EFFECTIVENESS OF HIGH SCHOOL SAFETY BELT INSTRUCTION

FINAL REPORT

Prepared for
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
under Contract No. DTNH22-81-C-05235

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$56,343

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December 1982

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle
Effectiveness of High School Safety Belt Instruction

5. Report Date
December 1982

6. Performing Organization Code

7. Author(s)
William D. Cushman, Kenard McPherson

8. Performing Organization Report No.

9. Performing Organization Name and Address
American Driver and Traffic Safety Education Association
123 North Pitt Street
Alexandria, VA 22314

10. Work Unit No. (TRAIS)

11. Contract or Grant No.
DTNH22-81-C-05235

12. Sponsoring Agency Name and Address
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, DC 20590

13. Type of Report and Period Covered
Final Report
9/81 - 12/82

14. Sponsoring Agency Code

15. Supplementary Notes
Mr. Gary Butler served as Contract Technical Manager at the outset of the contract. Dr. Stephen Benson became Contract Technical Manager prior to onset of field work (Focus Groups and Instructional Evaluation).

16. Abstract

The Effectiveness of High School Safety Belt Instruction was developed during a two-phased project. In Phase I, Focus Group Activities were conducted to determine whether audiovisual safety belt instructional materials assembled by the National Highway Traffic Safety Administration were understandable, appealing, and subject to improvement in these characteristics. The materials were found to be generally understandable. Additionally, they were clearly appealing to driver education teachers and mixed in their appeal to police public information officers and high school students. There were strong indications that the usefulness of the materials could be enhanced by sequencing the individual media and including appropriate introductory and follow-up discussions.

Phase II activities were conducted in traditional school settings to determine the impact of audiovisual safety belt instructional presentations on student knowledge, attitude, and reported safety belt usage. Two treatment groups--driver education students (not licensed to drive) and social studies classes (licensed drivers)--showed significantly better performance than equivalent control groups in each of the three measurement categories, immediately following instruction and one month later.

17. Key Words	18. Distribution Statement
high school driver education safety belt usage audio visual presentations	Document is available to the public through the National Technical Information Service, Springfield, Virginia 22151

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified		

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

PREFACE

This report describes an assessment of the effectiveness of a high school safety belt instruction package developed by the National Highway Traffic Safety Administration (NHTSA). The work was performed by the American Driver and Traffic Safety Education Association (ADTSEA) under contract to the National Highway Traffic Safety Administration, U. S. Department of Transportation (Contract No. DTNH22-81-C-05235). Subcontractor for evaluation of the project was the National Public Services Research Institute (NPSRI). Dr. William D. Cushman (ADTSEA staff) served as Principal Investigator for the contract, and Dr. Kenard McPherson (NPSRI staff) served as Principal Evaluator.

The project staff is grateful to Mr. Gary Butler and Dr. Stephen D. Benson, NHTSA Contract Technical Mangers, for their guidance throughout the project. Mr. Butler served as CTM during initial development of the project. Dr. Benson served as CTM during both phases of the Field Evaluation. He also served as co-moderator of Focus Group sessions.

We acknowledge the contributions of Ms. Gerry Simone, who served as Focus Group Facilitator; Cpl. Steve Edwards, Fairfax County, Virginia, Public Information Officer, and eight of his colleagues; William Savage, Supervisor of Driver Education, Fairfax County Public Schools; and nine county driver education teachers. Additional appreciation is due Morris and Hilda Hall, driver education teachers at Woodson and Lake Braddock High Schools for making special arrangements with their students and for providing school facilities for the Focus Group sessions. Finally, we appreciate the participation of 47 Fairfax County high school students.

We wish to express our appreciation, too, to the Charles County, Maryland, Board of Education for its cooperation in the Field Evaluation of this project. Specifically, we thank Mr. William McCall, Driver Education Specialist, for coordinating all arrangements with the school board, the individual school principals, and the participating teachers. The teachers included Linda Burney, Louis Pike, Mildred Green, Robert Hahn, John Thiem, Polly Clark, David Collins, Jeanne Day, and Cathy Cornette.

We are grateful to Mr. Robert M. Calvin, Highway Users Federation, for the preparation of teacher guideline materials.

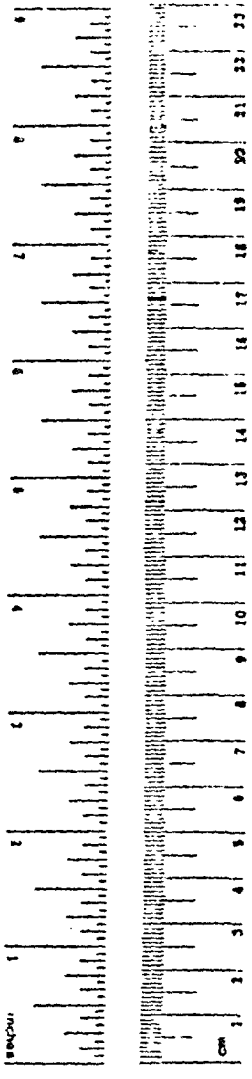
Finally, we acknowledge the assistance of the following ADTSEA and NPSRI staff members who contributed to the project: Phil Durham, Mark Edwards, Sharon Erickson, Ruth Freitas, Scott McKnight, and A. James McKnight.

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

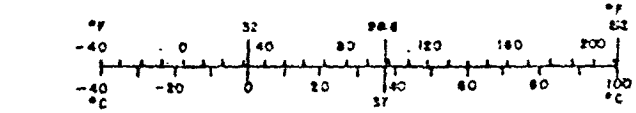
Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
	AREA			
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
	MASS (weight)			
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
	VOLUME			
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
	LENGTH			
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
	AREA			
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
	MASS (weight)			
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
	VOLUME			
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



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INTRODUCTION

The purpose of this contracted project was to assess the effectiveness of a high school safety belt instruction package developed by the National Highway Traffic Safety Administration (NHTSA).

A specific objective was to determine whether materials contained in the NHTSA Audio Visual Kit on Safety Belts were understandable and appealing to populations selected from the anticipated universe of users. Additionally, activities were designed to determine whether understandability and appeal could be improved through deletions of any of the materials and/or modified combinations or sequence of presentation.

A second objective was to determine whether the materials were able to improve knowledge and attitudes regarding the effectiveness of safety belts in reducing injury severity, and influence reported usage through inclusion in driver education and social studies curricula.

The project, contracted between NHTSA and the American Driver and Traffic Safety Education Association (ADTSEA), included two distinct and independent elements. They were:

- o Assessment of an Audio Visual package through Focus Group methods.
- o Assessment of Audio Visual program effectiveness in high schools.

The first section of the report, Phase I, addresses Focus Group Activities. A following section, Phase II, discusses an assessment of program effectiveness in high school.

PHASE I

ASSESSMENT OF AN AUDIO-VISUAL PACKAGE THROUGH FOCUS GROUP METHODS

In addressing Phase I, Assessment of Audio Visual Package Through Focus Group Methods, this section includes the following parts:

- o OBJECTIVE (Phase I)
- o SUPPORT AND ASSISTANCE
- o METHODOLOGY
- o GENERAL FINDINGS
- o PARTICIPANTS' ASSESSMENT OF AV PACKAGE POTENTIAL
- o APPENDICES
  - A. Specific responses by film and population
  - B. Safety belt instruction in Fairfax County, Virginia, high school driver education
  - C. A suggested safety belt instructional plan for high school teachers

OBJECTIVE (PHASE I)

Focus Group Activities were conducted to address the first tier of project objectives, i.e., to determine whether the materials contained in the NHTSA Audio Visual (AV) Kit on Safety Belts were:

- o Understandable
- o Appealing to subjects (of selected populations)
- o Subject to improvement in characteristics "1" and "2" through optimum packaging.

Understandable, in this context, refers to the message of the materials. Was the intent of the message clear? Were the points of the message communicated effectively? After reviewing the materials, did viewers have a grasp of the content?

In assessing "appeal to subjects," the intent was to determine whether the overall perception of viewers was positive to the NHTSA AV materials. A number of characteristics were considered, including: applicability of the message to the intended audience, method of presentation (realism, simulation, animation), amount of information presented and use or overuse of statistics. Other matters considered in determining the appeal were photography, color/quality, length, narration, and environment.

Included in the NHTSA AV package were the motion picture films:

- o Safety Belts and You
- o Child Restraints
- o Safety Belts Save Lives
- o Trigger Films (Egg, Pumpkin, Headache)
- o Dynamics of a Crash
- o Are You Convinced

and a slide presentation, Safety Belts: Fact and Fiction.

SUPPORT AND ASSISTANCE

The contractor was supported and assisted by a number of individuals, groups, and institutions in arranging for, conducting, and evaluating Focus Group Activities.

Participants for various populations were arranged for through the cooperative efforts of the contractor with Corporal Steve Edwards, Fairfax County, Virginia, Public Information Officer; William Savage, Supervisor of Driver Education, Fairfax County Public Schools; and Morris and Hilda Hall, driver education teachers at Woodson and Lake Braddock High Schools in Fairfax County.

Hilda Hall was the liaison and administrative contact in arranging for: physical facilities at Lake Braddock High School, driver education teacher participation, student participation, and other administrative details. Morris Hall made similar arrangements for a session at W. T. Woodson High School. All participants, including the Fairfax County Police, arranged their schedules to meet the needs of the Safety Belt Evaluation project.

The National Public Services Research Institute served as sub- contractor for evaluation and a group facilitator, Gerry Simone, was commissioned to conduct the sessions. Stephen Benson, NHTSA evaluation staff, participated as co-moderator.

FOCUS GROUP POPULATIONS

This part of the report identifies the two major populations involved in the Assessment of the Audio Visual Package through Focus Group methods. It also provides a detailed breakdown of the major populations into subgroups and offers participant profiles.

Participants involved in the individual focus groups comprised two populations. They were:

- o Instructors--Those responsible for delivering safety belt messages to the target audience.
- o Youth--The intended audience for the AV package.

The instructor population was further subdivided into two groups:

- o Driver education teachers under contract to Fairfax County to provide instructional services in classroom driver education, behind-the-wheel instruction, or both (nine participants).
- o Public information officers, employed by the Fairfax County Police Department, whose responsibilities included provision of safety programs to elementary school youth, high school youth, and community groups (nine participants).

The youth population from the Fairfax County School System (47 students) included three groups as follows:

- o Licensed drivers--Young persons, ages 17-18, who had completed an approved driver education course and who held a valid operator license (18 participants).
- o Driver education students--Students who had recently completed the classroom phase of driver education (20 participants; ten from each of two high schools).*
- o Special interest--A group of students, ages 17-18, who had completed driver education, held a valid operator license, and who had also elected to become a member of the school safety club (nine participants).

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* The teacher in one of the schools was exceptionally positive about safety belt usage instruction and provided heavy instructional exposure to her driver education students. The teacher in the other school offered a less concentrated instructional exposure to his driver education classes.

DRIVER EDUCATION TEACHER PROFILE

The participating teachers had varied instructional assignments, including all facets of driver education. They were all experienced teachers and, among them, a wide range of chronological service was represented. All of them included instruction in safety belt usage in their driver education curriculum.

Teaching Assignments

- Four teachers provided only classroom instruction.
- Two teachers provided only laboratory (BWT, Simulator, Range) instruction.
- Two teachers provided both classroom and laboratory instruction.

Driver Education Teaching Experience (in years)

0 - 5 years	none
6 - 10 years	2
11 - 15 years	2
16 - 20 years	2
21 - more	2

Safety Belt Instruction

- All respondents included instruction in safety belt usage in all classes.

PUBLIC INFORMATION OFFICER PROFILE

The participants were experienced policemen, only one of whom had less than six years' service. Their tenure as public information officers was not as great, with most having less than six years in that position. Nearly all reported spending most of their work time in contact with students, and more than half of them said they worked with youngsters more than 80 percent of the time. All reported including instruction in safety belt usage in their presentations to school groups. They were evenly divided in assessing such instruction as "extremely" and "moderately" important.

Years of Police Service

0 - 5 (1)
6 - 10 (3)
11 - 20 (5)
21 - more (0)

Years' Service as Public Information Officers

0 - 5	(6)
6 - 10	(2)
11 - 20	(1)
21 - more	(0)

Percentage of Worktime Spent in Direct Contact with Students

0 - 10	(1) (Supervisor)
11 - 30	
31 - 60	
61 - 80	(3)
80 - 100	(5)

All Nine Instructed Students in Safety Belt Use

YOUTH PROFILE

Student ages ranged from 15 to 17 years, with a strong majority in the 16-17 span. They were enrolled in grades 10 through 12. While 30 of them had completed both classroom and laboratory instruction in driver education, 17 had completed only the classroom phase. One group (nine students) attended a different school from the others. This group had completed only classroom instruction. Students' belt-wearing habits varied with over 50 percent reporting "occasional" usage and the majority of the others reporting as "nearly always."

Age and Grade

Age	15 (10)	Grade 10	(19)
	16 (17)	11	(10)
	17 (17)	12	(18)
	18 (3)		
Total	47		47

Driver Education Experience

o Completed classroom only	17
o Completed classroom and laboratory	30
Total	47

Reported Safety Belt Usage

o Nearly always	(14)*
o Occasionally	(27)
o Never	(6)**
Total	47

* Six of these respondents had just completed classroom driver education with a teacher who was exceptionally positive with regard to the need for instruction in safety belt usage.

** Three of these respondents had just completed classroom driver education with a teacher who offered a less concentrated instructional exposure regarding safety usage.

METHODOLOGY

This part of the report presents the format and agenda of the Focus Group activity, a listing of films shown to each of the groups, a brief explanation of the procedures followed, and, finally, a statement on perceived strengths and limitations of the focus group technique in this project.

Agenda for the Focus Group sessions were planned to fit a one and one-half hour time frame which was deemed the maximum feasible exposure time for each population. The planned agenda format included seven specific activities for each population group. They were:

1. Self introductions of all participants.
2. Exchange of thoughts on the general topic of traffic safety.
3. Gut level comments with relation to safety belts and their usage.
4. Showing of each AV package item.
5. Reactions and exchange of comments related specifically to the material.
6. Summary discussion of total "package."
7. Preparation of personal profile sheets.

Focus Group participants included those whose job was to deliver information (teachers, public information officers) and high school students. The public information officers played a dual role in that their input and reactions were sought and, additionally, they provided a test of the Focus Group activity in terms of time frame and agenda content. The public information officers were exposed to the following AV materials:

- Safety Belts and You
- Trigger Films (Egg, Pumpkin, Headache)
- Safety Belts/Fact and Fiction
- Dynamics of a Crash

A post-mortem evaluation of the first (public information officer) Focus Group session resulted in a decision to modify some format elements. The contractor, sub contractor for evaluation, moderator, and co-moderator were agreed that the one and one-half hour time frame would not permit realistic attention to all of the AV presentations. It was determined that two specific changes were needed:

- o Reduce the time devoted to activities 1 and 2 (introductions and traffic safety discussion).

- o Elimination of one or more AV materials in subsequent sessions (such eliminations were to be on an alternating basis so that all materials would receive equal exposure during the course of the sessions).

Subsequent Focus Group discussion sessions were conducted according to the restructured format. The listings of the AV materials used in each Focus Group session appear next:

Teachers

- o Safety Belts Save Lives
- o Child Restraints
- o Trigger films
- o Safety Belts and You
- o Safety Belts: Fact and Fiction

Driver Education Students (Group 1, heavily indoctrinated)

- o Trigger films
- o Dynamics of a Crash
- o Safety Belts Save Lives
- o Safety Belts: Fact and Fiction
- o Child Restraints

Licensed Drivers (Group 1)

- o Safety Belts and You
- o Dynamics of a Crash
- o Trigger films
- o Are You Convinced
- o Safety Belts Save Lives

Licensed Drivers (Group 2)

- o Safety Belts: Fact and Fiction
- o Safety Belts Save Lives
- o Child Restraints
- o Trigger films
- o Are You Convinced

Licensed (Special interest group)

- o Trigger films
- o Dynamics of a Crash
- o Safety Belts Save Lives
- o Child Restraints
- o Safety Belts and You

Driver Education Students (Group 3, less indoctrinated)

- o Trigger films
- o Dynamics of a Crash
- o Safety Belts Save Lives
- o Child Restraints
- o Safety Belts and You

PROCEDURE

The heart of the Focus Group procedure was the showing of individual AV materials, reactions and exchange of comments relating to the materials, and the summary discussion of the total package. Prior to showing the materials, the moderator told the participants to think about:

- o Keys point(s)
- o Understandability
- o Effectiveness/persuasiveness
- o How would you (teachers and information officers) use it?

Typically, at the conclusion of a presentation, the moderator said simply, "Well, what did you think?" or "Have you ever seen that before?". To the extent possible, she (moderator) permitted the discussion to flow among the participants. When necessary, she injected questions designed to provide specific feedback needed to accomplish the purpose of the Focus Group.

The following are examples of the kinds of questions asked:

- o What was the key point?
- o What did you positively like/dislike?
- o Would the message get across to young people? (Asked of teachers and public information officers.) To you and your fellow students?
- o Was it clear/easy to understand?
- o What about the quality of the film?
- o Any reaction to the narrator?

The summary discussion of the entire AV package followed a brief review in which the moderator quickly recalled the activities and asked the participants to think about their positive and negative impressions and the suitability of the materials for high school youth. Again, to the extent possible, she let responses and discussion flow naturally and interrupted only to assure that key data were secured. Her questions, when necessary, were of the following nature:

- o Which were the best?
- o How could they be improved?
- o If you had to select only one for use with young people (or your classmates) which would it be? Why?
- o What one strength impressed you about the materials overall? Weakness?
- o Which presentations were the worst?
- o Which would you eliminate? Why?

At the conclusion of each session, the participants were asked to provide profile information.

STRENGTHS/LIMITATIONS

Discussion would be incomplete without some reflection on the strengths and limitations of the Focus Group technique as applied in this project.

Among the strengths were the informality of the process (shirt sleeve, laid-back atmosphere), an unthreatening leader-subject relationship, and the oft-repeated no-holds-barred "What do you really think?" invitation to comment. An additional benefit was the ease and quickness with which the "purpose" of the group was established and attention to the topic maintained.

There appeared to be a superficial limitation of the Focus Group technique, at least in connection with the present study. The procedure, in stressing candor, encouraged and facilitated identification of any existing or potential weaknesses or inadequacies of the materials under study. While this was a useful and valued characteristic, it was not balanced by an equal facility for recognition of potential strengths or positive factors. Many positive elements, therefore, were unidentified as they would have required specific instructional techniques and support in order to release their potential. Since application of such measures would have neutralized the Focus Group setting, participants were left unaware of those potentially positive dimensions.

The aforementioned weakness was characterised as superficial as it did not appear to be recognized, at least in the fullest sense, by Focus Group subjects. Indeed, only those sensitive to the teaching-learning process and familiar with the instructional material being studied, could have been expected to realize the potential strengths of the materials. Since abundant examples of this phenomenon will appear in the section on "Conclusions by Populations," further comment at this point would serve no purpose. Suffice it to say that sequencing, discussion techniques, and timing are among the unstated variables and that the casual reader of a Focus Group transcript would be unlikely to recognize their potential impact upon instructional success with the materials.

GENERAL FINDINGS

The objective of Phase I was to determine whether the materials contained in the NHTSA Visual (AV) Kit on Safety Belts were:

- o Understandable
- o Appealing to subjects (of selected populations)
- o Subject to improvement in characteristics "1" and "2" through optimum packaging.

Understandable, in this context, referred to the message of the materials. Was the intent of the message clear? Were the points of the message communicated effectively? After reviewing the materials, did viewers have a grasp of the content?

According to the foregoing criteria, the materials were, generally, understandable.* Such comments as: "informative," "convincing," "strong," "helpful," "dramatic," "impressive," "factual," persuasive," and "effective," were made by all three populations and ascribed to all visuals except, "Are You Convinced?". "It got the point across," "repetition was helpful," "rollover with flying dummy made the point," "attention getters," "slow motion showed what really happened," and "it's better to stay in the car" were further evidence of understanding.

The youth population did have difficulty with the Egg and Pumpkin trigger films. They remarked, "It's stupid and I don't understand" about Egg. They "didn't understand" Pumpkin and said it missed the point, was too abstract, and was laughable. The statement "car wrecks and pumpkins don't relate" was an obvious evidence of lack of understanding.

In assessing appeal to subjects, the intent was to determine whether the overall perception of viewers was positive to the NHTSA AV materials. A number of characteristics were considered, including: applicability of the message to the intended audience, method of presentation (realism, simulation, animation), amount of information presented and use or overuse of statistics. Other matters considered in determining the appeal were photography, color/quality, length, narration, and environment.

That the materials appealed to the subjects there was overwhelming evidence among the teacher population and mixed reactions among the youth and public information officer populations. Positive comments included "realistic," "thought-provoking," "attention-getters," "grabbers," "brief," "dramatic," "different," "convincing," "graphic," "discussion starters," and "effective." Among the negative expressions were: "too wordy," "too much repetition," "too short," "too much talk," "dry," "outdated cars," "old-fashioned instructors," "not relevant," "not useful, " and "boring."

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* Specific responses by film and population listed in Appendix A support this and other conclusions to follow.

Could optimum packaging improve the AV Kit with regard to understandability and appeal? The answer to this question was unequivocally "yes." Comments like "If you show the others, then these, you get a different perspective," "this order should be reversed," "don't run them together," "show them independently," and "if it had been first" all suggest a perceived need to change the sequence. On a more subjective level, the contractor and subcontractor for evaluation strongly agreed that the AV Kit would be better received if sequence were modified. Particularly important in this regard was separating the trigger films Egg, Pumpkin, and Headache with the intent of making each stand on its own when introduced in a timely manner.

The balance of this section presents the overall, one might say, gross reactions of the Focus Group participants to the various elements of the AV package (as perceived by contracting personnel). Four identifiable reactions were recognized. They were:

- o Intergroup Similarity of Reaction
- o Positive Media Characterisitcs--Statements indicating the features that media should contain if they were to be effective.
- o Appraisal of Individual AV Materials--General qualifying comments on each media item relative to acceptability.
- o Potential for Film Use--Perceived limitations of specific film use in programs to increase safety belt usage.

Finally, under the heading "Conclusions by Population," the researcher offers interpretive comments relating to the reactions and responses of the three categories of Focus Group participants.

INTERGROUP SIMILARITY OF REACTION

One word characterized feedback of the seven Focus Group sessions, "similar." Though there were a wide variety of viewpoints and reactions, the participants were consistent. This was true in the identification of both strengths and shortcomings. Among the strengths repeatedly mentioned with regard to the AV materials were: brevity, modern vehicles, use of slow motion filming, inside the car photography, inclusion of children, realism (clothed dummies, hair), action (flying dummy in rollover, straight on shot in windshield scene), fresh approach, and new information. Stated weaknesses, again, often repeated, were repetition, excessive length or time, boring narration (canned, scripted, monotone voice, lack of sincerity), dated vehicles, and laboratory as opposed to real-life settings.

The similarity or consistency of response was manifest in another way. The groups made strong positive references to the high potential impact value of "blood and guts" scenes (either slide or motion picture), involvement of peers as narrators or presenters, localizing scenes, and "talking with us in our language."

POSITIVE MEDIA CHARACTERISTICS

This section addresses those characteristics of the media that all Focus Group populations identified as being important. They could be used as both:

- Design characteristics to consider in development of media with potential for increasing safety belt usage, and
- Criticisms of the existing material including deficiencies that limit the potential of the AV package to increase safety belt usage.

Factors most frequently identified as likely to increase safety belt usage were:

- Emotional involvement--Films should arouse emotional interest. This would most likely occur through the depiction or portrayal of accidents. The groups said that in order for them to be influenced by any approach, they would have to believe that there was a high probability of an accident and that the consequences of not wearing a safety belt were vivid and clear. While they were reluctant to advocate a gruesome approach, they tiptoed around calling for a blood-and-guts technique. Their strong inclination toward an emotional approach relegated film content (information) to a secondary role. The secondary status prevailed for most information except for that relating to myths about safety belts.

- Realism--The groups identified the need for a high degree of realism in visual presentations. The need for realism also extended to the actors, narration, and demonstration methods. Many of the comments on realism were directed to the use of anthropometric dummies in the crash films. In preference to dummies and test vehicles in a laboratory, the groups tended to want real traffic situations. They realized, however, that one cannot show actual crashes. The realism could have been achieved, however (according to the groups), by having vehicles strike real-world objects such as bridge abutments, trees, culverts, and other vehicles. While this may not meet laboratory conditions for research, the film presentations could cut from the lab to real-world situations in an effort to increase the realism. To a lesser degree, the need for realism was identified for film presentations other than the crash scenes. For example, photographic type art was preferred to illustrations. A graphic representation of statistics was preferred to a numerical or verbal presentation.

- Identity--All groups expressed a need to identify with the visual material, narrator, and tone and approach of the narrator/message. The most critical requirement for identity was with the narrator. The groups, for the most part, identified the need for a role model--the use of a young person to communicate and/or demonstrate safety belt usage. The students, particularly, referred to being "turned off" by the "middle-aged guy doing all the talking."

- Believability--Believability, though similar to realism, differs in that scenes can employ real traffic situations and still not be believable. Most concern for believability was with the crash scenes. The groups found it difficult to believe that speed of occupant flight was as indicated, that dash panels and instruments crumbled and cracked so readily, and that full and complete automobiles would react in the same manner as that depicted by the modified vehicles in some of the films.

- Newness--Most participants were critical of film age. they looked for newness or recency in vehicle models, dress, and language of the narrator. The latter factor, the narrator, also interacted somewhat with their need for identity with the media/message. They need not, however, identify in the sense of a role model if the narrator would be in tune with current style, dress, mannerisms, and speech.

- Freshness of Approach--The groups looked for the unique, not in the sense of being unusual, but rather in the sense of being different from that to which they were customarily exposed. It appeared important to avoid the "same old stuff" either in terms of approach or media employed. Some of the crash scene messages, for example, were rejected because "everyone had seen it before." The slide/tape presentation, on the other hand, received "high marks" on the media employed. This was probably because none of the groups customarily worked with or were exposed to slide/tape presentations.

- Pace--The groups believed that media should present a message and get to the point quickly. They wanted short, rapidly moving presentations. There was an apparent preference for presentation of a limited number of concepts or facts. Long drawn-out presentations, it was generally felt, were ineffective since audiences would not maintain a high level of attention. Audiences, according to the groups, expect to be treated as informed, alert people.

- Attention-getting--Media presentations need something to get audience attention. Gimmicks and humor, however, tended to be rejected. The attention-getting "mechanism" must be early in the presentation yet not move so fast that the audience might miss it. Examples of acceptable attention-getting approaches

would include dynamic crash scenes, statistics presented in an unusual or eye-catching manner, and unique or different ways of communicating the message.

- Seriousness of Approach--The Focus Group participants viewed the safety belt problem as a serious concern and believed it should be treated as such. Any approach that relies primarily on humor--while perhaps entertaining--would be rejected. Cute and/or "stupid" comments would likewise be rejected. Both the visual demonstrations and narration can contribute to setting a positive tone for delivering the message. For example, dialogues that portray one person as all-knowing and the other as the shill tended to be rejected as did narrator rhetorical questions and exaggerated narrator voice inflections. In these instances, the group felt that the film was talking down to them, thus negating the seriousness of the problem.

- Non-Technical--While the groups wanted messages to be quick and to the point, they were turned off by technical jargon. For example, such phrases as "injury-reducing features of the restraint system" tended to turn them off.

- Localized Presentations--The groups were notably vocal in terms of suggesting that programs should be developed for or tailored to the local area. They wanted, for example, real accident cases and presentors from the local community.

APPRAISAL OF INDIVIDUAL AUDIOVISUAL MATERIALS

This section presents an overall ranking of the media employed with all focus groups. It is presented not to provide a definitive rating based upon quantitative data (focus groups do not provide quantitative data; they can provide qualitative information on which to make judgments), but rather to give a rough estimate of the receptivity of the individual media by the Focus Group populations. The ranking was made with full cognizance that all focus groups were not exposed to each media element. It was based on the general criterion of perceived effectiveness of the media in leading to increased belt usage. While the ranking could be based on several other criteria (i.e., appeal, production quality, uniqueness), these factors were not directly used in providing the ranking. They were, however, included to the extent that they influenced Focus Group participants' judgment relative to the effectiveness of the films in increasing safety belt usage. The overall ranking of the media was as follows:

Headache
Safety Belts Save Lives
Child restraints
Pumpkin
Safety Belts/Fact and Fiction
Safety Belts and You
Egg
Are You Convinced
Dynamics of a Crash

Child Restraints

While the Child Restraints film was not ranked first, it was assessed high on the list and should be discussed separately. Child Restraints received a uniformly high rating from instructors and young female focus group participants, indeed a number of the high school boys made similar assessments. Much of that rating was influenced by what was perceived as potential effectiveness with adult groups such as the PTA. While it received favorable comments from most participants, they valued it at a lower level for use in driver education classes. Its ranking for use in driver education would be at about the midpoint of the total ranking. The youthful population, however, favored showing the film in driver education because they had younger brothers and sisters and some were involved in babysitting or child care activities.

With either of its rankings, as an adult presentation or as part of driver education, it was favored for use in safety belt presentation programs. In addition to the unique content, i.e., child restraints as opposed to regular restraints, the groups were especially impressed with the reaction of the unrestrained occupants in the station wagon crash, and with the mix of crash demonstrations and instructive information.

Headache (Trigger Film)

Headache received high overall ranking. The reasons were principally its realism, its graphic presentation of the key point, its brevity, and its believability. Believability was enhanced by the fact that some focus group participants had known people who had received facial lacerations. Additionally, some focus group participants "worried" about facial injuries in automobile crashes.

The trigger films, as a group generated considerable discussion on how they could best be used to influence others to wear safety belts. Much more attention was given to their use, i.e., instructional progamming, than was the case with other media.

Safety Belts Save Lives

Safety Belts Save Lives was well received because it was short, to the point, and communicated a single concept message. The groups identified contrasting of lap and shoulder belt effectiveness as a principal reason for liking the film. Factors against the film as a tool for increasing safety belt usage were: distracting and perhaps juvenile graphic overlays, stopping of the film to present information graphically, and the film's overall production quality.

Pumpkin (Trigger Film)

While the Pumpkin received a relatively high ranking, it was a clear second to Headache. Some comments reflected an inability to identify with it or to accept it as realistic and believable. Positive comments resulting in its high ranking came from the nature of the message, i.e., being thrown from the vehicle, and the fact that it employed some real world situations, i.e., striking trees and being run over by other vehicles. In short, the non-laboratory setting contributed to its high evaluation. Also, it received a high ranking for the same reasons as did the Headache--short and to the point.

Safety Belts: Fact and Fiction

Fact and Fiction, like the trigger films, was "from a different bag of tricks" for this population. It was difficult to assess because it was a slide/tape, an infrequently used vehicle among those involved in the Focus Groups. The unique media format contributed somewhat to its positive evaluation. Another factor contributing to the positive evaluation was the abundant array of facts presented.

Negative factors mentioned were: juvenile graphics, narrator tone, and the interaction of the co-narrators.

The graphics tended to lose the audience for the first few moments because they appeared to be designed for an elementary school population. The narrators continued to be a distraction throughout the presentation. They came across as "dumb" and as "speaking down to the audience."

While the slide/tape did not receive an especially high overall ranking, most Focus Group participants felt that it offered an abundance of facts and had some value as an aid in convincing others to wear safety belts.

Safety Belts and You

This film appeared to be viewed as acceptable by the two Focus Group populations. While there was some criticism of the opening (talking narrator) and the narrator, it was generally believed to meet many of the criteria for effective media. Factors most cited were the demonstration of different types of crashes, and presentation of the inside of the vehicle crash, i.e., demonstration of what really happens to occupants when they collide with the vehicle's interior. Other positive factors were its relative newness and the fact that it was reasonably short and to the point.

Many participants expressed or echoed the point that the final scene depicting an occupant being thrown from the vehicle in and of itself justified the use of the film to influence safety belt usage.

Egg (Trigger Film)

The Egg was clearly the most controversial of the trigger films. While some were able to accept the message of being restrained at face value, many others had difficulty in identifying with an egg. To them, an egg was still something they associated with breakfast. It also seemed to catch people totally off guard as evidenced by a tendency to break out in laughter. One can only surmise why the laughter occurred during and after its showing. Regardless of the reason, however, (whether it was funny or the groups were only evidencing a defense), the reaction would certainly interfere with anyone receiving and accepting the intended message.

Are You Convinced?

Are you Convinced? was somewhat controversial in nature. In the focus group setting, however, it was somewhat of a "breath of fresh air" since it didn't rely on laboratory crash demonstrations. It's low overall ranking was for the following reasons:

- All group members were familiar with the convincer.
- The demonstration of the convincer sled was perceived as repetitious and boring.
- The breakaway conversations to "real folks" appeared to be unbelievable.
- Some scenes (e.g., x-rays) were perceived to be unnecessary.
- The design objective (the objective the film was to achieve) was somewhat ambiguous.

Dynamics of a Crash

Factors leading to the low rating of this film included:

- Purely laboratory setting.
- The dryness of the narrator.
- The dating of the narrator (hair style, glasses)
- The seemingly professional lecture mode of the verbal presentation.
- The age of the vehicles.

Even with these deficiencies, however, many thought the film demonstrations were effective and perhaps could be persuasive. The factors in favor of the film were its brevity and its single concept message.

POTENTIAL FOR FILM USE

While all the films appeared to have enough merit to use in attempting to increase safety belt usage, practical factors, e.g., time, could limit their use. Based on overall Focus Group comments, the least effective films would be Dynamics of a Crash and Are You Convinced. This being the case, they would be candidates to omit from a program in which instructional time was limited. If they were available, however, and if their use would not preclude the use of other safety belt films, there would be no reason for excluding them.

Perhaps the most questionable film for use in a driver education program would be the trigger film, Egg. Even this film, however, could be used if properly introduced as part of an overall instructional program. In this regard, it is important that students "know what is coming." Discussions to precede and follow the presentation of the film need to be well thought out.

CONCLUSIONS BY POPULATION

As was presented earlier, two major populations were involved in the Focus Groups. They included, (1) instructors, consisting of driver education teachers and public information officers, and (2) youth, consisting of licensed drivers, driver eduction students, and a special interest group.

Each of the three major groups, driver eduction teachers, public information officers, and youth expressed similar but different opinions about the AV package. Comments offered by the public information officers and youth populations tended to reflect the greatest agreement.

Driver Education Teachers

Driver education teachers registered favorable impressions toward the entire AV package. Reaction among driver education teachers was consistent regardless of whether their present assignment was in behind-the-wheel instruction, classroom instruction, or both. They seemed to judge the entire package against a criterion of "potential for influencing safety belt usage." While they had different reactions to the individual media making up the AV package, they said they would use all in their instructional program.

There appeared to be several reasons for driver education teachers expressing a favorable opinion toward the AV package:

- o Safety Belt Criticality--Instructors were keenly aware of the importance of safety belts in protecting the young driver population. All respondents (8) to a questionnaire item listed safety belt instruction as "extremely" important. Consequently, they were hungry for media in this subject matter area.

- o Limited Media--Relatively few safety belt audiovisual materials had been available.

- Media Quality--The media items contained in the NHTSA AV package were viewed as being far better than those previously available.

- Knowledge of Existing Media--Driver education instructors were aware of current media limitations. They knew there was no silver bullet available to influence young people to wear safety belts. Consequently, they were not expecting any one film to be the final answer.

- Role of Media--Instructors have long been accustomed to using media as instructional tools to meet specific objectives. They look upon media as means to an end as they would any instructional method. They were, therefore, able to evaluate a specific film or films in terms of what it would likely achieve in the context of a total instructional program as well as on its specific merits.

- Instructional Process--Teachers understand the instructional process. They understand the interrelationships of various elements of the instructional plan. Most importantly, they understand the importance of timing and sequence in the orchestration of the process. Their familiarity with the process permits them to see a variety of uses for a single media element in the context of a total instructional program, including sequencing films to achieve objectives. They are also accustomed to selecting curriculum materials to support instructional objectives and designing lesson plans around the materials to achieve those objectives. This broad perspective of instructional technology enables teachers to evaluate media potential on factors that virtually escape other focus groups unnoticed.

- Learning Process--As with their understanding of instructional processes, teachers have considerable insights into the learning process. They understand the need for a variety in approaches and variations of media. They know that concepts need reinforcement and that they (teachers) must provide for repetition through a variety of approaches including films. For these reasons, teachers comprising the Focus Group did not view films as "all showing the same thing." Each was viewed in terms of the teachers' understanding of the learning process, i.e., what it takes to get someone to master subject matter content, internalize that content, and act upon it.

Public Information Officers

Public information officer comments about the AV package were less favorable than were those of the driver education teachers and the least favorable of any focus group. While most of the films received some favorable comments, there was a great deal more criticism of the film package than positive support. If their comments on the films could be presented in the following scenario:

- would voluntarily use
- would use if the command made them available
- would not use

the majority of the officers would "elect not to use the film." Importantly, however, some could see the use for the trigger films and the films demonstrating crashes, such as "Safety Belts and You." Also, they would use any of the media without reservation if a command (management) decision was made to include the media in the public information officers' presentations to schools and community groups.

Even though the general view was negative, officers' individual comments were helpful in planning for the evaluation phase of this project.

To understand their reactions to the AV package, it may be useful to examine the public information officers' role in the schools:

- Current Program--At the time of the Focus Group, Fairfax County public information officers had a "program" for use with high school driver education classes. They'd used it for several years and "felt it was a good one." Indeed, it probably was. In any event, there was no reason for them to believe otherwise. It had, after all, been successful for them. Their program was a slide presentation illustrating safety and traffic laws. It was "localized" to provide the "ease of identity" sought by young people. Since what they had had "been working for them," it is possible that they evaluated the films as a potential substitute for what they were currently doing. The films, therefore, were evaluated as generally unacceptable. There was, it should be added, no strong evidence of dismissing the films as "not invented here." Most of the officers, felt, however, that a localized program was necessary.

- Program Characteristics--The officers' presentation covered all aspects of safety and traffic laws. It might be characterized as an "overview" of traffic safety education. It covered a variety of topics which were current and of interest to the youth audience. Illustrative topics would include safety belts, speed laws, alcohol, motorcycle test requirements, motorcycle helmets, etc. In addition to this wide range of topics, they kept presentations timely by discussing recent events, e.g., crashes and court cases on topics like refusing to take chemical tests. This generic program had to be presented in a very short time frame, typically, one class period (less than one clock hour). In short, a number of topics important to the objectives of the police department had to be presented in a severely limited period of time.

- Traffic Law Orientation--While safety belt instruction was important to officers, it had to assume its place along with a number of other topics. In responding to a questionnaire item, relating to the importance of safety belt instruction, five of the participating officers said "extremely" and four said "moderately." Additionally, since the officers' primary job was enforcement of traffic laws, it was natural that their presentations to young drivers emphasized this element. Devoting substantial time to safety belts as would be required by using a film or films, seemed to hold little appeal to them. Perhaps it was perceived as in conflict with their overall law enforcement mission.

- Localized Program--The officers voiced a strong need for a localized program including examples (people, geographic sites) with which the youth population would be familiar. Films from the AV package obviously failed to meet this criterion. The factor of "local program" was the primary determiner for "content" that the public information officers used in their presentations to high school driver education classes.

- Personalized Identity--In view of the responsibilities imposed upon the officers, it seems logical that the police department would want the officers to develop a strong personal identity with the public information program. In practice, this was accomplished as the officers, in a sense, "became the media." Use of films, while they may have been effective, would have depersonalized the presentation placing the officer in a role secondary to media. Such an approach would not foster the public image benefits sought by the Department in delivering safety presentations to groups.

- Quality Requirements--Public information officers had "one shot" at a public audience. That shot, therefore, had to be "the best that they felt they could do." They couldn't run the risk of (1) doing what the teacher of the driver education class was capable of doing--show a film--or (2) showing a film that was no more attention-getting than what students were routinely exposed to through driver education and other courses, or (3) using a piece of media that students, for some reason, would already have been exposed to. Indeed, there seemed to be an "understood, but unwritten" requirement that the officer's presentation had to be "the best show in town" to prevent it from falling into the category of "just another school lesson."

- Presentor Role--The officers represented the police department to the public. They were not professional teachers. They would not, nor should they have been expected to, view media in terms of instructional or learning processes. Rather, they were more likely to evaluate materials and ideas in terms of their sizzle, i.e., their potential to yield a favorable audience response. They had to be more responsive to the department's public information goals than to the objectives of organizations requesting their participation.

- o Logistics--The public information officer assumed his presenter role as one of several job responsibilities. He could not be encumbered with several different pieces of media or the requirement to provide different types of projection equipment (nor rely on the school to have different types of equipment in good operational condition). It was unlikely that the officer would use more than one presentational media beyond himself on a regular basis. While it is possible that several pieces of media could have been used, the inconvenience factor, likely equipment failures, and other responsibilities imposed on the officer would preclude such an approach from being adopted.

Youth

As has been stated, this population included:

- o Licensed drivers
- o Driver education students (two sections, heavily indoctrinated and one less indoctrinated)
- o Special interest students.

A "population response" pooled those elements which were overriding and common to all. The reactions of the groups were sufficiently different to justify a brief treatment of each.

Population Response

The youth response toward the AV package was moderately favorable. Their overall response was more similar to that of the public information officers than to that of the driver education teachers. Some of the same responses that were offered by officers were echoed by the youth population. They emphasized the need for a local presentation, with which they could readily identify. All in all, they felt the AV package was far superior to that to which they had been exposed in driver education regardless of whether or not they were presently enrolled in driver education or had completed driver education and held a valid driver's license.

They also evidenced a different level of response as a function of the type of media involved. This response was "read" by the researcher as follows:

- o Dynamics of a crash--Films depicting the dynamics of a crash, i.e, "Safety Belts and You" and "Safety Belts Save Lives," generally received a high overall rating.

- o Factual media--Material that was highly factual tended to receive a lower rating. The best example of a highly factual program was the slide/tape program "Safety Belts: Facts and Fiction."

- o Trigger films--Trigger films--as a package--received a moderate assessment in terms of their potential effectiveness. The trigger film, Headache, received the highest response among the three but not as high as that provided by instructors. The remaining two trigger films, Egg and Pumpkin, received much less support than that evidenced by instructor comments.

As was previously indicated, some of the youth responses to the AV package were similar to those of the safety education officers. The following factors are offered as possible explanations for their opinions.

- o Prior safety belt instruction--Nearly all participants in the youth population had been exposed to safety belt instruction. While they freely stated that the Focus Group media were far superior to those offered in driver education, they generally felt that they had "seen it all before."

- o Limited perspective--Young persons involved in the Focus Group could evaluate the merit of media only on the basis of factors they had been asked to consider. They were not prepared by experience or training to assess the media in terms of potential value to an overall instructional program. Additionally, they were unaware of the requirements and procedures for using a film effectively as part of a lesson.

- o Media Concept--All youth groups showed a predisposed point of view as to what effective media should be. They felt: media should have a high degree of realism, provide for emotional involvement, and provide for audience identity through a peer role model. They gave the impression that, in general, media lacking these characteristics would likely receive only a moderately favorable response from youth groups.*

Licensed Driver Group

Of all the groups, this group appeared to be the most disinterested in participating in the Focus Groups. Their disinterest was evidenced by the high level of side talk and flippant responses (outbreaks of laughter) to a number of the films. In general, they:

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* Interestingly, in response to a questionnaire item, "Has viewing these films influenced you with regard to safety belt usage?" Forty-one participants answered affirmatively and six said "no." Forty of the affirmatives said it was a positive influence. The other failed to specify.

- o Didn't think most people would take the films seriously, i.e., unrealistic speeds and anthropomorphic dummies.
- o Felt safety belt usage was a serious topic requiring a serious approach.
- o Felt that the film presentations would have to be "more believable" to be effective.
- o Urged use of age-group-related materials including the use of a peer role model.
- o Favored materials that were short and to the point.
- o Felt that crash-oriented films could be effective in dispelling myths held about safety belt utilization.

All in all, the group identified the need for a "testimonial" approach that is somewhat on the verge of employing a "scare technique."

Driver Education Students--Heavily Indoctrinated

This group evidenced a response similar to that of the licensed population. They were unlike the licensed population, however, in terms of the level of seriousness they demonstrated in the focus groups. Beyond this factor, they made essentially the same points relative to what they felt to be effective media.

Driver Education Students--Less Indoctrinated

Relative to media characteristics, this group identified the same factors as did all the other youth groups. One factor differentiated this group from all other participating youth. They rated the individual pieces of media making up the AV package much higher than any other group (licensed, driver education heavily indoctrinated, or special interest). While several plausible explanations may be offered for this rating, it appeared that the principal reason was a difference in exposure to safety belt instruction. Perhaps this group was not "saturated" as were the other Focus Groups who had a more concentrated exposure to safety belt instruction.

Special Interest

While not expected, this group's reaction to the entire package and their suggestions for effective media were almost identical to those of the licensed driver and driver education groups.

PARTICIPANTS' ASSESSMENT OF AV PACKAGE POTENTIAL

Reactions of Focus Group participants took several forms. Points of view regarding the individual media have been presented as have thoughts relating to desirable ingredients for any AV material. In this part of the report, one other dimension, the most important, is presented, The question answered here is "Did the Focus Group participants think the NHTSA AV package would result in increased safety belt usage by those who would be exposed to it?"

For the most part, each population expressed the opinion that the AV materials would not be successful in increasing safety belt usage rates. Not only did they generally concur on this point, but they offered similar reasons to support their position. The principal reasons supporting their opinion were that the films lacked realism, were difficult to identify with, and failed to generate emotional involvement. Each of these factors was fully described under Positive Media Characteristics in the General Findings.

While the groups generally held that the AV package would not lead to increased safety belt usage, they said several of them could be useful if combined with other instructional methods or presentational approaches.

> Instructional Methods--The groups said the films may be effective if used in conjunction with other instructional methods such as student discussions and problem-solving. A basic requirement identified by the groups was use of interactive methods as the basic instructional approach with the films integrated into the instruction in support of the interactive methods.
>
> Presentational Approaches--The participants stated that the films which depict the dynamics of a crash could be used effectively in conjunction with a presentation tailored to local conditions, e.g., local accident situations, or along with a testimonial by an accident victim.

It was also generally agreed that a number of films could be helpful in debunking the myths about safety belts. For example, myths such as being thrown free and/or trapped in a burning or submerged vehicle could be debunked.

The conclusion that the AV material would be ineffective in increasing safety belt usage may be more indicative of the difficult task of changing behavior than of the true value of the materials. In all fairness, while the groups did not feel that the AV package would result in increased safety belt usage, they were hard put to identify any single factor that would cause them or others to wear safety belts. The most repeated factor suggested as likely to result in safety belt usage was personal involvement in an accident. Even then, the participants expressed doubt as to total effectivness (as unreasonable as it is as an approach for increasing safety belt usage) and said that it (an accident) may be effective for a relatively short period of time.

Further, it was clear from the groups' comments, that short of personal involvement in an accident, the most likely approach to be effective was a testimonial (filmed or live) presented by an accident victim. Preferably, the accident victim should be young and a person known to the group. The apparent faith placed in the testimonial approach is supported by the the frequency and consistency of group comments relative to media needing to be realistic, provide for audience identity, and provide for emotional involvement.

PHASE II

ASSESSMENT OF AUDIOVISUAL PROGRAM EFFECTIVENESS IN HIGH SCHOOLS

INTRODUCTION

This section of the report describes the methodology and results of an evaluation effort designed to assess the effectivness of a safety belt instructional program in a formal educational setting. The purpose of the evaluation was to determine the effectiveness of the film-based instructional program in increasing students' knowledge of and attitudes toward safety belt use and their reported rate of safety belt usage under various conditions.

Participating teachers were familiarized with the AV materials, provided with an instructional plan, and briefed on the evaluation needs including their administration of all test instruments.

Perceptions gleaned from Phase I (assessment of the NHTSA audiovisual package through Focus Group methods) activities were instrumental in structuring the Phase II assessment. Specifically, film sequence was based on reactions of Focus Group participants and interpretations of the researcher. Orientation of the Phase II teachers included careful attention to discussion techniques and timing suggested by Focus Group interactions. Finally, specific content elements which had impressed the Focus Group participants were highlighted in the teacher orientation process in an effort to capitalize on positive potential while, at the same time, circumventing or neutralizing potential negative factors.

This phase of the study is described and reported under the following topics:

- Evaluation Design
- Study Location and Setting
- Population
- Treatment
- Effectiveness Measures
- Evaluation Results
- Instructor Response

EVALUATION DESIGN

A before/after design was used including a pre-test to establish the baseline, a post test immediately after the treatment, and a follow-up test one month after treatment. A group of licensed drivers and another of unlicensed driver education students comprised the population involved in the study. Experimental and control groups (i.e., classes) were assigned within each of four high schools participating in the study. Assignments to the groups were based on student self reported safety belt usage collected at the onset of the evaluation. The groups were further matched with relation to class size. The design permitted safety belt material effectiveness to be assessed for passenger and driver populations.

STUDY LOCATION AND SETTING

A number of factors made the Charles County, Maryland, school system ideal as a site for this research. The location, setting, administrative organization and cooperation, available schools, and student population, as well as class offerings and schedules were particularly suited to the needs of the study.

Charles County is located southeast of Washington, D.C. and somewhat beyond what might be considered the metropolitan area. The proximity of the research site to the offices of project staff facilitated a close working relationship and ideal conditions for orienting the teacher participants and for monitoring both instruction and evaluation.

Four high schools in the county drew their student populations from a rural/bedroom-commuter-type area. Both driver education classes and upper level social studies classes (required by the study design) were available and operating on schedules that were convenient for instructional and evaluation needs of the study.

The four schools (Stone, LaPlata, McDonough, and Lackey) provided 43 classes drawn from the driver education and social studies curriculums to participate in the study. Ultimately, 40 classes were utilized as experimental and control classes.

Stone supplied 10 classes--5 experimental and 5 control.

LaPlata supplied 12 classes--6 experimental and 6 control.

McDonough supplied 12 classes--6 experimental and 6 control.

Lackey supplied 6 classes--3 experimental and 3 control.

Following the (pre) safety belt usage data analysis, one class was dropped from Stone and two from Lackey. Reasons for dropping the classes were:

- o The desire to obtain the same number of experimental and control classes within schools, and
- o Matching requirements for experimental and control groups relative to belt use behavior and sample size.

The Charles County School District provided the project with class time, students, instructors, classrooms, other physical needs, and on-site administrative support.

The District's driver education supervisor, (William McCall), served as the project liaison person and supervised involvement of the participating schools. His efforts were pivotal to the project's implementation. Among his activities were arranging for an instructor orientation session, facilitating distribution and collection of test forms and media packages, and arranging for a final debriefing meeting with instructional personnel.

POPULATION

The population size was determined by the student enrollment in the participating Charles County secondary schools. Approximately 1400 students were available to the study. The sample was drawn from driver education and social studies classes in each of the schools. Nine hundred fifty students participated in the study. Five hundred fifty-two subjects (unlicensed sample) were drawn from 20 driver education classes and 398 students (licensed driving sample) were drawn from 20 social studies classes. The social studies classes included predominantly juniors and seniors. While they are referred to as the "licensed driving sample," not all were licensed to drive. Seventy percent of the sample held valid drivers licenses at the beginning of the study. The remaining 30 percent (passengers) had completed driver education and were eligible to be licensed in the State of Maryland. The assignment of students to the licensed and unlicensed sample by Control and Experimental groups is depicted in the following chart.

	Licensed	Unlicensed
Experimental	197	273
Control	201	279
Total	398	552

As can be seen by the chart, sample sizes for Experimental and Control groups for the licensed population were approximately equal. The same was true for the unlicensed population. A greater portion of the sample,

however, was drawn from the unlicensed population than the licensed. This was due largely to the fact that nearly all sophomores enroll in driver education classes while there are a number of elective courses competing for the upper class students and, consequently, fewer enrollees in the social studies class.

In the results section, sample sizes at the pre-, post-, and follow-up points were somewhat less than those constituting the total population. These differences occurred because of the requirement to match the sample on the basis of individual subject scores from pre/post to pre/follow-up. Attrition notwithstanding, samples were sufficiently large to evidence change in knowledge, attitude, and reported belt usage.

Since the overall evaluation period for the study was short (approximately six weeks) an attrition of approximately eight percent appears to be large. The following factors, listed in the order of their impact, accounted for the attrition:

- Students moving within or out of the district
- Students withdrawing from school
- Students expelled from school
- Long-term student absenteeism
- Incomplete test forms, (student identification, omitted questions, etc.)

The assignment of classes to experimental and control groups was made to establish belt use equivalency behavior groups. Later analysis confirmed the equivalent reported safety belt usage as well as knowledge and attitude levels between the treatment and control groups within each sample at the pre-measure level.

POPULATION EXPOSURE

As previously noted, the samples were drawn from driver education and social studies classes. All subjects drawn from the social studies classes (except district transfers) had been exposed to driver education instruction. Safety belt instruction, though part of their driver education experience had not been emphasized. Less than one class period had been devoted to safety belt instruction and it was principally delivered through a dated film. Since instruction in driver education was reasonably uniform throughout the district, it was assumed that prior exposure to safety belt instruction for the sample drawn from the social studies curriculum was essentially the same.

As a condition of the study, however, district supervisors and driver education teachers agreed to forgo their instruction in safety belts in lieu

of the instruction provided under the study. It was assumed, therefore, that the driver education sample was exposed to only the safety belt instruction provided through the evaluation study.

Safety belt instruction had not, previously, been included in the social studies curriculum.

TREATMENT

The treatment given to both the licensed and unlicensed samples consisted of a film-based instructional program, the purpose of which was to motivate young drivers and occupants to use their safety belts. The program was designed to achieve this objective by presenting information which would dispel myths and increase the students' knowledge of what occurs during a crash. The principal source of materials for the instructional program was NHTSA's safety belt media package.

TREATMENT PROGRAM

The instructional program consisted of:

- NHTSA's Safety Belt Package
- An instructor's guide
- A resource guide

NHTSA's Safety Belt Media Package

The safety belt package included three, 30-second trigger films, five other instructional films, and one slide/audio cassette presentation. The package was intended to provide clear and interesting safety belt information that would, hopefully, motivate viewers to use safety belts. Sequence of the films was predetermined by the Phase I Focus Group findings. The individual films were put together in a single presentation as the heart of the instructional program. Films included (in order of presentation) were as follows:

- Egg, a 30-second trigger film designed to convey the idea that safety belts prevent the occupant from colliding with the inside of the vehicle during a crash.
- Safety Belts Save Lives, a film illustrating the effects of being totally unrestrained, restrained by lap belts only, and restrained by lap and upper body belts during a crash.

- o Safety Belts and You, a film showing the dynamics of small vehicles in collision and emphasizing the human collision.

- o Pumpkin, a 30-second trigger film which demonstrates the importance of remaining in a vehicle rather than being ejected during a crash.

- o Child Restraints, a film addressing the vulnerability of children during an accident and the effectiveness of using child restraints.

- o Safety Belts: Facts and Fiction, a slide-tape program presenting detailed factual information on the value of restraints, myths, and misconceptions relative to restraint usage.*

- o Headache, a 30-second trigger film emphasizing the necessity of wearing both lap and upper body restraints.

- o Dynamics of a Crash, a film which principally demonstrates the effect of head-on collision and the dynamics of an unbelted occupant.

- o Are You Convinced?, a film addressing reasons commonly given for not using safety restraints and designed to dispel these myths.

Instructor's Guide

An instructor's guide was prepared for use by teachers in delivering the treatment. The guide was designed to support the presentation of the NHTSA media package. It provided teachers with a structure and standardized plan for presenting films and support activity uniformly and as intended. As such, the guide also provided the means for insuring that teachers were providing the same safety belt instructional program and identical support information for each experimental class. Further, the guide was designed as a teacher's aid. It provided the instructor with ready access to each presentation's content. The guide contained a presentation plan for each film in the NHTSA media package. Each plan was divided into "Teaching Points," "Presentation," and "Discussion Points."

Teaching points provided instructors with background information about the contents of the film and guidance for its introduction.

The presentation section provided instructors with an introductory statement for each film. This section also offered information underscoring films' main objective and the concepts best illustrated.

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* Filmstrip. Included here in order of presentation.

The discussion points section provided specific questions to help focus interaction.

Resource Guide

A detailed resource guide consisting of technical and research information was prepared to support each film. It was designed to enhance the instructor's understanding of safety belt facts and to serve as a reference for instructor questions in effectiveness of safety belt usage.

Treatment Administration

The two-hour Instructional program was delivered to the 20 experimental classes by carefully prepared instructors. Instructors were required to offer the program within three instructional periods (50-minute periods employed in Charles County). Additional time was required for the administration of test measures (i.e., 10 to 15 minutes per data collection point, pre-, post-, follow-up). The treatment was delivered within the class composition/size (20-30 students per class) that existed in the district.

Instructors

In order to minimize teachers' style influence, the number of teachers delivering the treatment was kept to a minimum. The district provided five driver education and four social studies instructors. All were experienced teachers. Instructors administered the program in their schools. In the case of driver education instructors, the program was administered to the 12 regularly assigned classes. In the case of social studies classes, the head of the department administered the program to her classes and to the classes of other teachers in their schools.

Instructor Orientation

An instructor orientation session was conducted by project staff. The orientation consisted of two, two-hour sessions attended by all instructors and the district driver education supervisor. The first orientation session focused on:

- Importance of the evaluation study.
- Requirements of the evaluation design
- Films and other instructor aids.

In this session project objectives were outlined for the instructors. Although all were experienced teachers, the requirements for scientific rigor in implementation of the research had to be stressed. Hence, a good portion of the first orientation session was devoted to discussing quality control of data collection. Emphasis was placed on administering tests on

the scheduled days and conducting a uniform instructional program with the samples drawn from the driver education classes and social studies classes.

Test forms and other administrative procedures were also presented and reviewed. After all procedural and research design questions were addressed, instructors were introduced to the films contained in NHTSA's safety belt media package.

The second orientation session was devoted entirely to the instructional element of the treatment. The session addressed:

- o Importance of following instructor's guide.
- o Key concepts presented in each of the films.

Again, during this session, uniformity of instruction/treatment was emphasized. Attention was given to the instructional procedures and other administrative items to support an efficient administration of the program.

Treatment Uniformity

Since all instructors were carefully selected by the district, provided an instructor guide, oriented to the evaluation requirements, and provided the films in their presentation sequence, it is reasonable to assume that the treatment was administered uniformly to the two sample populations.

Licensed and unlicensed treatment groups thus received the same treatment relative to:

- o Content of instruction.
- o Media use.
- o Sequence of media.
- o Concepts highlighted via the session.
- o Time allocated to instruction.

The instructors were provided the NHTSA safety belt media package and support material on the days scheduled for administering the instructional program throughout the entire period of the study, including the span allocated for follow-up data collection. Precautions were also taken to prevent the Control classes from being exposed to the program. Cross talk may occur between students in the Experimental groups, however, little opportunity existed for the Control groups to be exposed to the program. The materials were collected after use and retained by the district supervisor.

EFFECTIVENESS MEASURES

Using the ultimate measures of program effectiveness--fatalities, injuries, and accident frequencies--was unfeasible in the present evaluation due to constraints of time, money, and sample size. A variety of other criteria were used, however, to determine the effectiveness of the safety belt program. Measures included knowledge, attitude, and self-report usage.

Knowledge--Measurable change in understanding relating to:

- The value of safety belts in reducing injuries and accidents.
- Protection afforded by safety belts in various types of crashes.
- Frequency and likelihood of crashes.
- Dynamics of a crash.

Attitude-- Measurable opinions, beliefs, and feelings about:

- Safety benefits of belt use.
- Social stigma attached to belt use.
- Social responsibilities associated with belt use.

Belt Usage--Measure of frequency of reported belt usage by drivers and/or passengers under various conditions.

MEASURING INSTRUMENTS

Instruments were prepared for each measure of effectiveness. Design characteristics were as follows:

- Pencil and paper instruments were used exclusively.
- The number of items was kept to the minimum necessary to sample program content.
- Measures were kept short (brief) to increase teacher and student willingness to accept them and to enable their administration in a short period of time.
- Items making up the measures were selected from existing tests or surveys.

- Items were criterion referenced in that they derived from contents of the presentation media.
- Measurement format and instructions for administration were kept simple so that non-project personnel could administer them.
- Measures were designed to minimize administrative complexity wherever possible.

Knowledge

The knowledge test consisted of ten multiple-choice questions. They were drawn from tests previously used by NPSRI in NHTSA-sponsored evaluations of safety belt instructional programs. The knowledge items were drawn from tests developed for NHTSA under contract No. DOTHS902284, Supplemental Driver Safety Program Development. The measures from the Supplemental Program provided items that had been subjected to extensive item analysis and sampled fully from the knowledge objectives specified for NHTSA's safety belt media package. The 10 items selected were those that had the best discrimination ability and addressed the information that was presented in the instructional program. The selected items were reviewed and revised to improve response distribution among foils. Revisions included:

- Rewording ambiguous or misleading questions.
- Changing wording of foils that unduly attract students solely because of the wording.
- Making unattractive foils more attractive--through rewording or substitution--so that the foils "pull their own weight."

The knowledge test was short for several reasons. The principal reasons were as follows:

- Availability of time for test administration.
- Relatively few knowledge objectives for safety belt instruction.
- Simplicity of the knowledge/information supporting one's use of safety belts.
- Low relationship between safety belt information and ultimate belt usage.
- Relative importance of knowledge in comparison with other measures in determining program effectiveness.
- Necessity of using primarily factual questions.

Attitude

The attitude instrument contained 13 multiple-choice questions drawn from the attitude measure developed under the Supplemental Driver Safety Program Contract and from the National Safety Belt Study (Newport and Tarrance, 1981). Items from the supplemental program provided questions that had been subjected to extensive test development and item analysis activities. The National Safety Belt Study questions were selected by the CTM based on attitudes they addressed in prior study activities. The pool of items making up the attitude measure sampled from the array of factors felt to underlie belt usage including:

- Safety benefits from belt usage.
- Changing conditions that may influence belt usage.
- Social responsibilities toward others.
- Influence of others on belt usage.

The attitude measure, like all of the instruments used, was designed to sample for the most important factors of belt usage and was kept short for ease of administration. The foils in this measure were arranged in rank order, with the safest answer appearing first and the least safe response appearing last.

Self-Report Usage

A self-report instrument made up of five multiple-choice items was used to determine belt usage. The items were drawn from the National Safety Belt Study (Newport and Tarrence, 1981). They were reworded so that they could be administered without the aid of an interviewer. The items sampled belt usage under a variety of conditions, including usage in adverse weather conditions, long trip conditions, short trips, and with peers. An additional item dealt with attempts to get others in a vehicle to wear restraints.

A self-report usage measure was selected over direct observation as a means of determining belt usage for the following reasons:

- It could provide information on a wide array of conditions, including long trips, short trips, and adverse weather conditions
- It allowed inclusion of those who do not come to school in passenger cars.
- It allowed collection of data on efforts to influence others in the vehicle.

ADMINISTRATION OF MEASURES

Data were collected on both before and after bases. For each administration, all three measures were used. During a debriefing session following the program, the safety instructors were asked to provide reactions to the study and material.

All measures were administered to each of the two samples on a pre-, post-, and follow-up basis during the same time frame within the four schools. The schedule of administration was as follows:

- Pre-treatment data collection, one week before treatment was administered.
- Post-treatment data collection, one week following administration of the instructional program.
- After-treatment data collection, one month following administration of the instructional program.

The post-treatment data collection was delayed one week to allow time for students to apply what they had learned, i.e., to use their safety belts after the instructional program.

The follow-up data collection period (one month) obviously provided even a greater opportunity for vehicle use and occupancy. During a one-month period every person in the sample presumably would likely have had an opportunity to engage in vehicle use or occupancy. The most important reason, however, for a delayed post and follow-up period was to provide students an opportunity to use and/or ride in a vehicle under a variety of conditions and circumstances. For example, each student may have taken a short trip as passenger/driver within a day or two after instruction. A period of time was desirable, however, to afford opportunities for long trips, trips with friends,and trips under adverse weather conditions.

Instrument Administration

The same knowledge, attitude, and self-report instruments were administered on a pre-, post-, and follow-up basis in each of the four participating schools. They were adminstered by instructors in their own classes as well as in the classes of other teachers in which they taught the safety belt instructional program. Teachers administering the tests were prepared for this responsibility during the instructor orientation session as noted earlier.

Test forms were color coded for pre-, post-, and after-administration and the student name was entered on the form by the project staff prior to delivering the forms to the instructors. All forms were packaged by class, inserted in an envelope along with administrative information relative to the number of forms per package, name of the instructor responsible for administering the test, the date on which forms would be collected, etc. Test form distribution at each of the data collection points was handled by the district supervisor in charge of driver education.

Absentees were identified instantly and were administered the test on their return to school. Absentees for the post- and after-data collection periods were administered the test within one week of its originally scheduled administration date. Absenteeism ranged from a high of 6 percent on the post-test to a low of 1 percent on the after-test. These subjects were ultimately included in the sample unless their absenteeism prevailed.

EVALUATION RESULTS

This section details the results of various analyses of treatment effects for each of the criterion measures employed in this evaluation:

- o Knowledge
- o Attitude
- o Reported Restraint Use

Results are presented separately for:

Immediate Effects--as determined from Pre/Post comparisons.

Residual Effects--derived from Pre/Followup comparisons.

KNOWLEDGE MEASURES

Impact of the instructional treatment on subjects' knowledge of basic facts regarding the value of restraints in a collision was assessed via a One-Way Analysis of Variance applied across all observational periods. The significance of individual differences in mean knowledge test scores for Post and Follow-up administrations as compared to Pre were tested with Tukey's Q.

The results of these analyses for both treatment groups are presented in the following table. Values shown are the mean number of correct responses for the knowledge test. The sample sizes in this and subsequent tables represent the numbers of individuals taking pre-, post-, and follow-up measures.

TABLE 1
MEAN KNOWLEDGE SCORES

Experimental Groups	N	Pre	Post	Followup
Driver Education				
Treatment	261	4.08	5.90*	5.92*
Control	262	4.06	4.38	4.32
Licensed Drivers				
Treatment	172	4.21	6.09*	5.85*
Control	160	4.08	4.70	4.44

*$P < .05$

Control groups were not significantly different from treatment groups in the pretest and evidenced no significant change over time. For both treatment groups, Post and Followup scores were significantly higher than

Pre scores, though not significantly different from one another. The differences noted represent approximately a 30-percent improvement in knowledge for both groups as measured by this particular test, and indicate that:

- o Knowledge gains stablize immediately following participation in the instructional treatment.
- o Gains achieved do not deteriorate for at least 4 weeks (length of the followup period).

ATTITUDE MEASURES

Measurements of subjects' attitudes regarding the use of restraints were analyzed in the same manner as knowledge test scores. The results of this analysis for both Driver Education and Licensed Driver groups is presented in the following table. Values presented are the mean total scores for each group and administration.

TABLE 2
MEAN ATTITUDE SCORES

Experimental Groups	N	Pre	Post	Followup
Driver Education				
Treatment	264	25.01	26.36*	26.04*
Control	262	24.84	24.98	24.51
Licensed Drivers				
Treatment	175	24.64	26.37*	26.41*
Control	170	24.84	24.98	25.11

*$P < .05$

As was the case with knowledge scores, control groups evidenced no significant differences, while Post and Followup attitude scores were significantly higher than Pre scores for both treatment groups. The gains indicated reflect a 4-7 percent improvement in attitude scores from Pre to Post/Followup observational periods. Inferences as to the stability of these changes parallel those for the knowledge test.

RESTRAINT USE

Analyses of treatment impact on self-reported restraint use were directed toward determining changes in:

Overall Use Patterns--as measured by changes in the frequency with which restraints were used across all situations addressed in the self-report inventory.

Specific Use Patterns--as measured by shifts in reported restraint use under specific conditions of weather, trip length, and vehicle occupancy.

Overall Effects

A measure of overall restraint use was derived by scoring and summing individual item responses for the four items dealing with self-use. Responses were scored in such a manner that the higher the resulting total score, the more frequent their self-reported restraint use. Scores calculated in this manner could range from a minimum of 4 to a maximum of 16.

Paired "t" tests were employed in separate comparisons of Pre/Post scores and Pre/Followup scores to assess impact of the instructional treatment on overall restraint use. The results of these comparisons for both treatment groups are presented in Table 3.

TABLE 3
MEAN REPORTED USE

Experimental Groups	N	Pre	Post	Followup
Driver Education				
Treatment	264	7.30	7.62	7.88*
Control	262	7.36	7.36	7.27
Licensed Drivers				
Treatment	175	6.70	7.60*	7.79*
Control	170	6.73	7.23	7.55*

* $P<.01$

Among the Treatment groups, both the Driver Education Students and Licensed Drivers showed significant increases in self-reported restraint use from pre-test to follow-up test. Both groups also showed a gain from pre-test to post-test, although only the gain for the Licensed Drivers was statistically significant. The Control group failed to evidence any change in the case of the Driver Education students. However, in the case of the Licensed Drivers, the Control group evidenced significant gains in the followup test.

The gains between post-test and follow-up test are a bit out of the ordinary. The effects of any program are typically the most pronounced immediately following the program and, if anything, dissipate over time. However, bear in mind that students were reporting upon their frequency of restraint use over the preceding weeks. The post-test reports were obtained only one week following administration of the program, offering students little opportunity to alter the frequency of their restraint use. It may have taken the one month follow-up period to allow the students to register a truly substantial change.

The gain in restraint use among the Controls within the Licensed Driver group points to the operation of some factor outside of the instuctional program. There is no way of telling just what this factor is. However it may have something to do with attitude toward the measure itself. The fact that the Licensed Drivers reported such low usage on the pre-test suggests that perhaps they were taking the self-report somewhat less seriously than the Driver Education students. Upon being administered the post-test and followup test, and hearing about the instruction their counterparts in the restraint program were getting, they may have decided it was an important matter and tried to create a better appearance, with the result that they obtained higher scores. Whatever the reason, it is clear that some of the gain in reported use among the Licensed Drivers receiving the program was the result of factors having nothing to do with the instructional program.

While both groups of Licensed Drivers---Experimentals and Controls---showed as gain in reported usage, the Experimentals reported the larger gain. And, on both the post-test and the followup test the Experimentals reported higher usage than did the Controls. The differences approached statistical significance. It therefore seems likely that some of the gain in usage among the Licensed Drivers receiving the program was the result of the program itself. Given the similarity between the Licensed Drivers and Driver Education students on post-test and followup usage measures as well as on measures knowledge and attitude, it seems likely that the restraint program was effective with both groups of students.

Specific Effects

Impact of the instructional treatment on the frequency of self-reported restraint use in specific driving situations was assessed by analyzing the responses of both groups of Experimentals on each of the six items comprising the self-report inventory. To simplify the presentation, the data are presented as the percent of students reporting the wearing of restraints. The percent reporting restraint use under each of the six conditions of use are reported in Table 4.

TABLE 4
PERCENT OF STUDENTS REPORTING USE OF RESTRAINTS, BY CONDITION OF USE

Conditions	Driver Education			Licensed Drivers		
	Pre	Post	Follow.	Pre	Post	Follow.
Poor Weather	62.9	68.4	69.3	51.8	63.8	63.3
Long Trips	50.9	51.7	60.3	47.2	57.2	62.2
Short Trips	41.8	49.1	55.8	32.0	43.9	47.2
With Others	37.3	44.8	49.4	38.6	42.2	46.1
Request Others	33.5	42.8	44.9	31.5	34.5	45.0

The differences in percent of students wearing restraints in the pre-test and follow-up test were significant for all the comparisons shown except for driving "with others" in the case of Licensed Drivers. This exception does not mean that there is not a true difference in restraint usage among Licensed Drivers riding with others; it only means that significance of the gain could not be established on the basis of the obtained data.

The areas of greatest gain for both Treatment groups---Driver Education students and Licensed Drivers---were in use of restraints on short trips and in asking others to use their restraints. In both cases, much of the gain was attributable to lower initial use rates for driving under these conditions. Indeed, because of the known behavior of the population as a whole in these areas, both of these conditions of use received considerable emphasis in the instructional program. The large gains evidence the benefits of the instruction. The Driver Education students also evidenced a substantial gain in use of restraints while riding with others, while the Licensed Drivers showed a large gain in use of restraints on long trips.

INSTRUCTOR RESPONSES

Following completion of the program, instructors were brought together for a final debriefing session. Both the project staff and the instructors identified the need for such a final session. The primary purpose of the debriefing was to obtain the instructors' perceptions of the value and utility of the instructional program.

The instructors were somewhat concerned about students becoming tired and bored by taking so many tests in a short period of time. While their concerns were understandable, there was no indication that student boredom affected their completion of the test instruments.

Several comments were made relative to the perceived value of the program. These are summarized below in terms of the total program and of individual films.

TOTAL PROGRAM

During the debriefing session, instructors were asked what they thought about the films, how they felt the students responded, and whether or not they would use them again and why.

All the teachers felt that the total program was effective. The social studies instructors who had not previously included safety belt instruction as part of their classes felt that the program was worth teaching and planned to include it as part of their regular social studies curriculum. Driver education instructors participating in the study indicated that they would use the media package to replace their current safety belt instructional media and activities.

All instructors felt that the films made a contribution to the program. In the future they would use all films. Further, they felt that the films were sequenced (they had been pre-sequenced by the project staff based on Focus Group results) in the best possible order for delivery of the safety belt instructional program.

INDIVIDUAL FILMS

While instructors felt all films were effective, their comments reflected a preference for some films over others. Their perceptions and responses from students are summarized by film as follows:

EGG--The students didn't believe the demonstration depicted in the film. They offered such comments as "they used a different egg," "they added padding to the box." Some instructors felt students' interest in or preoccupation with the egg may have prevented them from receiving the message. Instructors also offered the notion of using a live demonstration as a supplement or alternative to showing the film. In spite of the reactions from the students, they all felt that they would still use the trigger film, "Egg." Overall, the Egg received a favorable rating from the teachers as a trigger film. Instructors rated "Pumpkin" first, "Egg" second, and "Headache" third.

SAFETY BELTS SAVE LIVES--The students were impressed with the collisions depicted and how little time it takes for a collison to occur.

SAFETY BELTS AND YOU--No comments beyond that identified for "Safety Belts Save Lives."

PUMPKIN--The instructors and the students felt that "Pumpkin" was the best trigger film. It clearly caught their attention relative to "being thrown clear" of the vehicle.

CHILD RESTRAINTS--Comments relative to the utility of child restraints in driver education were mixed. Some said that they might drop this film from the instructional package, while others felt it could be effective with the right introduction. Still others felt that it was not relevant to driver education except for those with young children in the family. Instructors generally agreed that it would be a useful film for senior-level classes.

SAFETY BELTS: FACT AND FICTION--As is the case in many synchronized slide/tape programs, the instructors experienced some difficulty with the equipment. Relative to the media itself, the instructors identified it as being anticlimactic and dull. Some felt that it may be better as an introductory presentation than as a summary presentation. Overall they felt it to be too elementary and filled with facts. On the positive side, most liked the belt use example of buckling up in amusement parks and airplanes.

HEADACHE--No comments beyond that identified for other trigger films.

DYNAMICS OF A CRASH--Was thought to be helpful to provide for a repetition. It did not, however, provide any new content beyond that of other films on the same topic and was generally felt to be inferior in production.

ARE YOU CONVINCED?--Stimulated more interest in riding the convincer tnan it did in communicating its message. Instructors would like to have a convincer available to the school district rather than using the film.

CONCLUSIONS AND RECOMMENDATIONS

As a result of focus group activities and audiovisual instructional presentations in school settings, the researcher concluded that knowledge, attitude, and reported safety belt usage of driver education students (unlicensed as drivers) and social studies students (licensed drivers) can be improved with the NHTSA audiovisual instructional presentations. Further, the changes appear to be fairly stable.

It is recommended that:

- The sequence of individual media used in the Charles County, Maryland, school setting be adopted until a more useful sequence can be determined.
- The National Highway Traffic Safety Administration undertake additional research to determine the best media sequence for use with high school students.
- Teachers be provided with and strongly encouraged to use "A Suggested Safety Belt Instructional Plan for High School Teachers" (Appendix C).

APPENDIX A

SPECIFIC RESPONSES BY FILM AND POPULATION

The comments presented here are direct quotes taken from the Focus Group transcripts. They are included as supplementary information to provide a more complete understanding of the individual participants' reactions to the various media elements and, secondly, to provide background data for interpretive comments offered by the researcher.

CHILD RESTRAINTS

TEACHERS:

- The station wagon scene made a real impression on me.
- Very dramatic.
- Excellent for classroom.
- It could be very helpful for babysitters.
- The rear-end scene was strong.

Negative Comments:

- Not likely to reach kids. They won't relate to the responsibility of having the children in the car.
- I'm not too impressed with it.
- The color was bad. It wasn't clear, it was too dark.
- It was too busy. There was a lot of stuff, junk running and flying around.
- It doesn't look like a real car. It looks rigged.
- I don't think it's appropriate for driver education.
- It'd be okay for adults, perhaps a PTA group.
- We're not impressed because we have films just like it.

DRIVER EDUCATION STUDENTS: (Group 1, heavily indoctrinated):

- o I didn't like it till near the end when the guy carried the kid out. Real things like that get the point across better.
- o I liked it because it was real. Real people getting in the car. The dummies were dressed like people.
- o If we had to use a film, it would be Child Restraints or the slide show if it had real people, that is.
- o It would be best, I think, to use the slide information and to localize it.

Negative Comments:

- o I don't think it should be shown during driver education--it doesn't have anything to do with us.

DRIVER EDUCATION STUDENTS (Group 2, less indoctrinated)

- o I thought it was good because you could see younger kids instead of adults.
- o It seemed to be more real than the dummies. They were dressed like the kids in the first scene.
- o It really made me think.
- o I think the film was good.
- o It's appropriate for driver education classes (agreement).
- o It wasn't the same thing over and over again. It showed different situations and results. What could happen to one kid in the back seat.
- o The voice was not good, but the film makes teenagers think about younger kids. I relate to it.
- o They showed real kids getting in and out of the cars.

LICENSED DRIVERS (Group 1):

- I thought it was pretty effective.
- It's probably going to hit some people and not others.
- (Moderator: Is it interesting enough or is it boring?)
- It had impact. It wasn't enough information, but I liked the way they cut it off.
- I thought it was good.
- The back of the station wagon scene and falling out, that's dramatic.
- I think it was really good.
- It'd probably be better for parents, but I don't think it would touch us much.

Negative Comments:

- Aw, it's okay for adults, but I don't think it relates to us.
- I really think it's for little kids. I have a little sister and I notice it.
- I didn't think it pertained to me, but it would be good to show to adults.
- I don't think it's appropriate for driver education. You see kids, and you think, "Well, I'm not a parent now with kids."

TRIGGER FILMS

PUBLIC INFORMATION OFFICERS:

- o It was to the point.
- o Great.
- o I'd use it.
- o A beautiful graphic demonstration.
- o I like the abstract approach.
- o All three are attention-getters.
- o Kids like different approaches and these would be good for starting discussion.
- o They'd be excellent for introduction, particularly with elementary youngsters.
- o The kids would talk about them.
- o They are brief and they got their point across.
- o The best of the bunch was certainly "The Egg." Right to the point.

Negative Comments

- o People don't associate with things like eggs and pumpkins. They're unrealistic. I'm afraid it's going to make them laugh.
- o I wouldn't use it.
- o Certainly if they were used they'd need a lot of follow-up.

TEACHERS:

- o These are attention getters.
- o They are different.
- o All of 'em are grabbers.
- o They're well organized and done well technically.

- Seems to me they are made to be independently shown, perhaps one now and one later. Frankly I'd like to have 9 of them and I'd show all of them Friday afternoons.

- They are excellent, but it would take a lot of planning to get them in at the right time.

- The best of all, I think is the last about the headache. I said, "Oh, God, that's my head."

At this point the moderator asked if the kids would see it that way.

- "Oh, yes, I'm sure," was the comment.

- I like this because it's a different kind of approach. A different way of getting the point across.

- The kids have seen all the accident films. We have all sorts of films in Driver Ed...some from California and UCLA.

- They've seen too much test footage. This was a very good way to get their attention.

- I like the "What's Holding You Back" as a slogan. It gets away from the blood and guts. They'll remember the pumpkin just as much as they do the blood and guts.

DRIVER EDUCATION STUDENTS (Group 1, heavily indoctrinated):

- I like all of them (Moderator: Why?) I don't know; I just like the part where it said "What's holding you back?"

- It was alright. The...last part, the head in the windshield....

- The dummy kind of (packed a punch) at the end where they showed his head going through. I thought "wow" that's me.

- The first one (egg) and the third one (headache) probably had the most effect. (Moderator: Why do you say that?)

- (same voice) It is just interesting to know that it can mean your life when you wear your seatbelt.

- I thought the Egg was alright, but the last part about, you know, showing the head through the windshield, that's probably the most effective. It's really like picturing youself, you know, seeing the windshield and me going through it.

Negative Comments:

- (I) didn't understand the purpose of the first two (egg, pumpkin).
- (Same voice) Didn't really have anything to do--well, it had something to do with the belt but (the egg in the) box, I still think it would have cracked.
- I don't think it would make anyone wear belts. (Moderator: Any of them?) No.
- I like the way they showed the first part, but like Michelle said, I don't think it would make anyone wear their seatbelts anymore. It was humorous, entertaining.
- The pumpkin...I don't know--it just didn't get through. (Moderator: Too abstract?) Yes.
- I didn't think the pumpkin was too...
- Well I think showing the pumpkin (makes us laugh) 'cause when you show the pumpkin and hitting everything, most of the class would be in hysterics you know, and then they'll come to the dummy going through the windshield, and I really don't think it will have the effect. If it were reversed it would probably be alright. But I think, you know, they'll be more humorous than serious. (Moderator: Did you want to laugh when you saw it? Did you feel like you had to control yourself because you were sitting in this discussion group?) No, not really. But I think most of the class would be laughing when the pumpkin is smashed.

DRIVER EDUCATION STUDENTS (Group 2, less indoctrinated):

- The last one seemed real (Headache).
- I thought the Egg was good.
- The head--the dummy did it.
- The Pumpkin still proved a point. It's just not as effective as the dummy.
- I liked the comment, "What's holding you back" at the end. It was dramatic.
- It'd be best not to run all three of them together.
- I thought it was good because it was short. Some films of dummies they show us in driver ed just keeping going on and on.

Negative Comments

- That pumpkin! I don't see how anyone could watch that, really. They missed the whole point. They're cracking up.
- Driver ed classes would think it was funny. I thought it was funny, too, but it made me think about it.

LICENSED DRIVERS (Group 1)

- The first one, the Egg, was pretty comical. But when you see somebody's face coming right up toward the windshield, something about your face getting scarred up, when somebody talks to you, they look at your face.
- The slogan grabs you.
- Egg was alright.
- The last one--that was definitely good.
- The Headache was pretty good. They guy was talking to <u>you</u>.

Negative Comments

- Pumpkin made it like humor. Pumpkin, that was ridiculous.
- The Pumpkin was hilarious. It wouldn't convince me--neither did the Egg.
- The other two--Pumpkin was funny, but I just didn't get the point of it. Car wrecks and Pumpkins just don't relate. The Egg was much worse than the Pumpkin.
- Well, if you're sitting at home and it comes on TV, the next time you see a Pumpkin fly across the street (at that point, everyone laughed), we can identify more with test footage dummies than with abstract stuff (general agreement).
- The Egg is ridiculous.

LICENSED DRIVERS (Special Interest):

- The Egg one was good. I guess they think you saw exactly what could happen.
- The Pumpkin was good.
- I thought the third one was the best.

- o I liked the Pumpkin....
- o The Egg got the point across, but the Headache was best.
- o I was sitting there picturing a head under a car's wheel (Pumpkin). It gets the point across.
- o That's what I thought. I thought it was my head.
- o Yeah, that's what I thought, too.
- o If you show the other films and then show these, you get a different perspective (wide agreement).
- o Yeah, there's something new--like, a lot of people think it's better to get out of the car during a wreck, but the Pumpkin got the point across--and very clearly--that it's better to stay in the car.

Negative Comments:

- o ...but the egg was stupid.
- o The egg was hard to relate to.

SAFETY BELTS SAVE LIVES

TEACHERS:

- o It was really good.
- o It does a beautiful job of presenting fact.
- o I'd use it as an introduction.
- o I don't believe I've seen anything as good for comparing using no seatbelt, using the seatbelt only, and using the belt and shoulder strap.
- o It was short, that makes it good.
- o It was a good grabber.
- o It's excellent to show and then follow up by taking them out on the convincer.
- o I just didn't see any bad points in it at all.

Negative Comments:

- o Kids probably wouldn't be influenced by it.
- o If there is any effect, it may be short-lived.
- o The damned picture is no good.
- o This might be better for elementary than for high school kids.
- o Should be deeper if it's to influence people to wear seatbelts.
- o The cars were outdated.

DRIVER EDUCATION STUDENTS (Group 1, heavily indoctrinated):

Negative Comments:

- o It was boring.
- o This kind of thing just turns me off.
- o I agree. It was kind of repetitious.
- o I don't like it at all.

- As soon as they said "rigidly controlled conditions," that really turned me off.
- I just didn't like it because it was the same as the other one and they just talked more about it.
- You can say that it was darned boring.
- It's the way they tell it that makes it boring.
- Yeah, it's been done so many times.
- We've seen all this before.

DRIVER EDUCATION STUDENTS (Group 2, less indoctrinated):

- It was better than the last one (Dynamics).
- Yeah, it was better. They showed both with and without the seatbelt.
- It's believable.
- I liked it. I think it got the point across.
- I thought the slow motion was good. It showed you what actually happens to the car. You know, it shows you going through the windshield.
- At normal speeds, you don't see the whole effect.
- I liked this one better than the others. I'd definitely use it.
- I think the part where they kind of gave you a choice--is it going to be this or this? That was good.

Negative Comments:

- I don't like the Guy--the way he talked. It was kinda choppy.
- It would be more believable if they ran the car into a tree or something.
- The word "crash" when they showed that in the film. That was kinda like Super Man or Bat Man stuff.

LICENSED DRIVERS (Group 2):

- If you think about it--if it actually happens--it's not comical.

- I liked the moderator--he's talking to you, one on one. You have to make the decision yourself.

- I didn't realize they were so dramatic. They showed it without a seatbelt, then with a seatbelt, and that's all they showed. But this one--it's like you saw it. It showed the difference.

- I thought it was great. It's real scary.

- I saw nothing bad in this one. It showed the difference between the lap and the shoulder belt.

- Really good. Short and to the point. They showed every kind of seatbelt.

  (Moderator: Did anything turn you off?)

  Many answers: No

- I thought it was good, but it brought up another point. My Dad told me to put my seatbelt on, but he doesn't put his on. He said it doesn't matter, because he has the steering wheel. But they never show accidents in the driver's seat--they just show them in the passenger's seat.

- I thought it was good. Like Matthew said, they oughta show someone in the driver's seat--that's, you know, a lot of kids when they're starting to drive. It was real short and everything, but I probably would add it on to another film.

- I thought it was good. It was the best one so far. You saw three different views. No belt, with a seatbelt, and with a shoulder belt.

Negative Comments:

- The shorter version was better.

- I didn't like that word "crash." It was like Batman.

- If they accomplished what they did at the end, they could have done it without the light coming up. I think that was pretty laughable.

- I didn't like that word "crash.'

- Well, I thought it was better than the rest, but still you had a man talking like he was half-asleep.

- I don't like it as much as the last one (Dynamics). This one's longer and too wordy. The movies that really make the impact are those like the Ohio State Police one (there was much agreement on that point).

SAFETY BELTS: FACT AND FICTION

PUBLIC INFORMATION OFFICERS:

There was only one positive comment made by the officers, and there were about 5 persons who made this point:

- It was very strong on information.

Negative Comments:

- It was dry.
- The drawings and illustrations were poor.
- Nobody's going to want to watch it.
- The kids may not be patient enough to filter out the information. I think it was geared to adults.
- Too long.
- It's too fast.
- It gives too much information in too short a time.
- It's not interesting.
- It's informative but not interesting.
- The opening would be deadly for high school students.

TEACHERS:

- It was good on information.
- It was matter of fact.
- I've actually used this film. I didn't think it would work at first, but it did. It helped me develop a lot of discussion. When the youngsters got into it, they really liked it.
- It's excellent in terms of a slide presentation.
- It makes the point about crashing into the water. If it did nothing else, it would be worth showing just for that one scene.

Negative Comments:

- o I think there are too many statistics. I'm not sure how effective they'd be.
- o I didn't like the beginning at all. It suggested it was going to be a film for elementary youngsters.
- o I think it needed a good eye-catcher at the beginning.
- o I guess I like moving things. There was just too much talk, and it was very concentrated.
- o The insurance policy idea is just no good for kids. They won't relate to it.
- o Kids wouldn't go for it because it's too concentrated. It was too dry.
- o We're turned off by slides. There are usually mechanical difficulties. They're just a pain in the neck in the classroom.

DRIVER EDUCATION STUDENTS (Group 1, heavily indoctrinated)

(The moderator started by asking the students to grade the presentation on the scale of 1 to 10, 10 being best.)

- o I'd give it a 7 or so. It was pretty good.
- o It answered a lot of common questions, like going into the river and being thrown clear.
- o I'd like to have had this instead of the other films in driver education.
- o It's different--that's what makes it better.
- o It would make me wear belts far better than the others.
- o I liked the narrator and the other voices coming in.
- o I think it was better than everything we saw today and in our driver education class.
- o I learned something from it.
- o Friends often ask me what I'd do if I happened to go off the bridge. Now I have something to say.

Negative Comments:

- I didn't like the way it started. I thought it was for younger kids.
- The animation turns you off, but what they said was pretty good.
- It should have been a regular film.

LICENSED DRIVERS (Group 1):

- They repeated stuff and that's what you've got to do

Negative Comments:

- I don't like it. The people who are asking questions sound so stupid. You know, like the guy's a moron. I always turn off when I hear that. People are smarter than that. If the person were serious and straightforward.
- The narrator was fine. It was the other people, also a lot of the animations were dumb.
- That's what I thought, too. The minute I saw the cartoon at the beginning, I went--
- It's just not stimulating.
- They need live pictures.
- The ridiculous voice of the questions just drives you up a wall. Parts of it hit. It started dragging at the end. Maybe it's a little bit too long (there is good stuff in there).

SAFETY BELTS AND YOU

PUBLIC INFORMATION OFFICERS:

- o I liked the ending. When the body went flying, that was realistic.
- o It's modern. Kids can related to it.
- o It's fairly well done.
- o It referred to the second collision.
- o It was persuasive.
- o I think it could have some influence on youth. It'll make them think

Negative Comments:

- o Needs more facts and figures.
- o There is not enough stress on injuries.
- o There was no mention of getting trapped in the car. Really not enough information was given.
- o The kids are not going to relate to that 30 degree angle shot.
- o It was too short.
- o I wouldn't use it.

TEACHERS:

- o I liked the angle shots. I've never seen the collision shown at an angle before. The flying dummy would certainly get their attention.
- o The color was well done.
- o I think I'd just show the flying dummy part.
- o This is better than some of the older films we've shown.

Negative Comments:

- o There was too much repitition.

- o I don't think the kids would want to watch it any more than any of the others they have access to.
- o Who cares about dummies and old cars. They should have been dumped years ago.
- o The kids won't watch it. It's too long.

LICENSED DRIVERS (Group 1):

- o The narration was good.
- o I like a lot of noise and real action, blood.
- o It would make people our age wear seatbelts.
- o You can't support yourself (stating need for seatbelt) your arms can't brace you.
- o It had an impact on me.
- o I thought it was good.
- o The short sweet ones that get right to the point are best.

Negative Comments:

- o Too many wrecks. We're just watching dummies fly around and don't really know why.

LICENSED DRIVERS (Group 2)

- o It is better than the Chrysler one.
- o I think it brought up some good points.
- o The back seat passenger needs it and it showed the impact.
- o It was longer, but it seemed to give more information.
- o It was a good film.
- o Maybe after sitting here and seeing six, well, if it was first today, that would be good because, like Debbie said, you had the back seat scene and a rollover. They showed a lot of ways you could be saved.
- o (Same voice) Yeah, it was convincing. All these films are except maybe the Egg.

Negative Comments:

- o I thought it was boring.
- o I didn't care for the narrator.
- o I was thinking about a kid our age to do the talking about it. Maybe that would have helped.

DRIVER EDUCATION STUDENTS (Group 2, less indoctrinated):

- o The rollover was good where you saw the person flying through the air.
- o If they brought it outdoors, it would be better.
- o The rollover makes this the best film.

Negative Comments:

- o I don't like the films that go into the history of what they've been doing. They have all these statistics, and then they start saying about how well the cars are made. Seems like they're promoting the company or something.
- o I thought it was too long. I was totally bored.
- o If I saw this one first, maybe. But it just kept going on. The angle stuff is not necessary. They did about 80 crashes into that wall. They did about 3 different speeds.

ARE YOU CONVINCED

LICENSED DRIVERS (Two groups)

- o I didn't like that one at all. They'll turn that one off, it drags out too much.
- o The first part was best. Made you think. What happened to those people?
- o The moderator is middle-aged and looks like he knows what he's talking about.
- o I think there are too many statistics. The car cost $4,000; the damage was $15,000. I think that's unreal.
- o (About the narrator) You gotta look like you're there because you want to be--not because they're paying you.
- o It was convincing because it showed with and without the seat-belt.
- o Some of the characters were too stereotyped.
- o The camera angles on the convincer weren't too good.
- o It seemed staged. When the moderator came on, his seriousness wasn't real. It was like, "I'm staging this whole thing."

(A number of comments could be summarized).

- o They ought to try it with kids doing the narrations.

DYNAMICS OF A CRASH

PUBLIC INFORMATION OFFICERS:

- This was excellent photography. I like the idea of the camera angle inside the car.
- They were excellent clips.
- The film makes the point that the body keeps moving after the initial collision.
- The slow motion was a good feature. It showed the knees going under the dashboard. It also shows how the crash related to a tree or bridge abutment.

Negative Comments:

- The cars were too old.
- The dummies looked old-fashioned.
- The moderator was wearing old-fashioned glasses.
- The moderator should have been dressed up a little bit.
- The speaker was undynamic. He sounded as if he didn't believe what he was saying. He was "blah."

DRIVER EDUCATION STUDENTS (Group 1, heavily indoctrinated):

- I thought it was pretty good. It definitely got the point across when they showed it in slow motion.
- They showed the dashboard flying into the guy's neck. Would that really happen?
- That's because his knees hit it.
- The first or second day in driver education class, all we saw was these crashes--head-on, back, front. And on this film, the first time he crashed, I thought: "This is going to be another one of those movies." But when they showed it from the inside, it sort of sank in a little more on what actually happens inside the car.
- If they showed you hitting a tree or lamppost instead of a big wall, it'd be better.
- It may influence me to wear my seatbelt more because I've never thought about the possibility of sliding down under the dashboard. Like the dashboard smacking against the guy's neck.

Negative Comments:

- The guy in the movie--I didn't like him.
- If you're going to show it to teenagers, you should have someone that teenagers are going to look at and listen to.
- He's too much like your dad.
- You need someone younger, somebody your own age.
- You need someone who's been through it. You need someone who was in a car when the one next to him flew through the windshield. If he said exactly what happened, maybe it would get you because he'd have a better way of talking about it.
- It seems to me to be the same stuff we saw in the driver education class films except for the inside shot.
- It's the first time I've seen the crash. Usually they show you the outside. On the inside, it looks different. I don't like it as much from the inside.

DRIVER EDUCATION STUDENTS (Group 2, less indoctrinated):

- I liked the slow motion. You can see what's happening, especially when it showed the interior right behind the passenger.
- It's a little better than other films but they overdid it.
- They should have just shown it at regular speed, then once at slow motion. That would have made the point.
- Keeping it inside the car is good.
- The shorter it is, the better it is.

Negative Comments:

- I was sort of bored as soon as it got started. You always see films where a guy starts out talking and then it just starts dragging and you start falling asleep.
- It sounded sort of like he was reading it.

LICENSED DRIVERS (Two groups)

- That slow motion stuff inside the car with the dashboard going over the head, that's powerful.
- Showing that bridge and tree was effective.
- I think it was more convincing than the Pumpkin.
- It packs a punch. I don't use my seatbelt, but it makes me think about it.
- I've never seen it from inside the car before. When I saw that guy hit the dashboard, his neck--yeah, that's right. He would have been a goner. That was good.

Negative Comments:

- I thought the narrator was terrible.
- If we thought it was real serious, we wouldn't have laughed, right? Obviously, we didn't take it too seriously.
- The narrator seemed to be lecturing.
- You have driver ed for nine weeks and see a bunch of narrators like this and it gets redundant, so you start turning it off.
- There's nothing here that we haven't seen before.

APPENDIX B

SAFETY BELT INSTRUCTION IN

FAIRFAX COUNTY, VIRGINIA

HIGH SCHOOL DRIVER EDUCATION

(As reported by six of nine teacher Focus Group Participants.)*

Safety belt usage instruction had, for some time, been offered as a regular part of the driver education curriculum in Fairfax County. A majority of the teachers devoted from one to two and one-half hours to the instruction. While none of the materials comprising the NHTSA AV package were used, a number of others were reported. In addition to audio visuals, the teachers reported use of lectures, question/answer, and student handouts as instructional approaches. Additionally, they reported annual use of the safety belt convincer and presentations by public information officers.

AMOUNT OF TIME DEVOTED TO SAFETY BELT INSTRUCTION WITH EACH DRIVER EDUCATION CLASS:

- o 30 minutes or less (1)
- o 30-60 minutes -
- o 61-90 minutes (2)
- o 92-120 minutes -
- o 121-150 minutes (2)
- o more than 150 minutes (1)

SAFETY BELT AUDIO-VISUAL MATERIALS USED IN DRIVER EDUCATION CLASSES:

Where Have All the People Gone (2)
Red Light Return (2)
Broken Glass (1)
Crashes that Need Not Kill (1)
Drive and Survive (1)
Human Collision (1)
Air Bag Demonstration (1)
Structural Engineering (1)

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* Numbers indicate the number of teachers reporting for the items indicated.

OTHER SAFETY BELT LEARNING ACTIVITIES:

- o lecture (5)
- o audio-visual presentation (5)
- o Fairfax County Police (4)
- o Pamphlets:
  - Fragile Cargo
  - There Are Lots of Safety Belt Myths
  - Why Not Consider the Truths? (1)
- o question/answer (2)
- o others
- o convincer each spring (4)

APPENDIX C

A SUGGESTED SAFETY BELT INSTRUCTIONAL PLAN FOR HIGH SCHOOL TEACHERS

prepared for
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
under Contract No. DTNH22-81-C-05235

by
AMERICAN DRIVER AND TRAFFIC SAFETY EDUCATION ASSOCIATION

for field testing in
Charles County, Maryland

1982

TEACHER'S GUIDE

- The teaching-learning activities suggested here are meant to be used with the safety-belt audio-visual materials of the National Highway Traffic Safety Administration (NHTSA).

- The instructional plan which follows can serve as a lesson plan in itself or as a guide for presenting and discussing the audio-visual materials. You can, of course, adapt these suggestions to suit your requirements and preferences.

- Equipment needed for these activities includes (1) a screen, (2) a 16mm sound motion picture projector, and (3) a 35mm slide projector plus a cassette tape player.

- It is anticipated that the time available for conducting the safety belt lessons will range between two and three regular class periods. The total time expended will, of course, depend upon the length and depth of the discussion generated.

ACTIVITY ONE	1. Show the "EGG" trigger film. 2. Initiate discussion so students "discover" the safety belt intent. 3. Discuss the key ideas of the film. 4. Review Questions.

Teaching Points

1. While this is the introductory activity, it is strongly recommended that no introductory remarks be made or preliminary information be given before the film.

2. Start by showing the "EGG" trigger film. Important: Let students "discover", on their own, that they are about to engage in a safety belt activity.

3. The film is designed to catch their attention and will make its point very quickly and with very few words. Be prepared to re-show the film.

Presentation

1. Show the "EGG" trigger film.

   a. Running Time: 30 seconds

   b. Objective: To convey the idea that safety belts prevent you from colliding with the inside of your car in a crash.

   c. Concept best illustrated: Effectiveness of being restrained as opposed to being unrestrained.

2. Reshow the film if necessary. You may find that the main thrust is lost on a few students because of the rapidity with which the information is given. In addition, the film is very visual. This may cause the student to retain less of the narration.

Discussion Points

1. Immediately after the film presentation(s), ask the class: "WHAT DID YOU THINK?"

   Your motive is to let the class explore the reasons for their seeing the film. Obviously, it will be most effective if the class "discovers" on its own that a safety belt discussion or program is under way.

   (Teaching Point: If the film showing is repeated, do not comment between showings other than to say: "LET'S LOOK AT IT AGAIN.")

2. After the class has discovered the safety belt intent, reinforce their conclusion by adding:

   "WE'RE GOING TO BE INVOLVED WITH SAFETY BELTS FOR THE NEXT COUPLE OF CLASS PERIODS. WE'LL BE SEPARATING THE MYTHS FROM THE FACTS. WE'LL BE EXPLORING THE PROBLEMS -- THE ISSUES -- AND OUR OWN EXPERIENCES WITH SAFETY BELTS."

ACTIVITY TWO	1. Introduce the film 2. Show "SAFETY BELTS SAVE LIVES" film. 3. Discuss key ideas. 4. Review crash protection concepts.

Teaching Points

1. The film footage is from the Chrysler Company's test studios. The film is old, but still very effective.
2. Section Six of your Teacher's Guide will be a useful reference.
3. The film illustrates graphically the effectiveness of safty belts by showing what happens when occupants are: totally unrestrained, using lap belt only, and properly belted.
4. The 1/5th true speed sequences demonstrate the rapidity with which crashes occur.

Presentation

1. Introduce the film with a statement such as: "LET'S TAKE A LOOK AT WHAT REALLY HAPPENS AND HOW FAST IT HAPPENS IN A CRASH."
2. Show the film "SAFETY BELTS SAVE LIVES."
   a. Running Time: 2 minutes
   b. Objective: To emphasize the necessity of wearing both lap and shoulder belts.
   c. Concept best illustrated: Effectiveness of lap belt only and the lap and shoulder combination.

Discussion Points

1. Immediately after the film presentation(s), ask the class: "WHAT DID YOU THINK?

2. Following the film presentation, initiate a class discussion based on these questions and answers:

   o **In every crash, there are two collisions. What are they?**

     The two collisions are:

     --The actual crashing of the car into external object--tne VEHICLE collision, and

     --The crashing of the occupants against interior portions of the car--the HUMAN collision.

   o **How fast does the accident happen?**

     A car going 30 mph comes to a complete stop upon impact in 1/10th of a second. The occupants of the vehicle come to a complete stop 1/50th of a second later.

   o **Can you be seriously injured even if the passenger compartment stays completely intact?**

     The majority of injuries are caused by the human collision, i.e., the occupants hitting some part of the inside of the vehicle after vehicle impact. Therefore, the structural integrity of the passenger compartment has less to do with reducing injuries in low speed crashes than do safety belts.

   o **How helpful is a padded dash and instrument panel in reducing injury?**

     The forces involved in a collision are so strong that a padded dash offers little or no protection to occupants in speeds over 10 mph.

   o **Comment: Most people would have the reflexes to shield their heads from injury by raising their arm. Wouldn't that reduce injuries substantially?**

     It is true that the crash dummies cannot demonstrate all the normal reflexes a human would have. However, no amount of shielding would reduce the forces unleased in anything but a very low-speed crash.

3. Follow-up:

Suggest that students begin sharing what they have learned with family and friends. When they get into a car and, especially if they driving, they should suggest that everyone buckle up.

ACTIVITY THREE	1. Introduce the "SAFETY BELTS AND YOU" film. 2. Show the film. 3. Use questions and answers as discussion guide. 4. Follow-up exercise. 5. "Did you know..." items.

Teaching Points

1. The film features footage of Ford Motor Company's crash testing program.
2. The presentation should demonstrate the effects of usage and non-usage of safety belts on test dummies in accidents occurring in different ways.
3. It is important to note also that the film emphasizes the dynamics of a small car collision.
4. Some viewers may find this film to be more technical than they feel is necessary.

Presentation

1. Introduce tne film with a statement such as: "NOW WE'LL LEARN MORE ABOUT CRASH TESTS AND THE CRASH DUMMIES THAT ARE USED. YOU WILL SEE NINE ACTUAL CRASH TESTS -- ROLL-OVER, HEAD-ON, AND REAR-END -- AND YOU'LL BE SHOWN THE HUMAN COLLISION IN EACH ONE."
2. Show the "SAFETY BELTS AND YOU" film.
   a. Running Time: 8 minutes, 30 seconds
   b. Objective: To demonstrate the effects of safety belts in various kinds of crasnes and to show the human collision in these different crashes.
   c. Concept best illustrated: Effectiveness of safety belts and the dynamics of a motor vehicle crash.

Discussion Points

1. Immediately after the film presentation(s), ask the class: "WHAT DID YOU THINK?"

2. Because of the technical nature of the film, you may need these definitions:

   Thirty degrees to the barrier--The majority of accidents occurring are frontal and angular crashes. Hence, in test crashes, barrier is turned 30 degrees to simulate the angular crash.

   Classic deep bow--When an occupant wears only a lap belt, the force of the crash throws only his torso forward, resulting in a bowing motion.

3. Initiate class discussion emphasizing these questions and answers:

   o **What happens when someone is ejected from a crashing car?**

   When anyone is ejected from the car, he or she runs the risk of plunging through the windshield, smashing into trees or rocks, scraping along the ground or the pavement, or getting run over by his own or another car.

   o **Do you have to wear your safety belt if you are in the back seat of a car?**

   For your own safety - to prevent ejection - and for the safety of the other occupants, it is essential that you wear your safety belt even if riding in the back seat. During a crash, unbelted rear-seat passengers can be thrown into front-seat passengers and both can be seriously injured. One out of every five serious injuries results from occupant to occupant impact.

   o **Could any belted passenger have survived that roll-over?**

   Yes. Belted occupants would have been held in place during this crash, keeping them from hitting the hard surfaces of the interior of the car. The passenger compartment remained intact.

ACTIVITY FOUR	1. Introduce "PUMPKIN" film. 2. Show the film. 3. Discussion.

Teaching Points

1. The "PUMPKIN" film is for those people who think it is better to be thrown clear of a car when involved in a crash.

2. In the film, a pumpkin smashes into the pavement, splits when it hits a post, and rolls into the path of an oncoming truck. The narrator uses the pronoun "you" when describing what is happening to the pumpkin.

3. The 30-second film is designed to catch the reviewers' attention and to make its point quickly. This "trigger" film is also a discussion generator.

4. You may want to repeat the film showing for added effect.

Presentation

1. Introduce the film with a short statement such as: "THIS NEXT FILM IS FOR THOSE WHO STILL THINK IT'S BETTER TO BE THROWN CLEAR."

2. Show film: "PUMPKIN."

   a. Running Time: 30 seconds

   b. Objective: To demonstrate, abstractly, what happens when one is ejected in a crash.

   c. Concept best illustrated: It focuses on the importance of remaining in a car during a crash rather than being ejected.

3. OPTION: Re-show the film.

Discussion Points

1. Immediately after the presentation(s), ask the class: "WHAT DID YOU THINK?"

2. The film leads to a discussion of the question: "Isn't it safer to be unbuckled so that you can be ejected?"

   Answer: There are at least three general reasons for answering NO to the question:

   (1) Experts believe your chances of death are at least five times greater if thrown from the car. (NOTE: Other estimates suggest that this risk may be as much as 25 times greater.)

   (2) Chances of escape are better if you are still conscious at the time of the accident.

   (3) If the belt is properly fastened around the pelvic area with shoulder belt crossing the middle of the chest, chances of injury from the safety belts are greatly reduced.

3. Be prepared to answer the question: "Couldn't I just brace myself -- especially in a low-speed crash?"

   Adequately bracing yourself with arms or legs is almost never possible because collisions happen too fast.

ACTIVITY FIVE	1. Introduce the problem of protecting children in cars. 2. Show the film "CHILD RESTRAINTS." 3. Discuss the film and the use of child safety seats. 4. Questions and answers.

Teaching Points

1. This film emphasizes the importance of crash protection for children. There is a critical need for drivers, parents, and others to provide proper protection for children.

2. The film uses simulated test crashes to show what happens to children in a collision. A simulated crash scene shows what happens when a mother holds a child in her arms.

3. The major focus of this activity should be on the vulnerability of children in a crash -- and what to do about it.

Presentation

1. Show the "CHILD RESTRAINTS" film.

   a. Running Time: 3 minutes

   b. Objective: To demonstrate what happens to children when they are and are not restrained in a crash.

   c. Concept best illustrated: The effectiveness, selection, and proper use of child restraints.

Discussion Points

1. Immediately after the film presentation(s), ask the class: "WHAT DID *YOU THINK?*"

2. The following questions and answers will serve to emphasize the important aspects of child passenger protection:

   o **What is the leading cause of death and injury to children?"**

   The leading cause of death for children ages one to four is motor vehicle accidents. "Children are 40 to 50 times more likely to die by motor vehicle accidents than by preventable diseases." (National Safety Council, 1978).

   o **How many children use child restraints?**

   Restraint usage for children in crashes is only about 5%. A North Carolina observation study shows that 19.3% of children under six were riding in child restraint devices, with improper usage reducing protection level to 5.7%. This leaves an overwhelming majority of children who are not using or are improperly using child restraints.

   o **How effective are child restraints?**

   Child restraint effectiveness levels, given use in a crash, reduce serious injuries by 50 to 70%. Of every 100 children who died in motor vehicle crashes, 80 would be alive today if their parents had buckled them up.

ACTIVITY SIX	1. Show the slide presentation: "SAFETY BELTS: FACTS AND FICTION." 2. Review and discuss issues and benefits of safety belt and child restraint issues.

Teaching Points

1. REMINDER: - This is a slide-tape presentation and requires a cassette tape player and slide projector.
2. The presentation deals with most of the main issues regarding safety belt and child restraint usage.
3. This slide-tape presentation can most effectively be used as a final review activity.
4. This presentation provides useful facts, and is an excellent review activity.

Presentation

1. Show slide presentation: "SAFETY BELTS: FACTS AND FICTION."
   a. Running Time: 10 minutes
   b. Objective: To increase and reinforce knowledge about the life-saving benefits of safety belts.
   c. Concept best illustrated: Myths and misconceptions of restraint usage.

Discussion Points

1. Immediately after the slide presentation(s), ask the class "WHAT DID YOU THINK?"
2. Discuss the myths and misconceptions of safety belt usage. Use Section Two of your GUIDE as a reference.
3. Ask class to discuss the various reasons people cite for not wearing belts or using child restraints.

ACTIVITY SEVEN (concluding activity)	1. Without introduction, show the film: "HEADACHE."

Teaching Points

1. IMPORTANT! The "HEADACHE" film should be shown without introduction.

2. IMPORTANT! The "HEADACHE" film should be the last film shown in this suggested Instructional Plan.

Presentation

1. Show the "HEADACHE" film.

   a. Running Time: 30 seconds.

   b. Objective: To emphasize the necessity of wearing lap and shoulder belts.

   c. Concept best illustrated: Effectiveness of belts.

2. The film poses the question that the students should be left with. Follow-up discussion is not necessary.

ACTIVITY EIGHT	1. Show the film: "DYNAMICS OF A CRASH." 2. Discussion.

Teaching Points

1. This film is not intended to be used alone and should be used after the other films are shown.
2. OPTIONAL: This activity should be considered an enrichment exercise, if time is available.

Presentation

1. Show film: "DYNAMICS OF A CRASH."
   a. Running Time: 3 minutes
   b. Objective: To show what happens in a head-on collision.
   c. Concept best illustrated: The dynamics of a vehicle crash and what happens to unbelted occupants.

Discussion Points

1. Review the key ideas of the film and discuss their influence on viewers.
2. Discuss with students how they can use their personal influence to encourage others to use safety belts.

ACTIVITY NINE	1. Show the film: "ARE YOU CONVINCED?" 2. Review the best arguments for "buckling up." 3. Consider a student safety project to increase belt usage.

Teaching Points

1. This activity is an enrichment exercise and should be considered optional.

2. This activity provides an excellent opportunity to discuss a student activity to increase belt usage.

Presentation

1. Show the "ARE YOU CONVINCED?" film.

   a. Running Time: 5 minutes

   b. Objectives: (1) To simulate the effectiveness of belt use.

      (2) To dispel commonly held myths that are given as reasons for non-usage of safety belts.

   c. Concept best illustrated: Myths and misconceptions of belt use.

Discussion Points

1. Review, through discussion, the common myths and facts about belt usage.

2. Invite students to consider the initiation of a class or school safety project that would call attention to the value of safety belts or other actions that could eventually lead to increased safety belt usage.