justifiably perceive the risk as low and see little need, therefore, for their belt. Similar reasoning causes people to use their belts more for longer trips since they believe that the longer time on the road and the higher speeds at which most long trips are taken increase the chances of a crash in which the belts will make a significant difference. The studies go on to argue, however, that if people can be persuaded to change the time frame in which they calculate the risk of an accident from a single trip to a lifetime of traveling, they will be much more likely to use their belts on each increment of that time frame, that is, each time they get into the car. Much of NHTSA's educational efforts, especially those directed towards beginning drivers, stresses the lifetime risk factor.

Development, Dissemination and Use of Educational Materials

Educational materials relating to safety belts developed both by NHTSA and by private organizations like the American Seat Belt Council, the Highway Users Federation or the National Safety Council are of two types: those designed to serve as reminders or to keep the seat belt issue before the public, and those whose purpose is to inform by relating data about accidents, crash dynamics, and the effectiveness of restraint systems. Both types have made use of the electronic media -- television and radio, especially -- and have directed messages at specific segments of the public, such as school children, interstate highway users or parents of small children.

The media efforts to date both abroad and in the United States have not produced the positive response for which their sponsors

had hoped. Some have argued that the relatively poor success rate indicates that the potential effectiveness of media campaigns is low regardless of the design of the campaign; others are convinced that the problems have arisen from the format of the programs and that an alternative design might produce more striking results. This approach has historically been much less successful than the mandatory legislation approach. Few experts in the area feel that usage rates greater than 20-30 percent can be achieved by this method. Following is a review of the evidence from both foreign and domestic experiences.

(1) Foreign Experience

As was indicated earlier, many foreign nations which have passed a mandatory usage law, have preceeded such action with a media campaign intended to increase voluntary usage. Few have had any significant success. Ontario, Canada, for example, attempted to promote voluntary usage for several years before enacting a mandatory usage law. Small scale campaigns and the required installation of belts in new vehicles had resulted in a usage rate estimated at only about 15 percent by 1974.

Before enacting legislation, however, the Ontario government decided that an intensive public information campaign should be introduced to convince drivers to "buckle up" voluntarily. This program began in June of 1974 and continued right up to the time of legislation in 1976.

A Province-wide survey was conducted during the third quarter following initiation of the Campaign. Approximately 6,000 drivers were stopped and their belt usage observed. The results indicated that the campaign had increased usage only 2 percent (from 15.5 percent to about 17.5 percent).

While it was later felt that the campaign did much to facilitate the acceptance of legislation which was introduced the following year, it clearly did very little to increase voluntary usage.

Australia provides a similar case in point. The government effort began in the late 1960's with adoption of a requirement that seat belts be provided in all passenger cars sold after January 1, 1969. With increasing numbers of cars having seat belts as standard equipment, attempts were made to encourage their use through public education. High usage rates were never achieved, even with relatively intense promotion.

As a result, the news media, in conjunction with the Royal Australian College of Surgeons, the Australian Medical Association

and the Royal Automobile Club of Victoria successfully promoted the case for mandatory usage law in spite of the Government's skepticism. Only after such laws were passed (and enforced) were substantial increases in usage experienced (i.e., usage rates greater than 70 percent).

In France, the Government tried to increase the voluntary use of safety belts with a six month campaign in early 1973. A survey near the end of the campaign indicated a maximum usage rate of 28 percent. The inability to raise usage to an acceptable level was one of the arguments used to pass mandatory usage legislation later that same year.

Similarly, Sweden which passed mandatory legislation in 1974, had unsuccessfully conducted an extensive campaign to increase voluntary usage.

In Great Britain, which has never passed a usage law, a large multi-media campaign utilizing radio, TV and newspapers produced a small, but statistically significant, increase in belt usage. However, the increase was only temporary in nature.

The Puerto Rican experience is especially illustrative of the interaction of enforcement and public information efforts in the presence of a mandatory use law. Puerto Rico passed its usage law in 1973. Immediately after implementation of the law, usage rates were very high. However, with the passage of an amendment replacing fines with warnings for the first two offenses and a dramatic reduction in enforcement effort, usage quickly dropped to approximately 7 percent by late 1974. A large scale campaign in 1975, coupled with the issuance of warnings by the police, resulted in a gradual increase in usage rates to about 25 percent. Another change in the law, again permitting fines for first offenders, and a moderate increase in enforcement brought usage rates to about 33 percent by the end of 1975. However, enforcement soon dropped off, and, in spite of public information efforts in 1976 and 1978 (without accompanying enforcement) usage dropped steadily to its present rate of about 7 percent.

(2) United States Experience

In the United States, one of the first evaluations of a public information campaign which used actual observations of belt usage as a measure of effectiveness was a 1971 study by the NHTSA in three

California towns (33). In two of the towns radio and TV campaigns of high and moderate intensity were conducted using public service time. The television materials used were those produced variously by the National Safety Council, the American Safety Belt Council, and the NHTSA. No campaign efforts were attempted in the third town.

Vehicle observations and telephone interviews conducted prior to, during and after the campaign period indicated no significant change in usage rates. This finding supported a prior National Safety Council effort which utilized self-reported usage to evaluate these campaign materials.

In another United States study, (34) the Insurance Institute for Highway Safety attempted to determine whether or not differently focused messages or different types of exposure would produce higher usage rates. Using cable TV, they tested the effect of six professionally produced TV spots. The results of their 1972 study indicated no significant effect on usage rates.

The most recent evaluation of an intensive media campaign to increase safety belt usage was conducted in 1977 by Motorists information Inc. (MII) (27). This is an industry formed, nonprofit corporation, whose initial assignment was to help educate the motoring public about the value of safety belts.

The MII conducted a carefully planned campaign designed to overcome what they perceived to be the weaknesses of past efforts. First radio and TV spots were professionally developed using sophisticated audiences testing and analysis techniques. At least four separate agencies were involved in this development and testing effort which was supported by the Motorists Information group.

Next, a comprehensive multi-media campaign involving radio, TV, billboards, bumper stickers and other print media was formulated. Carefully placed and paid for TV and radio spots were chosen in place of public service time.

A six week pilot testing of the program took place in the Grand Rapids, Michigan area in April of 1977 to determine whether or not the campaign had the capacity to produce significant public attitude changes. The results suggested that attitudes were changed, and MII concluded that the campaign should be conducted in another market to measure its effects in terms of observed usage rates.

The second campaign was conducted over a nine week period in the fall of 1977 in Southeast Michigan. Approximately $900,000 was spent on the campaign which included newspaper ads, outdoor

and bus cards, and several newly developed TV and radio spots. In addition, considerable community support was generated with a public relations program, including a speakers bureau and appearances on local radio and TV talk shows.

To measure actual safety belt usage before and after the campaign, a sophisticated survey plan involving 224 randomly selected intersections throughout the area was developed. A total of more than 42,000 cars were observed.

Independent surveys conducted by the NHTSA and by the Insurance Institute for highway safety were unable to find significant changes in usage rates. However, in neither case was the sampling as broadly spread as that conducted by the MII.

However, initial usage rates (and rate increases) were greatest for (a) women, (b) higher socioeconomic drives and (c) drivers of newer vehicles. Nearly all of the results of this study support earlier research concerning the very modest usage rate increases which can be obtained and the types of driver most likely to be influenced by mass media campaigns.

SUMMARY OF MEDIA CAMPAIGNS

In summary of the above foreign and domestic results, it appears to be highly unlikely that mass media campaigns can produce voluntary belt usage in excess of the 20-30 percent range. Few experts disagree on this point.

However, it is likely that mass media campaigns can be used to improve public understanding of the dynamics of the crash situation, dispel myths about belt usage and generally provide for a more informed public. In the past such campaigns have also probably fostered a more receptive attitude towards other measures to increase usage.

Educational packages and materials aimed at a more specialized audience than the blanket media efforts or the reminder signs on highways have been prepared by several organizations, including NHTSA, the National Safety Council, the Highway Users Federation and the American Seat Belt Council.

The target groups for these educational materials have been of generally three kinds: influential members of the community (teachers, business leaders, safety directors, etc.), students in driver's

education courses and beginning drivers, and pre-driving age children and their parents. These materials have included films, filmstrips, pamphlets, booklets, informational packets, workbooks, and curriculum suggestions. A NHTSA test of the effects of some of these materials indicated a slight but significant increase in belt usage among those exposed to the materials. More than three million copies of these materials have been distributed by NHTSA alone. The NSC and ASBC developed materials have reached yet other audiences.

NHTSA and others have explored ways of refining still further the categories of target audiences most likely to respond to the appeal of such materials. Two approaches deserve attention. Over the last several years and especially in 1979, the Year of the Child, the American Association for Automotive Medicine and other organizations have worked to educate critical groups about the value of child restraint systems. In some states, such as Tennessee and Michigan, these efforts have been directed partially towards the passage of a mandatory child restraint law. In other areas, it has been focused more on educating parents of infants and young children, via their visits to the pediatrician or through community service organizations. These efforts are too recent to assess their effectiveness.

A second area of special interest is in the field of employee programs. DuPont has to date developed an excellent comprehensive program, with internally generated materials for its employees, incentive programs, publicity campaigns and schedules for initiating and conducting an active usage campaign. Other companies have also adopted some of these techniques, and the National Safety Council has negotiated with DuPont to publish its program and distribute it to additional corporations.

Much of the detailed effort of the NHTSA in the next five years will concentrate in one way or another on this campaign to reach specialized audiences and to work through the networks of influence and expertise already in existence. Neither NHTSA nor the other important organizations devoted to increasing seat belt usage are content any longer to rely on blanket public information efforts alone. These latter will not be abandoned, but the special target programs will receive careful attention.

Workshops and Demonstrations

Both the NHTSA and the National Safety Council have established programs wherein representatives and experts are able to work directly with small groups of people on some aspect of the safety belt issue. In some cases this has taken the form of public demonstrations at

state fairs or in conjunction with drivers' education programs. The physical experience of getting into an automobile and being able to experiment with the hardware and ask questions of the demonstrator on the spot has, by all indications, been a highly persuasive activity. The main disadvantage of such a program lies in the relatively small numbers it reaches, but the thinking of many safety belt specialists is turning more and more towards an emphasis on the quality of the appeal and the character of the approach rather than relying only on numbers. The multiplier effect which is likely to result from a well-planned and carefully directed campaign of workshops and demonstrations could result in a greater impact than the mass shotgun approach that has characterized some public information campaigns in the past.

The workshops currently being conducted by the NSC for NHTSA likewise concentrate on a hands-on, experiential approach to education, but are more focused in their choice of audience. Two series, one on safety belt programs for State and local safety officials and the other on child restraints for grassroots safety organizations, are now underway in sites throughout the country. The first is being conducted jointly by the NSC and NHTSA and the latter the University of North Carolina under NHTSA contract. These are described below.

NHTSA/Seat Belt Workshops for State Officials

INTRODUCTION

Ten workshops are to be conducted in a manner which reflects a total NHTSA restraint Thus they will be conducted according to the expectation that passive restraints will be installed on all new passenger cars according to the present schedule of 1982 for full-sized vehicles, 1983 for intermediates and compacts and 1984 for sub-compacts. It is intended that the publicity generated concerning restraint issues will facilitate the public's understanding and acceptance of passive restraints.

In order to maximize the probability that this will occur, air bag and passive restraint cars will be on display and films used during the introductory session will address air bags. All NHTSA occcupant restraint materials will be made available to the participants. All workshops will be publicized as NHTSA-sponsored events.

BACKGROUND AND APPROACH

The Safety Belt Usage (SBU) workshops for State Officials are part of

a planned multi-year effort to develop a guideline manual for State SBU acitivities and to implement those parts of the manual which are relevant for each State. This project will introduce the manual, which was developed for the NHTSA by the University of North Carolina, to appropriate State officials using a small group, participation approach. Specific areas to be covered from the manual include: (1) police traffic services; (2) traffic records; (3) motor vehicle inspection; (4) driver licensing; (5) driver education; (6) public information and education; and (7) codes and laws.

TARGET GROUP

State Government Officials

SPECIFIC OBJECTIVES

- The primary objective will be to use the SBU manual to provide guidelines for State SBU activities. This is especially timely given the recent legislation which requires that 2 percent of each State's 402 funds be applied to safety belt usage activities.

- Another objective will be to determine what SBU activities the States are already carrying out and what activities they have already planned.

- Finally, the workshop should make State officials aware of planned NHTSA activities in the total occupant restraint area and of information and education materials which either are or will be made available.

FORMAT

- Each workshop will begin with an audio-visual presentation and discussion of the total occupant restraint area. This session will trace the events which led to the need for a passive restraint mandate and will point out where active belts and child restraints fit into this plan (e.g., increased protection in the decade prior to the general availability of passive restraints and the use of belts and child restraints in conjunction with various passive devices.)

- The format for the remaining portion of each workshop will involve small groups of participants from each State. These groups will review the activities outlined in the manual and discuss the feasibility of such activities in their own State. Attempts will be made to summarize this activity in the form of a preliminary State SBU plan.

WHAT WE HOPE TO ACHIEVE

- Increased understanding and acceptance of a total restraint system approach centered around the passive mandate.
- Individual suggestions for each State's coordinated SBU plan.
- Increased State activity in the occupant restraint area.

NHTSA/Child Restraint Workshops

INTRODUCTION

This project, like all projects in the occupant restraint area, is designed to enhance the total NHTSA occupant restraint program centered around the passive restraint mandate. Like the safety belt usage workshops for State Officials, these workshops will feature air bag and passive belt cars. All workshops will be publicized as NHTSA-sponsored events.

BACKGROUND

A number of events have occurred recently to make the child restraint workshops most timely.

- Tennessee has passed and implemented a child restraint usage law, and early results show that it has increased usage of child restraints significantly.
- Congress has expressed their pleasure with NHTSA's role in promoting and evaluating the Tennessee child restraint law and their expectation of further efforts to promote child restraint use throughout the country.
- The United Nations has designated 1979 as the International Year of the Child and has encouraged all nations to carry out special child advocacy activities.
- Rulemaking activities with respect to FMVSS 213, child restraint systems, are now being carried out.

NHTSA plans to conduct a National Child Passenger Safety Conference early in December 1979, to promote and coordinate child restraint activities throughout the States. Ten regional workshops on child restraints will be held prior to the conference to provide grass roots activist organizations with sufficient technical information, incentives, and materials to do an even more effective job in educating parents about the need to use child restraint systems.

TARGET GROUPS

Target groups for the workshops will be organizations now involved in promoting child restraint use and similar volunteer community groups which, with encouragement, could become involved in promoting child restraint use. While participants will be primarily from grass roots organizations, some State officials and representatives of major organizations may be invited as appropriate.

SPECIFIC OBJECTIVES

- To increase the level of activity and effectiveness of grass roots organizations in educating parents about the need to use child restraints.

- To establish channels for the distribution of audio-visual and print materials on child restraint to the public through community organizations.

- To stimulate the development of special community programs to promote child restraint use among lower socio-economic status parents.

PROGRAM FORMAT

The introductory session of the workshops will discuss the general problem of what happens to occupants in a crash, the protection provided by restraint systems, and the problems experienced in getting occupants to use safety belts and child restraints. It will describe the events which led to the passive restraint mandate. It will point out how child restraint activities relate to the total program.

The remainder of each two-day workshop will consist of lecture, group discussion, and audio visual sessions to provide a firm base of technical information and a set of effective parent education strategies. In addition, this format will allow the discussion of what groups have done in the various States, legislative activities to support the passage of child restraint laws, and other efforts such as stimulating auto dealers to stock, display and advertise child restraint devices.

WHAT WE HOPE TO ACHIEVE

- Increased public understanding of the need for occupant restraint and the special needs of young children.

- Increased activity of grass roots organizations in educating parents and in promoting child restraint usage.

- Increased communication between grass roots organizations and State Highway Safety Programs in carrying out child restraint programs.

- Effective distribution of available materials and programs (e.g., PAS film, "child-safe" materials, etc.) in a manner which maximizes their potential use.

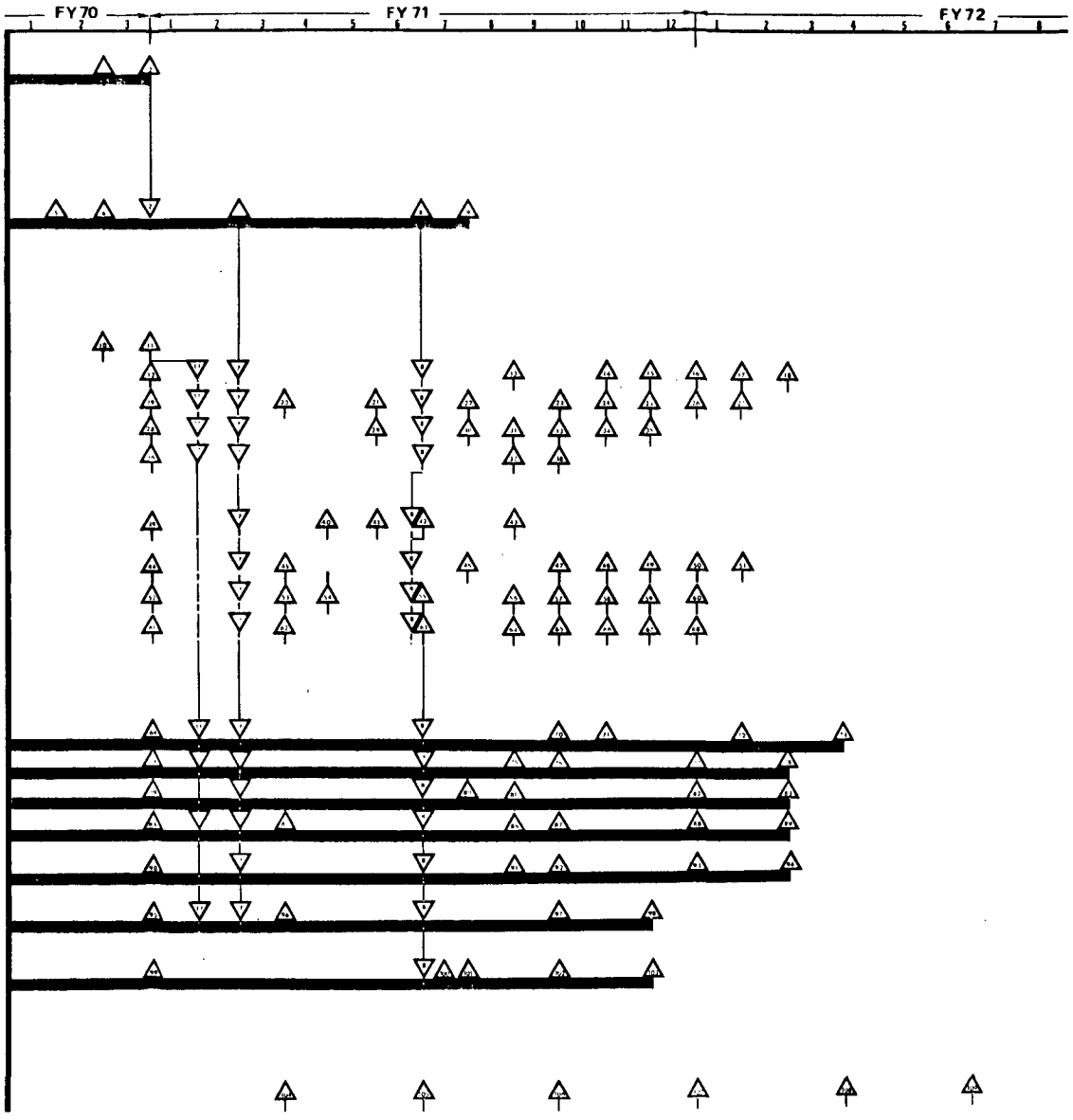
PROBLEM IDENTIFICATION AND PROGRAM DEVELOPMENT

This National Academy of Sciences study is not the first effort to identify alternative methods of increasing safety blet usage. At elast two other major plans have been developed within NHTSA during the last decade and program development has played a critical role in the work of nongovernmental organizations interested in this issue as well.

The first of the NHTSA plans was initially conceived in the late 1960's and put together in 1970. A sample work plan for the program is attached. The first critical component of the plan was the motivational analysis, completed in 1971, which served as the basis for the comments earlier in this report on factors affecting the usage rate for safety belts.

Following the completion of the motivational analysis, a contract was awarded to American Institute for Research (28) to prepare a set of detailed program area analyses and recommendations for action. The critical areas of interest were divided into five basic categories as follows:

NHSB RESTRAINT SYSTEM USAGE PROGRAM (1971)



- **FACTORS UNDERLYING RESTRAINT USAGE**
  - STATE OF ART REVIEW
    - Analysis of revelent findings and research in successful and unsuccessful public information campaigns (e.g. Swedish, English and Japan N.S.C.)
  - MOTIVATIONAL ANALYSIS
    - Determine motivational and situational factors related to restraint system usage through:
      - Questionaire
      - Surveillance and follow-up
      - Road-block
      - In-depth interviews
- **DEVELOPMENT OF A NATIONAL PROGRAM**
  - INFORMATION AND EDUCATION
    - FACTUAL MATERIALS "LIBRARY"
    - DRIVER EDUCATION
    - DRIVER LICENSING
    - PRIMARY SCHOOLS
    - PUBLIC INFORMATION CAMPAIGN
  - ECONOMIC AND LEGAL MOTIVATION
    - INSURANCE POLICY PROVISIONS (e.g. reduced premiums,increased benefits to users)
    - CODES AND LAWS
    - COURTS
    - POLICE TRAFFIC SERVICES
  - "CAPTIVE" GROUPS
    - FEDERAL GOVERNMENT
      - MILITARY
      - CIVILIAN
    - PRIVATE COMPANIES
      - FRANCHISED COMPANIES
      - LARGE COMPANIES
    - TOLL ROAD AND BRIDGE USERS (e.g. programs for toll attendants to follow, signing to encourage restraint usage)
    - SERVICE ORGANIZATIONS AND CLUBS (e.g. programs that organizations would encourage among their membership)
    - STATE AND NATIONAL PARKS FORESTS AND RESERVATIONS (e.g. programs to encourage usage among visitors to these land areas)
- **PERFORMANCE SPECIFICATIONS** (STANDARDS DEVELOPMENT)
  - HUMAN ENGINEERING OF RESTRAINTS (e.g. improve convenience of use through candidate amendment to standard #208)

Project Organization

As an aid to insuring comprehensive coverage of the population of prospective users of restraint systems, the National Highway Safety Bureau (now NHTSA) suggested that, for purposes of the study, this population be considered in terms of the following component "areas":

1. Driver education programs
2. Driver licensing programs
3. Primary schools
4. Public information campaigns
5. Insurance
6. Codes and laws
7. Traffic courts
8. Police traffic services
9. Groups such as military and civilian members of the federal government, franchised companies, private companies, toll road, bridge, and tunnel users, service organizations, and national clubs.

For purposes of administrative convenience, the areas of interest listed above were grouped into the following categories, which in turn formed the basis for the organization of the project:

Area A: Training and Education
- Task 3: Driver Education Programs
- Task 4: Driver Licensing Programs
- Task 5: Primary School Programs

Area B: Public Information
- Task 6: Public Information Campaigns (media and automobile dealers)

Area C: Economic and Legal Motivation
- Task 7: Insurance
- Task 8: Codes and Laws
- Task 9: Traffic Courts
- Task 10: Police Traffic Services

Area D: Government Environments
- Task 11: Federal Government -- Military
- Task 12: Federal Government -- Civilian
- Task 15: Toll Roads, Bridges, and Tunnel Users

Area E: Industry and Service Organizations
- Task 13: Franchised Companies
- Task 14: Private Companies
- Task 16: Service Organizations and Clubs

This study produced a series of reports devoted to each of the tasks identified above. NHTSA has copies of those reports. Each contains both an analysis of the issues involved and a set of recommendations for NHTSA action. They resulted in many of the programs referred to above. These reports emerged in the political and economic climate on the early 1970's, and their recommendations reflect that context. Should their data be reviewed in the light of the changes that have taken place in the past ten years, different conclusions could result. Members of the Steering Committee interested in one or another of these special areas might, therefore, find it profitable to peruse the reports that pertain to those subjects.

The second major formal NHTSA plan for research, development and implementation of safety programs relating to restraint systems emerged from the general five-year plan for highway safety, research and demonstration (Section 403) generated in 1977-79. Covering all aspects of the highway safety program and given careful scrutiny both within the Administration and from the public at a special conference convened for the purpose by the National Academy of Sciences in late April, 1979, this 403 plan outlined the directions and foci for NHTSA research and activities through 1985. In it restraint systems are given a high priority. The specific programs identified in the draft plan are as follows:

DETAILED DESCRIPTION OF INDIVIDUAL PROJECTS (1)

"This plan is organized around five primary areas of activity. They include:

- Research, development, and pilot testing of various approaches to promote restraint usage;
- Educationsl programs (including workshops) and materials distribution efforts;
- A coordinated mass media program;
- Evaluation of education, media, and legislative efforts; and
- Surveys of restraint usage.

"A more specific description of the projects within these activity areas follows.

A. Research, Develop, and Pilot Test Various Approaches for Promoting Belt Use

1. Identification of Motivational and Situational Factors Related to Belt Use and Nonuse. Specifically, this project will

build upon completed research and attempt to obtain a better understanding of the underlying reasons why belts are used or not used, the relevant characteristics of subgroups of the population who are now users or nonusers, and the circumstances under which use is most prevalent. This information, combined with demographic analyses in sufficient breadth and detail, will facilitate the identification and develop information and influence sources, media types, contents, and target audiences.

"2. Identification and Development of Alternative Strategies for Influencing Various Target Groups and the Development of Educational (and Other) Stimulation Programs. After the most critical groups and circumstances contributing to belt usage have been identified, different methods of reaching the various target groups can be explored and evaluated.

"In addition to typical audience testing approaches, this project will involve consultation with individuals and groups who have experienced success in promoting ideas or products to the public. Groups whose activities will be explored include successful community organizers, successful advertisers, persons involved in successful health campaigns, and lobbyist groups. In the health area, the activities and results of antismoking, vaccination, and physical fitness campaigns should provide some useful insights.

"In addition, efforts to identify communication networks will be investigated. More specific identification of opinion leaders and their channels of influence will magnify the effects of other efforts. This information will be used in the educational and media programs found in other areas of this plan.

"3. Development and Test. The primary activity of this project will be to develop and pilot test programs and materials for stimulating restraint usage. This research will be complemented by a previous study with the National Academy of Sciences. The previous study will have identified all feasible avenues to encourage belt usage, including financial incentives. Innovative methods identified under this study will be pilot tested and implemented on a larger scale if found to be effective. Moreover, effective approaches will be also tested in combination to determine whether or not additive or synergistic effects can be anticipated.

"New approaches fall into two classes: those that have not been tried before and those that represent new or larger combinations of previously uncoordinated approaches. Several realistic avenues to increasing restraint usage will be considered. Approaches include insurance-based financial incentives, driver education, curricula for primary schools, and industrial safety programs. Techniques for influencing auto dealers, salespersons, and others, as well as personal and celebrity influence approaches,

will be explored.

" B. Education Programs for Advocacy Groups (Workshops)

" The materials and programs developed under the preceding R & D effort will become the materials used in subsequent workshops (and other activities) to stimulate both advocate and user target groups. Thus, some of the planning which has gone into this educational project (as well as the mass media project) will change as information and materials are obtained from research and development.

"Of the programs intended for stimulating voluntary restraint usage, those that have dealt with specific target groups and that have taken place within the confines of particular organizations (e.g., industrial programs) have most frequently reported success.

"NHTSA's experience with printed materials for specific target groups provides some additional optimism for the effectiveness of singling out such special target audiences, but not for the mass-mailing distrubution approach. With respect to the latter, there is little doubt that NHTSA has not been successful in the past in mobilizing networks of organizations to promote desirable behaviors (e.g., belt use) among various segments of the public. Mass mailings have often left materials sitting unused on shelves and personal interactions with advocacy groups have either been nonexistent or sporadic. Emphasis has thus shifted to the workshop-seminar approach to stimulate such activity. Other successful techniques which result from NHTSA efforts will also be used.

"Promising target groups for these efforts include industrial workers, auto buyers, parents of young children and/or beginning drivers, school-aged children, beginning drivers, and members of health clubs or other health-oriented organizations such as the YMCA or jogging clubs. The efforts of groups with known formal or informal networks will also be enlisted. These include physicians and health groups, automobile dealers, women's advocacy groups, grassroots traffic safety organizations, educational groups, automobile clubs, and local safety councils.

"Immediate efforts in this area include the workshops for State and local safety officials and the child restraint workshops for grassroots safety organizations. The success of these two ventures, as well as results from R & D efforts, will determine the desirability of continuing such approaches for distributing materials and for stimulating the support of other groups. The next groups for which such workshops are presently being planned are health professionals, automobile dealers' associations (it is hoped with

the aid of their trade associations), and industrial employees (perhaps in conjunction with the National Safety Council's industrial conference). NHTSA will search for new, more efficient distribution networks and approaches.

"C. Coordinated Mass Media Efforts

" Existing research on situational and motivational factors in belt use (e.g., education, age, length and speed of trip, bad weather, children in car, etc.) suggests that understanding and perception of injury risk is an important factor in determining belt use. Knowledge of the dynamics of the second collision can be an important condition in conveying that understanding and perception. The use of substitutes (e.g., the Canadian "egg" and "pumpkin" advertisements) and the use of dummies in crash situations allow for such information to be conveyed with a minimum risk of creating the negative effect of associating belt use with traumatic crash scenes. Thus, it appears that conveying the dynamics of the second collision is a desirable approach for early media efforts. Another theme that will be further researched is the use of "opinion leaders" in such media efforts.

"In the past, there has been little coordination among the many public and private sector organizations promoting restraint systems. These individual efforts have been conducted with little or no thought to their impact on the programs of other groups. More importantly, little consideration has been given to the benefits of coordinating such individual efforts to achieve maximal impact. A national coordination group has now been formed that can provide support for the process by providing for production and distribution of materials developed so that the NHTSA media program (in conjunction with the efforts of the other groups) can provide materials for an effective demonstration effort. The evaluation portion of this activity is included in program area D.

"D. Evaluation of National, State, and Local Restraint Usage Programs and Legislative Efforts.

"One of the primary ways in which 403 efforts differ from 402 activities is in the evaluation of change which results in the safety problem and the use of these results in future programming decisions. Thus an important part of this 403 plan for stimulating restraint usage is the effort expended to determine how effective various programs are within the national framework. In addition, a number of innovative possibilities exist for legislative activities to stimulate usage. The extent to which the effectiveness of these efforts can be determined may well influence how many States follow pioneering legislative activities.

"Specific programs currently under consideration for evaluation include national media programs which will arise from the new coordination effort, an innovative and extensive kindergarten through 12th grade (k-12) program in the State of Michigan, the Child Safe program being used in Wisconsin, and any innovative State legislation requiring the use of occupant restraints.

"This latter area deserves further elaboration. In the efforts to promote restraint system usage, the importance of developing early habits is clear. One area that provides potential for the development of early restraint usage habits is the legislative area. A child restraint law, such as the one being evaluated in Tennessee, an experimental belt use law for school bus passengers, and experimental laws requiring beginning drivers with temporary licenses to use restraints should be explored for their acceptability to the general public as well as their usefulness in creating early usage habits. This project will give priority to supporting and evaluating legislative efforts such as these if they become a reality. Otherwise, the emphasis will remain on education and media programs.

"E. Survey of Restraint Systems Usage and Trends

"National surveys of safety belt usage in traffic have been carried out to assess usage rates in the United States, trends in these rates over time, and the effectiveness of various related Federal Motor Vehicle Standards. These on-the-road surveys have allowed NHTSA to observe drivers' use of belts in urban, suburban, and rural areas, to sample various road types, and to make nighttime observations. Other data, such as vehicle model and year, age and sex of driver, and time of day and the month are also collected to determine how usage varies with each.

"Since usage has been changing with time and varies with the type of restraint system, as well as with a number of other factors, this survey activity will continue. This is especially important with the advent of passive restraints, which will appear with increasing frequency in the immediate future.

"Collection of information pertaining to child restraint system usage and the wearing of motorcycle helmets will also occur. While safety belt usage is being noted, the observers will record the approximate age of any children in the car and their use of restraining devices, including estimates of proper or improper use. Motorcycle helmet use will also be observed in the 16 States where the belt usage data are being obtained. The information to be obtained in this study is vital to NHTSA since it provides the basis for many key programs.

"F. Motor Vehicle Inspection of Restraint Systems

One additional proposed project, which will receive no funds until further planning has been completed, would encourage and evaluate the inspection of restraint systems during periodic motor vehicle inspection. This project would provide a useful indicator as to the extent of restraint system inoperability. It may as well act as a deterrent to deliberate defeat of such systems. Should the program receive support by a particular State, it would be supported with funds from the legislative evaluation program (project D)."

Areas for consideration by the Steering Committee

Emerging from both NHTSA past experience and from ideas generated internally, NHTSA would like to offer the following list of areas for consideration by the Committee. This list is intentionally broad without going into great detail on any one idea. However, this listing is open-ended, and the Committee is encouraged to add items of its own. The ordering of the list in no way conveys any NHTSA priority and reflects a composite of ideas for Committee attention.

I: Ideas relating to the use of various appeals to authority

A Mandatory laws:
A review of the Congressional Record indicates that the climate is not ripe for a massive campaign in favor of legal alternatives and that the Congress would much prefer to receive the Committee's recommendations on other alternatives. However, because of the mandate to explore all possible means of increasing belt usage and partly in order that there be no question of the Committee's having considered the complete range of alternatives, a discussion of legal mandates is included.

1. Federal usage law. Although the concensus is that a Federal law would be both unpopular and unenforceable even if it were enacted, the idea should perhaps not be dismissed too hastily. Results in other countries where the tradition of individual freedom and regional legislative responsibility are just as strong as the United States indicate that unpopularity of such a law may be a transient factor as more people tend to accept the mandate as legitimate. On the other hand, the experience with the safety belt interlock and the mandated motorcycle helmet laws would indicate that a Federal usage law would not have as much chance of success as would other legislative measures.

2. State usage laws. The possibilities for usage laws being passed in the individual States are much higher than for the enactment of a Federal law. A number of persons suggest that States may take this route and that efforts could be put into encouraging this action. Almost all those who testified before the Subcommittee on Investigations and Review (29) hearings on safety belt usage on June 1978, including representatives from the National Safety Belt Council, automobile manufacturers, university programs, medicine and crash research facilities, advocated a more assertive approach towards State usage laws. Furthermore, according to a recent study by Teknekron, (30) a majority of the public (54 percent) favors usage laws as a way of dealing with the safety belt problem. These approaches have been suggested to support such a program.

a Monetary incentives. It was pointed out during these hearings (29)(p. 377) that Congress has not specifically prohibited NHTSA from reinstituting a program of incentives to States which would enact a usage law. Such an incentive program remains a technical possibility, but, given the current political climate, an unlikely measure.

b Concerted effort in a few key target States. Under this program, NHTSA would, perhaps with the aid of financial incentives and perhaps only by a coordinated and knowledgeable lobbying effort which emphasized the benefits to the particular States involved, seek to influence the passage of usage laws in a few key States. Suggestions which arose at the Subcommittee hearings included Oregon, Wisconsin, Minnesota or Tennessee. The purpose of working only in a few States rather than attempting to influence all States equally would be two-fold.

1 It is always easier to concentrate one's efforts on those subjects which give the most promise of positive results. One passed, these State laws could serve as examples for other States much as the Tennessee child restraint law has done.

2 Laws in only a few States would provide the context for the collection of hard data on the impact of such laws

on highway safety, and thus provide considerably more solid ammunition for future campaigns to enact laws in the rest of the States.

c Laws aimed at only certain segments of the population:

1 Child restraint laws. Most people already respond positively to the idea of parents protecting their children from potential danger. Child restraint laws, such as the one in Tennessee or a modification thereof, would already have more potential popular backing than general laws and might persuade more parents to take their own advice and buckle up.

2 Laws requiring belts only for "beginning drivers" - the eagerness with which the 16-18 year old looks forward to getting his license would likely make him more amenable to belt legislation than his his older counterpart. Furthermore, one can make a solid statistical case that this age group needs belts more than any other because of the disproportionate incidence of serious and/or fatal accidents involving young drivers. Finally, a law requiring parents to sign, guaranteeing that their children will wear safety belts and making them responsible for seeing that the new drivers comply with the law, will automatically place parents in the role of belt usage advocates and likely make them more positively disposed towards wearing the belts themselves. While State usage laws would require more time and effort in the short run than would Federal legislation, their effect would likely be more significant for two reasons:

a Laws generated by a regional authority with the backing of regional legislatures are much less likely to encounter post-legislative opposition and give as a result a sounder foundation for compliance. The experience of Australia provides a good example of the effect of such a procedure of gradual building of the legal base of usage within the provinces.

b States which may initially be reluctant to back such a law will be less threatened by its passage in other States than they would by its consideration at the Federal level and more likely,

therefore, to view with equanimity the results of the law in those other States.

3 Regulations by government/military units/corporations specifying that employees wear belts when traveling in company cars on official business. In some instances, these regulations may be accompanied by the installation of an interlock device in the automobiles to prevent the car from being started without the belts having been connected. However, such measures should be accompanied by widespread dissemination of literature and information and by the opportunity for employees to raise questions about it with management. Never should it simply be mandated without explanation, even in the military, since the purpose is not to antagonize the wearer but to establish patterns of behavior which will carry over to his driving in non-company vehicles.

B Regulations relating to licensing inspection and rehabilitation efforts:

The government, at various levels of jurisdiction, already exercises control over the issuing of drivers' operating permits, vehicle inspection and lisencing, and the implementation of penalties or overseeing of rehabilitation programs for drivers convicted of violations of the law. The following suggestions would rest upon the foundation of current practice and would likely find more support by public than would new legislation.

1. Integration of belt use with licensing examinations:

a A regulation mandating that each individual seeking to secure a first license or to renew a license view a movie or read and be tested on a pamphlet concerning seat belt use and effectiveness.

b A procedure whereby failure to fasten one's safety belt during the driving test for an operator's license would constitute failure of the test. That is, failure to buckle up would have the same effect as an illegal turn, failure to stop at a stop sign or failure to parallel park. Some States (e.g., Virginia) already require the wearing of belts by both subject and examiner, although the penalty for not doing so is less stringent than recommended above.

Some States (e.g., North Carolina) have also issued administrative regulations stating that a test will not be conducted unless safety belts have first been fastened. There may be a potential difficulty with such a policy in the absence of State laws requiring the use of safety belts at all times. Unless such a law exists, there is nothing to prevent the car owner from tying up or otherwise abusing the belts such that they are inoperable. Since the automobile can pass a State vehicle inspection, regardless of the condition of the belts, the examiner has no recourse to the law in such cases to refuse the test. This difficulty caused Maryland to drop its earlier requirement that belts be fastened before a road test could be administered. **In all cases where authoritative measures are employed, it should be stressed that enforcement is essential. The active and positive support of enforcement officials and officers is critical to the success of any such law, and their participation in the discussion prior to enactment should be encouraged in the strongest fashion.**

2. Rehabilitation efforts often include an educational component. This component could emphasize the effectiveness and operation of safety belt systems through film, hands-on demonstration and actual in-traffic operation. It could even include an injunction to tell others about belt effectiveness, perhaps even under supervision of state enforcement or highway safety personnel.

It is conceivable, although probably not likely, that a law could be enacted under which an individual convicted of certain moving violations (e.g., excessive speeding, DUI, running a Stop sign or failure to yield) could be assessed an additional penalty (e.g., a fine or a requirement to attend a special class or classes) **if caught in a second violation of the orginance and not wearing a safety belt.**

C Regulations relating to financial incentives and disincentives:

Although the ultimate object of financial incentives and disincentives is to persuade rather than force the individual to behave in certain ways, the incentives themselves derive from the mandate of some organizational authority: the government, an insurance company, an auto manufacturer. For that reason they are included in the section pertaining to suggestions using authority as a mechanism to increase belt usage.

It should be stressed that Congress is particularly anxious to have the Steering Committee examine ideas involving financial incentives and disincentives, so much **so that these were the only classes of methods for increasing usage specifically mentioned in the act mandating this study. That this listing be as exhaustive as possible is therefore of special importance.**

1. Incentives as related to the sale of automobiles:

   Point of sale: Currently safety features like safety belts or air bags are often pictured at the point of sale as "extras" tacked on to the automobile by "government regulation" and resulting in "unavoidable added costs" to the customer. Instead, safety features should be presented as integral parts of the automobile, **as important to its successful operation** as good tires and brakes. The sales emphasis should be on belts as a financial plus by quoting of figures on potential savings in insurance rates and in potential lost workdays, medical costs and even lives. As in the case of information transfer, the dealer and salesman is an important link in the chain of influence and could serve an extremely useful function in forming the safety belt habit.

2. **Incentives** as related to automobile insurance

   Because of the importance of this particular type of incentive/disincentive, we are reproducing relevant sections of the AIR report on insurance companies and stand in support of the parameters identified in that study.

"The Positive Potential of Insurance Incentives (28)

"There are several reasons why a large-scale program to encourage seat belt use would eagerly seek the participation of insurance companies in such a program.

"For one thing, insurance companies are in contact with a large majority of automobile drivers across the nation. With the exception of the auto registration and licensing function, and the service and repair function, it is difficult to think of an auto-related association that reaches as many drivers as does insurance.

"Secondly, the insurance function can involve the driver in a very salient way -- through his pocketbook -- by providing economic benefits to seat-belt users and by imposing added costs to non-users. When the insurance company talks, it's reasonable to expect that a large number of drivers would listen.

"Thirdly, one does not have to spend time convincing auto insurers of the importance of safety. Unlike many industries which view safety as a matter of peripheral concern, it is a central focus of the insurance institution. Many companies actively support public relations campaigns promoting highway safety; other examples of company concern are the insurance-sponsored automotive safety programs which have resulted in testing of survival cars containing a number of safety features.

"The combination of contact, saliency, and awareness that the insurance institution has is probably unmatched anywhere else in the American social structure, and leads us to identify that industry as a potential source of influence in the area of improved restraint system use.

"Prerequisites of an Effective Program Using Economic Incentives

"In the Ideal situation, the incentive would take the form of economic rewards for the careful and vigilant driver who uses the restraint systems available in his car, and who insists that his passengers do likewise. *

"However, merely making economic incentives available provides no guarantee that the target population will (a) accept the offer or (b) alter its behavior in the direction intended by the offerer. Many companies have learned through painful experience that

economic incentives (e.g., lower prices) do not automatically bring about behavioral change (e.g., consumer purchase of a specific product). For economic incentives to be effective, certain minimum preconditions must be met.

"One precondition is the absence of a strong counterreason or counterfeeling in the target population against accepting the offer. People who feel they have a good reason for not following a specific course of action are not, by and large, good candidates for conversion through economic rewards. The most reasonable segment of the population to which to address a campaign of economic rewards is the uncommitted, the undecided -- in short, those who can accept the reward for conforming without competition from stronger countervalues.

"A second prerequisite is that the reward must be great enough, in the eyes of the intended public, to make it worthwhile to respond in the intended manner.

"Economic incentive programs are probably devised mainly by cost-conscious individuals who see any reduction in cost as significant. Whether or not the incentive is perceived as significant by elements of the target population is quite another matter, one which is too often ignored in the development of behavior change programs.

"Thirdly, a system must be designed which makes it relatively easy for the target population to carry out its part of the bargain. To give a very simple example: in a program to promote a product by refunding part of the purchase price through the mail, if the public is invited to go to the nearest food store, pick up product A and send in the blank form available at the store, a successful program requires that product A and the blank form be present and visible at stores likely to be patronized by the target population. The process by which the user receives his rewards after doing what has been expected of him should be neither too complicated nor delayed. For example, if the user knows that he can apply for his reward no sooner than six months after buying product A, the likelihood of him accepting the offer is diminished.

"Finally, one must consider the relationship between the incentive and the intended action. The American public is deluged with offers of refunds of all or part of a purchase price to try a particular product. Rarely, if ever, does someone offer a reward in advance of the behavior change, or without control over the situation, to insure that the recipient of the incentive follows through. In one form or another, "proof of purchase" is a

requirement of an incentive campaign that will work in our society.

Factors Affecting the Feasibility of Insurance Incentives

"One fundamental question to be raised in the remainder of this report concerns what can be done to increase the extent to which the insurance industry can actualize its potential to influence seat belt behavior. In trying to answer this question, each of the prerequisites for an economic incentive program, described earlier, will be reviewed. The analysis is based on the assumption that if an insurance company is "on the fence" with respect to offering increased medical payments -- that is, if its top management has already considered the matter and needs only that final bit of convincing -- then it is reasonable to expect that company to implement its decision in the reasonably near future.

"The other side of the coin is that insurance incentives may act as a form of reinforcement for drivers who had already made the decision to wear safety belts. Many campaigns such as this one have little effect on converting people to new behavior patterns, but do contribute to buttressing the beliefs of those already committed to the desired course of action. Such a suggestion fits the point made by National Analysts in their recent analysis of seat belt motivations: that incentives of various types may serve as reminding mechanisms for the "sometimes" seat belt wearer. (31) Unfortunately, in the case of insurance incentives for auto restraint use, there is as yet no evidence that drivers who have safety belt clauses in their policies do in fact wear their belts more frequently than does the rest of the driving public.

"The second and third preconditions for effective economic incentives deal with the perception of the reward by the target population, and the ease with which the rewards can be received. Here, too, the options currently considered feasible by the insurance indus ry are not conducive to behavior change. The only incentive which has been adopted (increased medical benefits in the event of an accident) calls for people to alter their current behavior on the basis of a future, unpleasant contingency. One suspects that very few drivers who currently do not wear safety belts will be motivated to do so on the promise of receiving greater medical benefits in an accident.

"Another point worth noting is that the incentive of increased medical benefits calls for an increased upper limit in the benefit amount, not an increased payment for any injury received. As analysts of the insurance scene were quick to inform us, very few accident victims currently receive the upper limit of the medical benefits scale. It might be argued that accident victims who were wearing seat belts would receive less severe injuries, therefore making it generally unlikely that they would require the 50 percent or 100 percent increase in the benefits limit that their policies would entitle them to. When one comes right down to it, the increased medical benefits incentive, as currently constituted, is essentially a reward in name only. This in turn creates an ethical issue. We feel that if there ever is a massive campaign to publicize the medical benefits incentive, the driving public should not be kept ignorant of the fact that they are unlikely to get more money as a belted rather than unbelted victim.

"Reducing insurance premiums for belted policyholders is, of course, a different matter. It is a real rather than paper reward. However, insurance companies, at the present time, are not about to reduce premiums for drivers who wear seat belts.

"One of the manifest reasons why reduced premiums are not given serious consideration involves prerequisite #4 for an effective incentive program. At every insurance company we contacted, someone came up with the question, "How can you tell whether or not the policyholder actually wears his safety belt?" The problem is seen as especially acute when focused on the day-to-day driving behavior of the policyholder. Even under the option of increased medical benefits following an accident, the question is raised about how to tell whether or not the driver was belted at the time of the accident.

"This is not an insurmountable problem. Improved, standardized accident reporting procedures by the police would go a long way toward determining whether or not auto occupants were belted at the time of an accident. Monitoring restraint system usage in day-to-day driving will require a greater amount of ingenuity, but many solutions* fall well within the current state-of-the-art, although one may well wonder whether they fall within the state of interest and motivation.

"However, as things stand at the present time, the inability

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*Solutions include external signals or police monitoring of safety belt usage in connection with any moving violation.

to establish proof of restraint use is a legitimate issue and a very salient one in the minds of insurance people.

Making Seat Belts a Salient Issue

"There are several ways to approach the problem of saliency. The approaches vary in their ease of implementation and their probable effectiveness, and if several of the strategies can be applied simultaneously the likelihood of success goes up.

"From the standpoint of feasibility, the first strategy is some form of cost/benefit analysis whereby the positive economic consequences of incentives for belt wearing may be demonstrated.

"Policyholders of different companies could be interviewed and observed with the goal of determining (1) whether or not policyholders with seat belt incentive clauses exhibit different seat belt wearing behavior compared to other policy holders control group, and (2) whether or not policyholders with incentive clauses are involved in fewer or less damaging accidents than the controls.

While such a study would not erase all doubts about the efficacy of incentives, the results may encourage companies to consider the incentive question if positive cost/benefit possibilities are clearly supported by the data. One reason why the crash-resistant bumper is viewed as a salient countermeasure within the insurance industry is the belief that the benefits accruing from this protective step can be quantitatively measured.

"A less desirable type of study from the scientific point of view, but one which may nonetheless influence insurance companies to consider incentives, would be an examination of the relationship between incentives and sales. As mentioned earlier, there is a "gut feeling" that incentive clauses may increase insurance sales, but we have been unable to uncover anything which would qualify as evidence.

"Representatives of several insurance companies informed us that they would be quite interested in the results of such studies, and implied cooperation within legal and ethical boundaries; but no one ventured an optimistic response about his company conducting or sponsoring research on the benefits of an incentive program.

"A second approach to increasing the saliency of seat belts to the insurance industry is to fit a seat belt campaign into an integrated overall auto safety concept, where a driver is rewarded for total safe driving behavior including, but not limited to, wearing seat belts. One of the persistent and perhaps inevitable patterns of bureaucracy is specialization. Typically, when a bureaucracy handles any large problem such as urban renewal or auto safety, it divides the problem analytically into subproblems and assigns each of the latter to separate groups within the organization. Such a group becomes expert on its particular subproblem, and in the process group members frequently become "emotionally involved" with it. Their assigned tasks, plus their emotional investment in the tasks make it difficult for them to see the overall jigsaw puzzle of which their problem represents only a piece.

"When each specialized group develops plans and programs dealing with a target audience in the "real world", it is very easy for them to forget that the audience may not perceive or respond to the problem in the way that the bureaucracy has analytically compartmentalized it. In the author's view, the seat belt incentive program for the insurance industry illustrates this point. One can think of a research report on the seat belt

project calling for the insurance industry to lower premiums or introduce other incentives for drivers wearing seat belts. This can be followed by a report from the Crash Resistant Bumper project containing the same request, in turn followed by the Air Bag report, the Interior Padding report, the Safe Tire report, and many more; each report making the same assumption -- that drivers' acceptance of a particualr piece of equipment and/or a certain driving pattern will decrease accident frequency and/or severity.

Rather than trying to get the insurance industry to respond separately with incentives for policyholders on each specialized aspect of auto safety, it is our belief that more can be accomplished by encouraging insurance companies to respond to an integrated auto safety package which is composed of safe cars and safe drivers. The need to associate seat belts with overall auto safety is particularly important because in the next few years the seat belt is likely to lose its place in the sun as the major tangible auto accident countermeasure.

"Insurance companies may well be more likely to consider seat belts as a salient issue when they are presented as part of a larger incentive package which covers multiple dimensions of auto safety. To provide a simple example -- we have been unable to locate an insurance company willing to reduce premiums for safety belt wearing. On the other hand, we have run into a number of companies which have announced or are considering plans to announce premium reductions for policy-holders whose automobiles are equipped with bumpers which meet certain standards. Having already offered the incentive for the bumper, it may be that insurance companies would be willing to "sweeten the pot" for policyholders by adding a further premium reduction for those who not only have new bumpers but also wear seat belts.*

"A third way to bring safety belts to the attention of insurers is through some form of governmental or judicial action which makes it clear that in the eyes of the law the seat belt wearer is different in some legally meaningful way from the unbelted driver or passenger. A mandatory seat belt use law would be ideal in this respect, but we are pessimistic about the

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* It should be kept in mind that the question here is how to get insurance companies to respond favorable to safety belts. At this point we are not dealing with the more fundamental question considered earlier, namely, do insurance incentives have any effect upon driving behavior?

prospects for the enactment of such a law.

"A more feasible outcome to anticipate might be a common acceptance by the legal institution of the "seat belt argument" in its various forms. Among the ways in which the acceptance could express itself is in recognizing seat belt usage as a sign of a prudent driver, and non-belt wearing a sign of a careless driver. The relevant point in the present discussion is that some legal steps can also have additional indirect effects in influencing behavior change within other institutions. An illustration of this point is the role of legal rulings and standards in enhancing the saliency of seat belts for the insurers. A common legal climate of opinion in favor of the belted driver reflected in legislation and/or judicial rulings may not guarantee an emerging willingness by auto insurers to implement seat belt incentives; but, in our view, the absence of such a climate of opinion is a severe impediment to the success of any large scale effort to generate action on incentives among the majority of auto insurance companies."

Special mention should also be made of a new program implemented in May, 1979, by League General Insurance Company of Michigan, a program based upon both a sense of social responsibility and cost-effectiveness. The President of League General described the program in the following excerpts from a recent testimony before the Subcommittee on Oversight and Investigations of the House Commerce Committee. (32)

> " Beginning June 1, League General will provide child car safety seats free to our insured families. We believe it is the right thing to do. But we also believe the program is cost-effective in that it will pay for itself through reduced claims. We consider our seat belt program pays for itself in the reduction of claims, and I am referring also to our life company, not just our auto insurer. This, in addition to the greater benefits of reducing the human tragedy of death and injury on the highways.
>
> "Our program is simple. We have added an endorsement to our policy which states that we will provide a child restraint car seat to any of our policyholders who have a baby while they are insured with us. We are also intending to distribute seats to those policyholders who already have small children if the children were born while their parents were insured with our company. This program will be announced to our Michigan policyholders in late May and each will be provided with a card which they can use to advise us of a birth which has occurred or which is anticipated.

When we receive the card, the information will be recorded and sent on to Century Products, the manufacturer of the Trav-l-Guard Child Restraint car seat which we have selected to distribute.

We recognize that giving the seats away is not enough. They must be used if they are to save lives and injuries, and they must be used properly. We shall do all that we can to encourage their use. We mentioned the ease of installation of the Trav-l-Guard seat. Also the fact that the families must request the seat hopefully will indicate at least an intention to use them. And we are developing a thorough follow-up campaign to achieve the greatest possible use of the car seats.

The program, as I have indicated, makes economic sense and we believe will be cost effective -- it will pay for itself through reduced claims. We also believe the same would be true for other insurance companies, particularly for health insurers. We urge the entire insurance industry to take a close look and then to join in providing insured families with child restraints and in encouraging their use."

3. Incentives related to Lottery and Prize Potential:

Some observers have noted that people will do almost anything if ther is a promise of financial reward. Building upon that maxim, one might give away lottery tickets, bingo numbers, discount coupons, or some similar item to those persons wearing belts at a particular intersection, shopping center parking lot, interstate exit ramp or other convenient location. These giveaways would have to be well-organized and would require the cooperation of local merchants (who may supply the prizes in return for the positive exposure), but they could at worst serve to focus local attention upon the issue and at best produce a longer term change in local behavior patterns. This latter is likely to occur especially if the campaign lasts for a significant period of time. The potential costs of maintaining such a campaign may argue against it, however.

4. Incentives Related to the Purchase of Special Restraint Systems:

Reimbursement from one source or another for the purchase of a particular item is a method used for some time by American businesses to promote products. There is no intrinsic reason that such a method could

not be used for restraint systems too. Two possibilities come to mind:

a Health insurance benefits: Many health insurance companies allow claims for expenditures for preventive medicine or for medical supplies obtained to treat a specific health danger. It should be to the economic benefit of these insurance companies, for the same reasons as it is for automobile insurers like League General, to allow the purchase of a child restraint or the early purchase of an automatic restraint as valid claims.

b For the same cost-effective reasons, tax write-offs of tax credits might be allowed for the same purchase of an early automatic restraint or a child restraint. If people know that there is a sure pay-off from their purchase of these items rather than just a possible pay-off in the event of an accident, they will likely be more willing to take the step. And having actively decided to equip their cars with these devices, they may be more conscious of the reasons for use and actually buckle up more.

D Regulations pertaining to mandating use of belts in public conveyances:

Although theoretically all sorts of public conveyances, like intercity buses, trains, subways or shuttle vans might be affected by such a mandate and might produce a greater proclivity to use belts on people's personal automobiles, the political difficulties of passing such regulations and of enforcing them even if they were to pass legislative approval effectively preclude such regulations from becoming law. The only public conveyance for which a mandatory regulation is likely to pass and which promises at least significant, if not full public approval, is the school bus. In fact, the state of Maine already has a law requiring children to use belts in school buses where they are available. Ideally, school buses should be an excellent context in which to convey the message to children about safety belts and in which to reinforce use habits. Hopefully, the carry-over to the private car would apply both to the children themselves and to those who might be influenced by the children's action, such as parents or other siblings. The prime difficulty seems to be the fact that many school systems seat three persons to a bus seat,

thus making belt fastening extremely tight for larger individuals. Children may perceive the use of belts as punishment in these circumstances and could develop a negative perception of belts as a result. Finally, the mechanics of school bus construction mitigate against easy and inexpensive installation of safe, comfortable belt systems. That problem notwithstanding, the potential of using buses as learning environments remains high and might be explored further.

Laws requiring cabs to have accessible, clean and usable belts in the rear seat would at least provide an opportunity for people to use belts in the cabs.

II: Ideas Relying upon Technical Innovation and Change:

A Technology relating to belt design:

The design of belt systems has changed dramatically over the last ten years, but a number of nagging problems remain. NHTSA has tried to address these issues in several ways in recent years, mostly in order to eliminate the causes of the major excuses given for not wearing belts. Two specific types of innovation should be given attention here:

1. Comfort and convenience rulemaking activities. By eliminating the bases for most or all significant major comfort and convenience complaints, other complementary activities in increase usage will be able to have maximum effect. One other point should be made here. Part of the reason that comfort and convenience has been such a problem has been that manufacturers have viewed the belt systems as items to be added on to an already completely designed chasis; i.e., the automobiles were not designed to incorporate the belt systems as an integral part of the car. Were they primarily designed to fit people rather than cars, some of the currently experienced comfort and convenience difficulties would likely cease to exist.

2. Install automatic restraints. The automatic restraints regulation will eliminate the excuse that safety belts are a bother to fasten, although there is a danger that people will think that they do not need to use belts at all with the installation of air bags in their cars. There are also new potential comfort and convenience issues that automatic belts raise, such as the potential interference with packages or clothing, which may mitigate against public acceptance of the system. The public should not be allowed to become too complacent about belts and should continue to emphasize the importance of lap belts worn in conjunction with shoulder harnesses and air bags, especially to protect against injuries in crashes under the threshold for air cushion deployment.

B Technology relating to reinforcement and use-inducing systems:

The major goal of these types of innovation is to remind the

driver every time he enters the automobile that buckling his belts is an important and integral part of operating the vehicle. Creating the habit of belt use would be the ideal product of the inclusion of these systems in the car. Several types should be given special mention:

1. The starter interlock:

The history of the mandatory interlock has been presented earlier in this report. Its relative success in producing short-run growth in belt use was counterbalanced by its poor political track record, and the continuing latent hostility to such systems practically eliminates any return to a universally required interlock system. However, some manufacturers may believe that the interlock deserves another try and may introduce it as a part of their automatic (passive) systems along the lines of the interlock of the 1978 and 1979 passive Chevette systems. There is always a danger with these systems, however, that they will malfunction as occurred with high frequency in the 1974 systems, thereby both reinforcing a popular mistrust of mechanical systems and producing a strong negative backlash against the use of belts altogether. Most of the complaints from the motoring public against the 1974 interlock were caused by the mechanical failure of the system rather than by a properly functioning interlock. Given an alternative, it is probably best to avoid a heavy reliance upon this type of technical innovation to carry the load of increasing belt usage in the coming years.

2. Buzzer/light/chime reminder systems:

Starting in February, 1975, the mandated interlock was replaced by a mandated buzzer/light or chime/light reminder system, usually lasting from four to eight seconds after turning on the ignition key. So far these systems have been found to be of little effect in changing patterns of use except among adolescent drivers. However, other types of warning/reminder systems have been found to be more effective and are being considered for rulemaking action.

3. Green light checklist:

A recent study performed for GM (5) suggested that one possible method of increasing seat belt usage would be to turn the reinforcement for buckling up from negative to positive. That is, instead of being subjected to buzzers or chimes or other noises and being assaulted by bright red warning lights because of his failure to

fasten the safety belt, the driver could be rewarded with a green light indicating that his belt was fastened and all was well. The thrust of the idea would, in fact, replace all the current red warning lights, which appear only when something goes wrong, with a set of green indicators which would remain lighted so long as the items they represent are functioning normally.

Both the GM-sponsored study and other research, including some done under National Highway Traffic Safety Administration (NHTSA) direction, suggest that many drivers avoid the notion of automobile travel as a potentially dangerous activity. They do not like to be reminded that the machine in which they take so much pride and for which they have expended a considerable amount of money could both break down and cause them personal harm. Installing a positive reinforcement system in automobiles might go far both to stress the positive aspects of owning and driving the automobiles you sell and to increase the useage of safety belts, thus potentially saving thousands of lives and millions of dollars of costs. The desired image is that of an airplane cockpit in which the pilot/driver conducts a series of quick checks on his instrument panel to make sure all is in working order before beginning his trip. **The more it is possible to reinforce such a perception is promoted, the more both** the driver's sense of pride and responsibility and his consciousness that safety is an integral part of his driving activity. Fastened seat belts should be as much a part of the regular function of driving as a full gas tank, a charged battery or unworn brake linings. A green light "checklist" panel would help project this concept and could conceivably also add to the **pleasure derived from driving the car. The costs of such a prototype, however, are as yet unknown.**

Technological changes can have an important impact on the context in which belts are worn and, therefore, upon the behavior of the people who wear the belts. There are several important patterns, however, which should be kept in mind whenever considering the use of such systems. These derive from the conclusions of the GM-sponsored stydy referred to above, but the work done under NHTSA auspices corroborates their reliability: (5)

" We find three general rules:

Rule 1: The greater the complexity of operating the belt system, the less the seat belt use.

Rule 2: The greater the allowed movement of the user when wearing the belt, the greater the seat belt use.

Rule 3a: The more severe the seat belt warning system, the greater the use for those who leave the warning system connected.

Rule 3b: The more severe the seat belt warning system, the greater the disconnect rate and user dissatisfaction."

C Technology providing direct experience of crash dynamics:

Evidence indicates that the public does not as a general rule understand the dynamics of a crash and believes, as a result, a number of unwarranted theories about what happens during an accident (e.g., that a crash at a lower (under 35mph) speeds is not dangerous, or that it is better to be thrown from a car during an accident than to be "trapped" in the wreck). One of the best ways to counter these fallacious arguments is to allow people to undergo a simulated crash and to experience for themselves the results without having to suffer the consequences of personal injury or property damage. Educational theorists have long known that those things which a person sees are better remembered and internalized than the things he hears; and the things he does are retained even more. For this reason, the use of a demonstrator such as the seat belt convincer might serve to have a stronger impact than its cost or the relatively small number of people who experience it would indicate. The spin-off effect and secondary influence of the convincer might be much stronger than that which accompanies more solely verbal means of conveying information, especially if the persons on whom it is used are able to exert a strong influence on the opinions of others.

III: Ideas relying upon appeals to reason or conscience -- Persuasion rather than Coersion

Aside from the rulemaking activities connected with automatic restraint systems and with comfort and convenience specifications,

the bulk of NHTSA's efforts in the next few years are likely to go towards campaigns of persuasion. Similarly, the largest bulk of ideas for constructing those campaigns fall under this category. Techniques of persuasion are readily acceptable to most Americans, since they conform to our expectations about advertising and advocacy of political positions. Few Americans like to perceive their **government** as coersive; they much prefer to retain the freedom of ultimate choice themselves. In that sense these ideas are probably more politically feasible than are laws or complex technical innovations, even though the potential pay-off in belt usage is likely less than it would be for those other methods. Ideally, some combination of persuasion, regulation and economic incentive would produce the most pay-off at the lowest political cost. But in such a formula, the persuasion element is by no means less important than the others, and it deserves careful attention.

Persuasive techniques fall generally under two categories: those which seek to impart information, and those which seek to use the influence of critical persons or networks of interaction to persuade others of the value of buckling their belts.

A Ideas relating to the conveying of information:

As has been mentioned before, one of the critical tasks of any campaign is to impart as accurately and as straightforwardly as possible the truth about accident dynamics and the effect of wearing belts during a crash. Stress should be made, especially, about facts regarding second collision, entrapment (especially fire or submersion accidents) and ejection from a vehicle, since these are the areas to which the most critically damaging misinformation applies. To accomplish this task and bring the facts to as many people as possible, one needs to examine two important aspects of the procedure: the content of the message and the audience to whom the message is addressed. In examining this latter, we will also look at the various contexts in which the message is produced and the media used to convey it.

1. Content:

a Perception of risk:

Wearing a safety belt in an automobile is like many other precautions humans normally take -- a positive action now

to avoid a possible negative consequence later. Since no one can possibly stave off every possible injury or hurt that could befall one, he must always choose which negative events are more likely to happen or would hurt the most should they happen and use one's limited resources to guard against them. The perceived risk of an automobile accident must fall in the category of either relatively likely or relatively destructive in order for many people to take the precaution of even fastening their seat belts. A recent survey done for NHTSA by Teknekron (30) noted that "wearing belts" was perceived by its sample audience as third behind "avoiding drinking and driving" and "observing the 55mph speed limit" as a means of increasing highway safety. Clearly, drunk driving and speeding appear as greater safety risks than does not wearing belts. If not wearing belts can come to be viewed as a higher safety risk than it currently is, usage is likely to increase.

1 One way of increasing the perception of non-wearing of belts as a safety risk is to stress the fact that wearing belts saves lives and often prevents serious injury where it might otherwise occur. The more that local news reporters, whether on the radio or TV or in the newspapers, can stress as a routine matter whether an accident victim was or was not wearing belts, the more the listening, viewing or reading public is likely to associate belt usage with risk to life and health.

2 According to the Teknekron study, (30) drivers often cite their own skill behind the wheel as reason enough not to wear belts. They feel "in control" of their vehicles and believe that belts are primarily for those who still feel insecure driving. Part of the educational campaign, therefore, ought to focus on changing this perception, and working on picturing belts as signs of "being in control" rather than of insecurity. Belts allow a driver to maintain control even if the vehicle skids or is struck by another car. The emphasis should not be on making the driver feel less secure about his own abilities at present but rather on characterizing belts as the extra needed insurance against unforeseen circumstances, such as bad weather or road conditions and especially other people's mistakes.

3 Research into insurance patterns indicate that people are much more likely to opt for the insurance -- in

this case, use the belts -- if they believe the risk of a payoff, i.e., of being in an accident that could produce disabling injury or death, is high. Statistics show that risk is relatively low for any given trip but high when taken over a lifetime of trips. There is a much higher likelihood that people will respond to the risk factor by wearing their belts when they take the long view than when they see trips as event separated from one another, and the educational effort should stress this orientation. Such has been the case with other situations in which the actual risk for any given circumstance is small although it may increase greatly over the long run. Locking one's house in anticipation of a burglary attempt or going for a vaccination against smallpox are two examples. If the perceived risk of an accident can be placed in the same category in the public mind as the perceived risk of burglary or contracting smallpox, voluntary usage of safety belts might yet increase.

b Safety Consciousness:

Safety consciousness is a value-laden term, difficult to define precisely but critical to the acceptance of belts among the population at large. Several studies have tried to pin down the characteristics of increased safety consciousness, both as it applies to belt wearing and as it is manifested in other forms of behavior (e.g., smoking patterns or attitudes towards physical fitness). The messages that are likely to appeal to people's sense of safety consciousness are those which promote the idea that wearing belts is both the "right" and the "smart" thing to do.

1 Safety consciousness implies that a "good driver wears belts" -- being a good driver is currently seen by many as eliminating the need for belts. This image should be changed, partly through educational and licensing techniques and partly through the testimony of others -- either family and friends or opinion leaders -- that they are good drivers because they use belts.

2 Safety consciousness implies placing safety above other considerations in buying and operating an automobile. There is some evidence that the public's perceptions of the automobile and of their role as drivers influence

their use of belts. Many people view their cars as status symbols or new toys to be shown off, bragged about and played with. Automobile advertising often caters to precisely this understanding of the role of the automobile. One theme of the mass media effort by NHTSA could be to project an image of the automobile as a machine, the operation of which carries with it a large amount of authority and responsibility. This theme would continue to underscore the car as a status symbol, but status in this case could be conveyed by the seriousness of the responsibility which accompanies automobile ownership and driving, rather than the superficial flashiness or speed of the vehicle. The more the image of the driver as a mature, secure and responsible individual can be promoted, the more likely that the driver will respond positively to the request to "buckle up". This approach aims to overcome the notion that seat belts "spoil" the fun of driving by reminding people of the dangers of the road to replace it with a concept of driving as an enjoyable but responsible activity, not to be undertaken frivolously. By addressing the driver's own sense of esteem and conveying a special trust not granted to all, the approach is directed to improve both general safety consciousness and an awareness of the need to use safety belts at all times. This will be a "positive reward" program, rather than a campaign that stresses the negative penalties of not wearing belts.

3 Safety consciousness implies that:

(a) Concern for safety is a social responsibility; i.e., one does not live alone apart from society, and part of the responsibility imposed on any individual by the society in which he lives is a concern for the safe operaiton of that society. If the society is not a safe one due to the citizens' failure to take that responsibility, then there is no alternative to government intervention to guarantee that it becomes safe. Furthermore, the failure to exercise responsibility for assuring safety hurts more people than simply the individual who might directly be involved in an accident; it involves both measurable costs in support services, medical care, traffic tie-ups, insurance rates and lost workdays and intangible costs of human suffering, grief and lost potential.

(b) Concern for safety in the individual self-interest. In order for this concept to gain wide acceptance, people must first perceive the risk of traffic accidents as high. The research by Slovik, et al, (26) is of even greater importance than it might be otherwise -- only by convincing people that fastening their safety belts will only help them and that the minor costs in time and effort are worth that protection can the safety belt campaign move in the public eye from an imposition imposed by government to a wide-spread citizen participation effort.

(c) Concern for safety does not in the long run violate a concern for automobile efficiency and cost since over the lifetime of an individual, the time and money likely to be lost because of a failure to observe safety precautions can easily exceed the costs, either in time or in money, of employing the precautions regularly. Many people tend to think of efficiency and cost in the short term only, forgetting the high cumulative effect of small risks taken frequently. Safety is integrally tied to efficiency and cost as well as to social responsibility and personal interest. Unless large numbers of people understand that relationship, the chances of gaining mass converts to safety belt usage remains small.

(d) How to Use Belts: Many people do not use belt systems because they simply do not know how to use the system and have never had an opportunity to learn. Consequently, more of an effort should be made to acquaint the public with the mechanics of belt use.

Point of sale: The salesman or dealer is in an excellent position to teach the purchaser about the use of the belt in the car being bought. If this can become as much a part of the instructions one receives when buying an automobile as learning how to operate the other mechanical parts of the car, people will have a much better sense of the systems and how they work.

Licensing: At the time of licensing or relicensing, the instructor could ask the person being tested to demonstrate the use of a belt, and, should the individual not know, have available literature showing how or be able to demonstrate himself.

Driver education: Driver education classes should teach not only the mechanics of automobile crashes and the technical value of belts, they should also provide an opportunity for the students to learn how to operate the various kinds of belt systems with which they are likely to be confronted.

Auto advertising: The advertising of automobile manufacturers could include demonstrations of the use of belts and an emphasis on the ease of operation that characterizes one system as opposed to another or the convenience that one system may exhibit over that of a competitor.

2. Target Audience:

One may address the safety belt message to people in a variety of ways. Some approaches are universal; some are targeted to selected audiences or are used only under special circumstances when an audience is most likely to be responsive. But even universal approaches may have targeting characteristics composed of such variables as time of delivery, occasion of delivery, day of delivery, content of delivery, etc. All of these approaches can and should be pilot tested at relatively low cost before being use as "full-blown" campaigns.

a General audience appeal:

1 Radio. Besides spot messages on the radio and reports of seat belt usage in conjunction with accident reports, radio could play an important role in reminding commuter motorists to buckle up. If radio announcers would make a special effort to concentrate upon belt usage during rush hours when their driving audience is significantly larger than at other times during the day, they may induce some of those drivers to fasten their belts and, at the least, would aid in the effort to keep the issue before the public consciousness.

2 Television. Again, in addition to spot advertising, TV could serve an important function in its pictures of the ways Americans are "supposed" to act by urging more actors to follow the example of Wonder Woman and Quincy and fasten their safety belts whenever they get into an automobile on their shows. The influence may be for the most part subliminal, but a large number of subliminal suggestions may go far in changing the perceptions held by the public about the acceptability of belts.

3 News specials. Besides the infusion of information about belt usage into reports of automobile accidents, news coverage could focus on the issue in a special way. If programs like 60 Minutes, the McNeil-Lehrer Report or a network news special could be induced to take an in-depth look at safety belts and their use, a great deal of important information might be conveyed to the general public, and NHTSA would have a chance to address the popular myths about safety belts that currently help to keep usage low.

4 Sports Events. Safety messages could be broadcast to spectators at large sporting events, especially in closing remarks wishing them a safe trip home from the stadium or arena. In fact one might add emphasis to the message by having one of the popular sports figures, perhaps one of the stars of the particular event that had just been featured, urge that people use their belts on the way home.

5 Movie theaters. The same psychology might hold for theater-goers. Appeals to wear belts could be made on behalf of the theater management. Or one of the stars of the film then playing could be urged to make a public service statement which would be run just before or just after the start of the film.

6 Road signs. Reminder signs have been posted at various places alongside the nation's highways before, but

mostly they have been concentrated on the interstate system. Perhaps a greater effort at putting signs on state and county roads, where belts are used with relatively low frequency, or a rethinking of the slogans and messages of the signs might make these reminders more eye-catching, memorable and effective.

7 TV spots. Almost all of the TV spot advertisements urging safety belt use in the past have been public service ads. This has often meant that they are shown late at night or at other times when the viewing public is not at peak numbers. Again, a combination of relocating the times and contexts of the ads and producing advertisements that are more effective marketing mechanisms than some past efforts have been could make the TV spot an important part of the national safety belt program. The results of the studies cited earlier concerning the effect of TV messages on usage rates are discouraging, although it may be argued that the "correct" messages have simply not yet been found. However, it is more likely that TV spots, even if well produced and aired in prime time, can at best create a favorable climate for other approaches and that they will by themselves produce limited increases in wearing rates.

8 Newspaper ads. Like TV, the newspaper reaches many people. But the use of newspaper for public service advertising requires large blocks of space to catch the attention of the reading public. A small notice will likely not attract attention. This difficulty notwithstanding, newspapers or newsmagazines (Time, Newsweek, US News) may offer a forum not sufficiently explored as yet.

b Appeals to selected audiences:

1 Driver education classes. NHTSA has already prepared materials for use in driver education courses, partly on the recommendation of the AIR reports mentioned above. Drivers learning the rules of the road are a particularly receptive audience for messages about safety belts, especially if factual information, logical counterarguments to the common myths about belts, and lifetime risk factors are stressed. The effectiveness of driver education materials in increasing belt usage has already been suggested. Improvements in the character of the materials might produce even more positive results.

2 Elementary Schools. Again curricular materials have already been prepared and distributed to all elementary school systems throughout the country. One in particular, the Beltman program, involving audio-

visual materials, practice belts and other support materials, has been adopted by several states as their focus for the expenditure of the 2% of 402 funds as required by the Surface Transportation Act of 1978. As a result of this action, nearly all children in public elementary school in New Jersey have met Beltman and police or highway Patrol representatives in other states have addressed a number of schools using Beltman as the approach. Future efforts in this important area could center around both expanding the use of Beltman or other proven effective existing programs for elementary school children and designing other, potentially even better packages.

3 Children's Organizations. Children learn habits of behavior in places and through associations apart from school. The safety belt program could benefit from the use of networks such as the Boy Scouts, the Girl Scouts, 4-H, musical or sports organizations, community and recreation organizations or hobby clubs. The help of these associations in organizing programs or social service efforts to promote the use of safety belts might serve to increase usage rates both among the children directly involved and among those adults with whom they have primary contact. The children might even be used as the prime promoters of belt use within the community. Adults will sometimes respond more willingly to a child than to another adult in matters such as these.

4 Medical students. Suggestions have been made that efforts be concentrated in medical schools and pre-med training programs on both the critical nature of preventive measures and the specific issues of highway safety. If doctors, nurses and other mecical personnel can be convinced of the need for greater care in preparing for and attempting to avoid the most serious consequences of automobile accidents, they could exercise a valuable influence on their patients and on the public at large.

B Ideas relating to the use of influence:

Educational theorists argue that people become convinced of new ideas or new approaches to problems both through an examination of information or of arguments and an evaluation of

their relative merits and through admiration and respect for the opinions and persuasions of certain other individuals. Public opinion polls are big business in the United States. Everyone is interested in what everyone else thinks and believes, and the bandwagon effect is a powerful influence on values and behavior in this country. Currently, the wearing of safety belts is not "popular" -- to buckle up is to challenge the accepted wisdom of the masses. As much as possible should be done to change that perception of belt usage. The following suggestions address the potential impact of personal influence upon popular behavior patterns and the resulting changes in belt use rates that could occur.

1. Public Figures

a Political leaders. Elected officials, whether at the national, state or local level, have an opportunity for considerable contact with the population at large, either through campaigning efforts or through their more regular communications, both verbal and written. After the Congressional hearings of June, 1978, Congressman Bo Ginn, the Chairman of the Subcommittee on Oversight and Review, stated that he intended to conclude each political address from then on with an appeal to his audience to wear belts. (29) Other officials might do the same. While elected officials must avoid the posture of preaching to their constituencies, they certainly can act as conveyors of information. It is in that context that they might help.

b Entertainment/Sports Figures. Few categories of persons in the United States today exercise more potential influence on the general behavior of the public. The extensive coverage such persons receive in the press and the important role played by such people in television, newspaper, radio and magazine advertising testifies to their potential. Some entertainers, like Bob Hope or Carroll O'Conner, have already made public service appeals, but more could probably be induced to do so. And sports figures have yet to become involved to much extent although some sports figures have made similar public service appearances or advertisements on behalf of other causes. At present, safety belt usage does not have a high public visibility, and efforts by such popular personalities would serve at

least to focus more attention on the problem.

c News reporters and columnists. In recent years, those who report the news or those who comment on the news have acquired an important influence on the thinking of the American public too, Efforts might be made to get individuals like Walter Cronkite, Ann Landers or Paul Harvey to support seat belt usage in their broadcasts and/or columns or in public service ads similar to those suggested for the entertainment figures above.

2. Local influence leaders:

Each community naturally possesses a set of persons who, because of the positions they occupy, the activities in which they are involved or the force and dynamism of their personality, are looked upon as the leaders and pace setters for general community affairs. These persons may be prominent business persons, local political figures, leaders of charitable organizations, members of socially prominent families or persons who for reasons almost totally associated with their own character stand out and are the focus of local attention. If these persons could be identified and contacted, if they could be persuaded to help promote safety belt usage, they might be able to use the influence they already possess to give greater force to the arguments for usage. Studies indicate that most people are readier to believe a person whom they already know and trust than a distant and often abstract "government agency".

3. Civic Organizations:

Each community also possesses a set of civic clubs or service organizations which could act as a vehicle for spreading the safety belt message. Like the local influence leaders, these organizations carry with them a reputation for honesty and a history of genuine and locally recognized concern for the public welfare, and their support for safety belts would lend an important credibility to the message.

a Automobile Clubs. People have turned to auto clubs in the United States for years for advice about where to drive and how to care for their cars. It is natural that the auto clubs take a role in promoting auto

safety too. In the past, although the AAA has certainly advocated that people drive as safely as possible, it has opposed regulation for the most part because it has represented what its leaders have perceived to be the primary sentiment of its members. However, the auto clubs have been supportive of voluntary use of safety equipment and have developed their own safety literature, and could help more in this effort in the future.

b Jaycee's. The Junior Chambers of Commerce and Jaycee's in a number of areas have been helpful, both on the state and on the local levels, in promoting child restraints. They have also organized rent-a-restraint programs in which child restraints are rented to new parents for variable periods of time. The parents are saved the cost of purchasing the equipment and having it lie unused after their infant has outgrown the restraint, and the restraints are given additional publicity in the process. This effort should be encouraged and other possibilities for a group like the Jaycee's be explored.

c Other local service clubs. The Kiwanis, Rotary, Lions, Elks, Eagles, Masons and other similar organizations offer an opportunity for a large number of persons to become actively involved in a local push to increase belt usage. These organizations have a history of public service and a reputation for concern for local welfare. If they could be convinced to undertake a campaign to promote belt usage, they might both influence their own members to wear belts more and persuade others to do the same. Some of these groups also have high school adjunct organizations (e.g., Key Club or Demolay) which could play an additional and critical role, especially among young drivers and teen-age passengers. These groups have already been contacted by NHTSA and some have expressed a willingness to help. Further exploration of their role might reinforce that willingness.

d Churches. Ministers enjoy a general level of respect and trust above that granted to many other professionals. They, therefore, possess the potential to influence a large number of persons. The churches in which they serve also, through their adult and young person educational program, could act as conveyors of the safety belt message. This might be especially true if the message is put as a matter of social conscience; i.e., if wearing a seat belt is viewed as more than just a private choice about whether to protect oneself or not

and instead portrayed as a responsibility towards family and community, as a way of avoiding wasting the talents granted to the individual and depriving the community of the services that individual has to offer.

e Recreation Organizations, YMCA's and Jogging/Health Clubs. Persons who join these organizations have already demonstrated a concern for their health and, in some cases, for the health and welfare of the community as well. They should, therefore, offer excellent opportunities both for spreading information about belts and their use and for recruiting persons who could work to persuade others of the importance of belt usage.

f Professional Organizations. Networks of communications in professional organizations and labor unions already provide a potential vehicle for conveying the safety belt message. These groups usually have as one of their functions a concern for the safety and welfare of their members. If they can be persuaded that the use of safety belts will aid in fulfilling that function, they could make a significant difference in the wearing rates of their members.

4. Other critical persons:

In addition to the groups and individuals already discussed, there is a diffuse and varied set of other persons with whom the public comes into contact at periodic intervals in their lives who could have an impact on their using safety belts. Some of these are as follows:

a Doctors/physicians. People go to a doctor for advice on their health, and people generally tend to trust the doctor's suggestions. As more and more physicians are advising not only treatment for problems already in existence but also measures for preventing problems from materializing in the first place, the safety belt message should become more integrally a part of the doctor's repertoire. The AMA, PAS and the AAAM have already undertaken to influence the promotion of child restraint systems and have begun investigations of the effect of restraints on pregnant women and medically impaired drivers or passengers. Pediatricians especially have taken an active role in the issue and could

provide a valuable contribution to the belt usage campaign among young parents and their children, a group which is proportionately hurt the hardest by traffic accidents.

b Insurance salespersonnel.

People purchase insurance usually because they desire to mitigate the effects of risk. It is a natural extension of the sales process for the selling agent to move from providing coverage in ease of accident to advising how to lower the risk of accident or of serious consequences of accident. We have already discussed the advantages to the insurance company of increased belt usage and the resulting lowering of claims. That advantage might be transferred to the individual agent or office, wherein an incentive might be given to the office with the fewest claims in a given period of time. Or incentives might be given to those offices which design the best measures to help increase belt usage in their regions.

c Police. As the enforcers of traffic laws and one of the most visible groups dedicated to the maintenance of public order and welfare, the police could act as important agents for belt use improvement. Some police are already involved, either individually as volunteers or as whole departments, in the promotion of belt use. They have conducted classes, given public addresses,on the subject, presented demonstrations and talks to school assemblies, and performed similar actions on behalf of belt usage. Other police departments could be encouraged to perform these services as well, and in general, as is the case with medical personnel, police might be instructed during their training period to emphasize as much as possible those measures which will prevent or minimize the harm done to the public welfare that the police are ultimately there to protect. It is especially important that police are well trained in this matter, since wearing rates among police officers are low at the present time.

d Driver education instructors. While it may seem self-evident that driver education instructors both understand the dynamics of a crash and the importance of wearing belts, some do not apparently place much emphasis on this aspect of driving. It is imperative that those who have the responsibility of teaching others the fundamentals of driving be committed to the use of safety belts both in the instruction vehicle and in their own personal car. Misinformation is much more difficult to counter if it is propagated by those who are supposed to know the facts.

e Automobile dealers, sales personnel and service personnel. The importance of point of sale contact and of contact subsequent to sale by service personnel has been stressed both by NHTSA and by auto manufacturers. The salesman is in an excellent position both to counter misinformation or apprehensions which the buyer might have about the use of safety belts and to demonstrate the proper use of the particular belt system on the purchased automobile. An affirmative and informed approach by the dealer and salesman toward belt systems and their use might go far to create a similar approach by the buyer. Many sales personnel, however, seem both uninformed and uninterested in belts and view their role as merely to sell automobiles without regard for the well-being of the purchaser and his family after they leave the showroom. If salesmen can be convinced of the value of belts and if they would focus more on safety as a major selling point rather than treating it as an afterthought they might help considerably in changing public attitudes towards restraint systems. Some salesmen already approach belts in this manner, but NHTSA studies indicate that most do not. Programs designed both to change the perceptions of sales personnel regarding belts and to bring the right information about belts to their attention are needed to make point of sale the positive influence it could be.

f Airline pilots. Airline pilots are another group whose influence in this area could be critical. The flying public is used to following the injunctions of pilots to fasten their belts in an airplane. On occasion, pilots have used the opportunity to urge that people use belts in their cars, too, for the same reasons as in a plane. The more that automobile safety belt usage can be tied to the already "legitimized" and widely accepted use of belts in airplanes, the more likely that legitimization will be transferred. Pilots could be encouraged to make the explicit connection in their in-flight announcements -- something along these lines: "I have now turned off the seat belt sign and you are free to move around the cabin if you wish. However, while they are in their seats, many seasoned travelers keep the seat belts fastened in case of unexpected rough weather, just as I do and as I urge all my family and friends to do in their automobiles as well because of the significant lifesaving potential they have."

g Cab Drivers. Cab drivers relate to their passengers in much the same way as do airline pilots, although their relationship is usually much less formal. That informality makes it less proper for them to admonish their passengers to wear belts or to make the same request that a pilot can make while in the air. However, they can both provide examples by wearing belts themselves, make sure that the belts in their cabs are clean, easily accessible and in working order, and ask, perhaps with a sign on the back of the driver's seat, that passengers take advantage of the belts during their ride. Again studies indicate that cab drivers are not, for the most part, belt use advocates, and a coordinated effort would have to be made to get the right information to them and to convince them that they should wear belts. The potential of so doing, however, may make the effort worth considering.

h Rental car personnel. While there is little that a rental car company can do to ensure that its customers buckle up while using its cars, the persons who issue the automobile and who offer the initial explanation to the customer of its various features might be instructed to stress the belt as an integral part of the pre-rental briefing.

Special efforts should be made to make sure that these individuals both understand the information and are aware of the critical role they play. The "life-saving potential" of safety belts should be impressed upon them and they should be urged to infuse such information into their regular contacts with the public, whether in the situation of teaching, citing for another traffic violation or selling an automobile. The more the public gets the idea that those professionally associated with automobiles are convinced of the importance of safety belts, the more likely they will be to drop some of their own objections to using belts.

5. Peer pressure and close personal associations.

a Children: It has already been mentioned above that children can influence others in the automobile to use safety belts. They can also influence other children to use them when they are riding in a car other than that of their family.

b Driver-passenger influence: The Teknekron (30) study indicated that many drivers believe that their passengers expect them to obey the law, to drive in a safe manner and to keep under or not significantly over the speed limit. It also indicates that the influence exercised by driver on passengers and vice versa is a strong one, and that usually each will use belts if asked to by the other. The more NHTSA can urge individuals to ask whenever they get in a car, the more critical this relationship can become to the campaign.

c Friends: One of the most successful and well-remembered highway safety campaigns of recent years is the "friends do not let friends drive drunk" campaign. The influence of friends is clearly important in highway safety and could be put to use in the belt use campaign as well; e.g., "Would you send your friend a fragile present without wrapping it securely? Don't send your friend without that same security!".... might have potential as a TV spot.

CONCLUSION:

From this list of programs and from ideas which the Steering Committee and its "witnesses" might generate on its own, NHTSA is hopeful that the most promising can be identified. We are confident that the results of this study will help to direct the activities of both NHTSA and non-governmental organizations interested in safety belt usage in the coming years. If we can persuade by the mechanisms recommended by this study significant numbers of people to use the belts in their cars, we will have gone a long way towards lessening the losses of life, health and money currently caused by automobile accidents. Safe highways are everybody's business.

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Enclosures:

List of NHTSA Safety Belt Research Projects (1971-79)

ORC Usage Study Summary

NHTSA pamphlets, brochures, handouts, workbooks

DOT policy regarding use of restraints on DOT vehicles