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Encouraging Full-Time Use of Safety Belts Among Current Part-Time Users

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16. Abstract

A large percentage of drivers report using their seat belts only some of the time. Most part-time users report they buckle up only for highway driving because they believe that driving around their community does not expose them to a significant risk of crash or personal injury. If these drivers learned about the true hazards of driving on local roads and, as a result, became somewhat anxious about these risks, it might be possible to motivate them to adopt the easy solution to reduce their uneasiness: buckling up all the time. In recognition of this thinking, a study was conducted to determine whether safety belt messages highlighting the risks of local automobile travel can motivate part-time seat belt users to buckle up more often.

The primary experimental intervention was a specially designed brochure intended to (1) make the part-time seat belt user feel somewhat nervous about not buckling up all the time and (2) provide a means of reducing his or her anxiety: always bucking up. The brochure was mailed to residents of three apartment complexes. Another apartment complex received an existing brochure developed for non-users. Residents of two of the apartment complexes were invited to participate in a cash prize drawing if they correctly answered six questions based on information provided in the brochure. Drivers were observed exiting the apartment complexes before the brochure was mailed, two weeks after the mailing, and ten weeks after the mailing.

A statistically significant increase in belt usage was found during the second round of observations among those residents who received the specially developed brochure, but the gain did not persist over time. No difference in belt use occurred among residents who received the existing brochure. The quiz had no effect on seat belt behavior at any time in the study.

The study indicated that a brochure targeted to part-time seat belt users that focuses on raising and then reducing low-level anxiety about riding unbuckled can increase belt use modestly among the general driving population. This modest effect suggests that the anxiety raising and reducing strategy has some potential to motivate increased seat belt use. Further use of the brochure should be contingent on identifying and implementing cost-effective strategies to (1) increase the number of drivers who read the brochure and (2) maintain increased usage over time among these initially motivated drivers. However, the most effective means of using the brochure would be to incorporate it into a community-based seat belt campaign that relies on a variety of mutually reinforcing strategies designed to raise and then reduce low-level anxiety about riding unbuckled.

An appendix to the report provides guidelines for groups and organizations to implement a seat belt campaign of their own using the brochure.

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PREFACE

This report is organized into four chapters. Chapter 1 provides the rationale for the study. The test design and procedures are described in Chapter 2. The study results are presented in Chapter 3. The concluding chapter offers an explanation of the findings, suggests their policy implications, and provides recommendations for further research. Appendix A presents abstracts of pertinent documents identified in a literature review. The process used for selecting the interventions is described in Appendix B.

Appendix C reproduces the group moderator's guide used to conduct the post-test focus group. Appendix D presents the results of a post-intervention focus group. Guidelines for mounting additional seat belt campaigns using the brochure developed for this study are provided in Appendix E.

* * *

Several colleagues at Abt Associates made important contributions to the study described in this report. Dr. Jan Chaiken reviewed the project design documents and draft reports, providing valuable guidance on several occasions. Donna DeMarco skillfully conducted the focus groups. Stacey Macek recruited the apartment complex managers with determination and tact. Chris Smith provided able assistance with the literature review and data analysis plan. John Straubinger and Roger Goulet carefully prepared the data for analysis. Mary-Ellen Perry and Winn Sinclair prepared the manuscript with care and good humor.

Jan Merkel designed the illustrations for the brochure. Mary Ann Pacocha, Director of Focus Group Operations for the Hartford Research Center, handled the recruitment and supervision for the focus groups and observations. Kathleen Ryan, Executive Director of the Connecticut Traumatic Brain Injury Association, agreed to sponsor the campaign and collaborated generously in arranging the mailouts and prize drawing. Dr. Barry W.E. Bragg, Director of Program Evaluation for the Department of Public Works of Canada, provided assistance at several points during the project. The property managers of the four apartment complexes graciously permitted us to use their locations to conduct the study; for their cooperation, we thank April Foulks Rivera and Jeffrey Gurney of Arbor on the Farmington; Deborah Robinson of Clemens Place; Michelle St. Hilaire of East Hartford Estates; and Judy Olson of Squire Village.

Encouraging Full-Time Use of Safety Belts Among Current Part-Time Users

EXECUTIVE SUMMARY

Rationale for the Study

A considerable portion of the driving population wears seat belts sometimes--but not always. However, almost all current public information materials designed to encourage safety belt use are targeted to non-users, a relatively small percentage of the driving population and a group that is especially difficult to motivate to buckle up. Public information efforts targeted to non-users are unlikely to attract the attention of drivers who buckle up part of the time because these campaigns focus on the reasons for using belts that part-time users already accept. These efforts also miss the mark because they attempt to initiate a behavior that part-time users already engage in sometimes.

Most part-time seat belt users buckle up only for highway driving because they believe that driving around their community does not expose them to a significant risk of crash--or at least of a crash involving personal injury. If these drivers learned about the true hazards of driving on local roads and, as a result, became somewhat anxious about these risks, it might be possible to motivate them to adopt the easy solution to reduce their uneasiness: buckling up all the time. If this assumption is true, a strategy directed at part-time users would have the advantage of building on an already established base of occasional use to expand the number of situations in which people use seat belts.

To test these assumptions, Abt Associates Inc., under contract to the National Highway Traffic Safety Administration (NHTSA), conducted a study to determine whether safety belt messages highlighting the risks of local automobile travel can motivate part-time seat belt users to buckle up more often.

Test Design and Procedures

The primary intervention was a specially designed brochure targeted to the part-time seat belt user. Participants of two focus groups reviewed two draft brochures for effectiveness. A single brochure incorporating the best features of each draft was then prepared and mailed to residents of three apartment complexes in the Hartford, Connecticut, area. For purposes of comparison, another apartment complex was selected to receive an existing brochure developed for non-users by NHTSA. A busy suburban intersection several miles from each apartment was chosen as a comparison location. Drivers were observed on a Wednesday and a Saturday exiting the apartment complexes and driving past the intersection on three occasions: before the brochure was mailed, two weeks after the mailing, and ten weeks after the mailing. Observers recorded whether the driver was belted, the driver's sex, and the day of the week and time of day of the observations. The brochure was supplemented with a cover letter and two sets of reminder postcards.

Residents of two of the apartment complexes receiving the special brochure were invited to participate in a cash prize drawing if they correctly answered six questions based on information provided in the brochure. The quiz was sent to the residents along with the new brochure. The drawing was designed to motivate drivers to read or re-read the brochure carefully. The Connecticut Traumatic Brain Injury Association, recruited as the campaign sponsor, agreed to provide its logo on the campaign materials and conduct the drawing.

Belt usage rates were compared before and after the mailings to determine if more drivers buckled up after receiving the brochure and if the cash prize drawing affected belt use rate.

Analysis and Results

A total of 26,917 observations were recorded across the five locations and three rounds of observations. The dependent variable was seat belt usage rate. Two interventions

constituted the principal independent variables: the brochures (both the newly developed and the existing brochure) and the quiz (with its associated opportunity to participate in a cash prize drawing). Other variables were included in the analysis for their possible interaction with the intervention variables: sex of driver, day of week, time of day, observation location and observation round. Logistic regression was used to assess the impact of the interventions.

The main conclusions from the analysis are:

- A statistically significant increase in belt usage was found during the second round of observations among those residents who received the specially developed brochure, but the gain did not persist over time.
- No difference in belt use occurred among residents who received the existing brochure.
- Belt use of residents who received the quiz did not increase at a statistically significant level.

Discussion

The study indicated that a brochure targeted to part-time seat belt users can increase belt use modestly if it explains the true hazards of riding unbuckled on local roads and then advocates using seat belts all the time as a means of reducing drivers' anxiety about riding unbuckled. It therefore appears that the anxiety raising and reducing strategy has some potential to motivate increased belt use--especially, since the approach appeared to have an effect in a medium (brochure) generally considered to be a weak method of promoting behavior change. (See the discussion of the weaknesses of using a brochure in Appendix B, Process Used for Selecting Test Materials.)

Further use of the brochure should be contingent on identifying and implementing cost-effective strategies to (1) increase the number of drivers who read the brochure and (2) maintain increased usage over time among these initially motivated drivers. One possible method of motivating more people to read the brochure is to select a sponsor whose name alone

makes clear that the material is not a solicitation for a contribution or a sales pitch. The choice of sponsor is especially critical in light of the evidence in the study that a monetary prize may not motivate many drivers to read or re-read the brochure. A promising strategy for sustaining increased belt use over the long term may be to incorporate the brochure into a seat belt campaign that relies on a variety of mutually reinforcing strategies for raising and then reducing low-level anxiety about driving unbuckled rather than using the brochure as the only approach to raising and reducing anxiety.

An appendix to the report provides guidelines for groups and organizations to implementing a campaign of their own using the brochure. The appendix summarizes the rationale for disseminating a brochure targeted to part-time seat belt users and discusses how to identify audiences for the brochure, a sponsor, prizes, and supplementary materials.

1

Introduction

This report presents the findings of a study conducted by Abt Associates Inc. in 1989-1990 to test whether a specially designed seat belt brochure would motivate drivers who use their seat belts only part of the time to buckle up more often. The project had three specific goals:

- to develop a strategy designed especially for part-time belt users;
- to evaluate whether the strategy increased belt use among drivers after they had been exposed to messages designed to raise and then reduce low-level anxiety about riding unbuckled; and
- to demonstrate the feasibility of conducting an intervention that other jurisdictions could replicate on their own.

This chapter presents the rationale for the study, the results of a literature review of similar attempts to increase seat belt use, and the limitations of the study.

Rationale for the Study

Three considerations formed the basis of the study:

1. A large percentage of drivers use their seat belts only some of the time--typically for highway driving, for long trips, and in bad weather. Most of these part-time users do not buckle up while driving on local roads around their neighborhood because they think neighborhood travel does not expose them to a significant risk of crash--or at least of a crash involving personal injury.

2. Many full-time seat belt users report they feel nervous whenever they are in a car and not buckled up, whether they are driving on the highway or on local roads.

3. It might be possible to make part-time belt users experience some anxiety about unbelted local travel that they seem to experience on long-distance or high-speed trips. This low-level anxiety may be created by informing part-time users of just how dangerous driving in their local community at slow speeds can really be. Having become somewhat anxious about driving in their local community, part-time belt users will adopt the "cure" for reducing their nervousness: fastening their seat belts when riding around the neighborhood.

The remainder of this section elaborates on these three assumptions.

The Importance of Focusing on Part-Time Seat Belt Users

Current materials designed to encourage safety belt use are targeted almost exclusively to non-users, a relatively small percentage of the driving population and a group that is especially difficult to motivate to buckle up. However, there is evidence that a considerable portion of the driving public wears seat belts sometimes--but not always. The Nationwide Personal Transportation Study (U.S. Department of Transportation, 1984) found that 26.6 percent of household vehicle occupants interviewed reported wearing safety belts "sometimes" and another 9.8 percent "most of the time." Hunter et al. found that 9 percent of their sample reported wearing belts "half of the time," 17.6 percent "most of the time," and 22.8 percent "occasionally." Only 11.4 percent said they never buckle up, while 39.2 percent always buckle up. Based on extensive focus group discussions, Rothe and Cooper (1988) conclude that "... people seldom wear safety belts every time they are in a vehicle" (p. 3, emphasis in the original).

Materials targeted to non-users are unlikely to attract the attention of drivers who buckle up part of the time because these materials focus on the fundamental rationales for using belts that part-time users already accept. These materials also miss the mark because they attempt to initiate a behavior that part-time users already engage in sometimes.

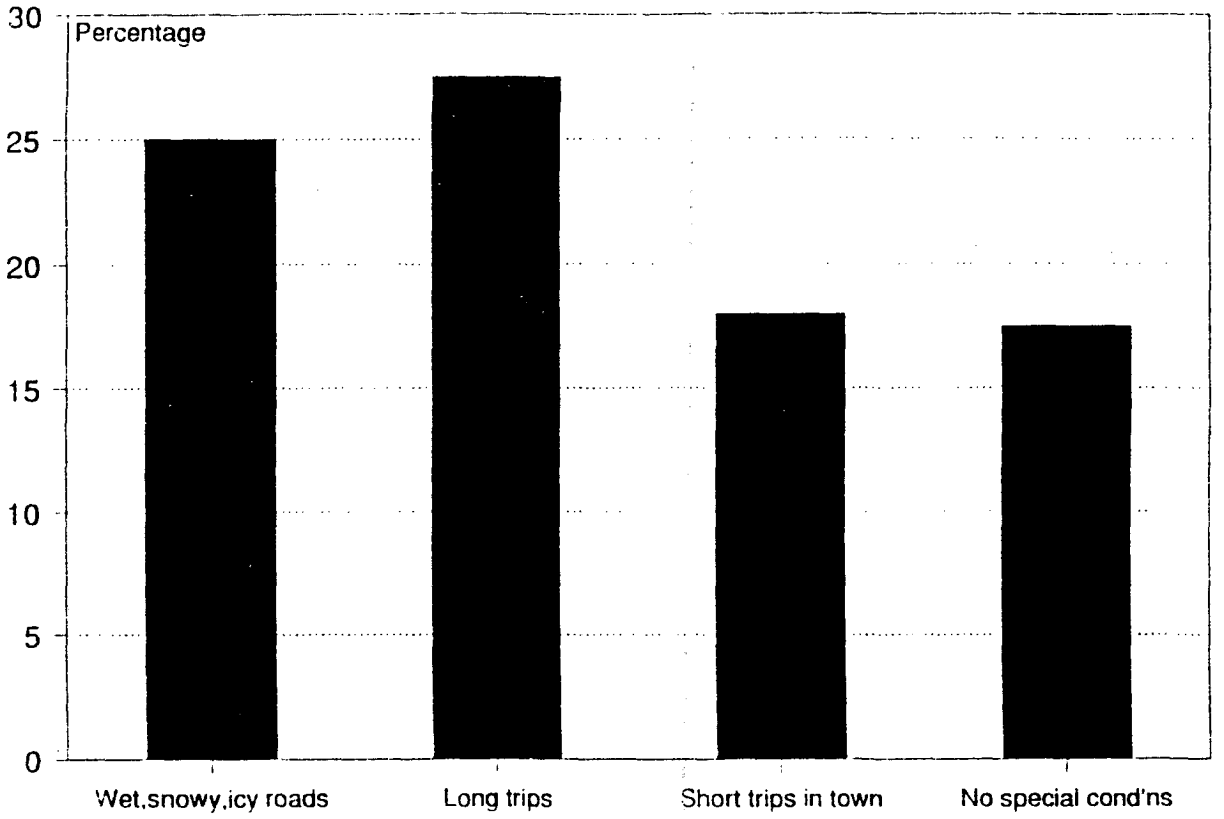
Programs that encourage increased belt use might therefore be made more effective by targeting some messages specifically at part-time users. Compared with people who do not use belts at all, part-time users would seem to be more likely to change their belt-use habits. Getting people to do more of something that they already do in some situations should be easier than getting them to initiate a totally new behavior. If they are amenable to using belts on some occasions, then they do not harbor the strong "anti-belt"sentiments expressed by many confirmed non-users. Strategies targeting part-time users therefore need not deal with the problems of changing people's basic attitudes about the acceptability and effectiveness of safety belts. Instead, approaches can focus on expanding the number of situations in which people use belts from an already established base.

Why Part-Time Users Do Not Buckle Up All the Time

To target this population of drivers successfully, however, requires an understanding of why they buckle up only some of the time. It appears that most part-time users wear their belts on highways, but not on local trips on city and suburban roads. Figure 1, taken from the "Nationwide Personal Transportation Study" (U.S. Department of Transportation, 1986), shows the proportion of household vehicle occupants who always wear safety belts under various conditions. Fewer occupants always buckle up for short trips around town than buckle up for long trips or trips in inclement weather. Long trips cause almost 10 percent more persons than normal to buckle up. A four-state survey by the Insurance Institute for Highway Safety (Williams et al., 1987) found that belt use was 10-20 percentage points higher on Interstate highways connecting the cities than in the cities themselves. A telephone survey of 421 motorists conducted by the University of North Carolina Highway Safety Research Center

Figure 1

Proportion of Household Vehicle Occupants Who Always Wear Seat Belts Under Various Conditions



Source: U.S. Department of Transportation, Personal Travel in the U.S., Volume 1, 1983-1984 Nationwide Personal Transportation Study (Washington, D.C.: August 1986) p.10-3

(Hunter et al., 1985) found that of seven different driving situations presented to part-time belt users, the most likely situations to increase belt wearing were driving in bad weather, driving with children in their car, and making a longer trip (i.e., using a highway). Those reporting they did not always buckle up most often gave "not in the habit" and "only use them on long trips" as their reasons.

Focus groups with part-time users have identified two major reasons why many drivers buckle up on the highway but not on local roads. First, part-time users often believe that crashes on local roads are rare; second, they feel that even when crashes do occur on local roads, these crashes are at such low speeds that even without a safety belt the occupants will not be injured (Rothe and Peter, 1988).

The facts, of course, contradict both of these beliefs. Short trips of less than 25 miles constitute about 95 percent of all trips made. Furthermore, 75 percent of all crashes and fatalities occur within 25 miles from the driver's home. About 80 percent of all crashes occur at speeds of less than 40 mph, and more than half of all crashes in which someone is hurt occur at less than this speed (O'Day and Filkins, 1983).

Approaches to Increasing Belt Use among Part-Time Users

Many approaches to encouraging safe driving practices have focussed on the gory details of unrepresentatively serious crashes. Yet, the use of extremely high levels of fear have been demonstrated to be ineffective in changing behavior, presumably because people "tune out" overly harsh messages. Behavioral change has not been adequately explored with respect to low levels of fear, that is, anxiety. Anxiety is best described as a nagging feeling of uneasiness.

According to the health-belief model of motivating behavior change, in order for people to adopt an identified health behavior they must first believe they are personally vulnerable to a serious threat to their health and believe that the proposed new behavior will be effective in reducing that threat. In the seat belt world, this translates to persons believing that

they could be injured in a crash and that wearing a seat belt is effective in preventing injuries or reducing the seriousness of injuries.

Most habitual belt users have not directly experienced the effects of a motor vehicle crash. They do not wear belts because of feelings associated with actual injury. However, their sense of vulnerability to injury causes anxiety. Many say that they feel tense or uneasy sitting in a car without a belt around them. Wearing the belt makes them feel more relaxed. Habitual belt users fasten their belts to decrease the anxiety associated with sitting in a car without protection, not to avoid the threat of injury.

The problem with part-time users is that they may experience no anxiety--no sense of threat of injury--in close-to-home driving situations. Therefore, they do not wear belts in those settings. The key to motivating these drivers to buckle up on local roads might be to create a low level of anxiety about the risks of driving a car on local roads--and then provide the means to reduce that anxiety: using a seat belt. This project sought to identify the real risks of local automobile travel and to convey those risks to the part-time belt user. While conveying the sense that something adverse could happen to drivers in their own neighborhoods, the part-time users also needed to be convinced that they do not have to worry about this risk if they buckle up.[1]

To further explore this strategy, we conducted a limited literature search.

Literature Review

The literature review was designed to identify motivational approaches and educational efforts or programs that have been effective in getting people to buckle up. We were interested only in research studies and reviews of research studies that used acceptable research

[1]While we used the concept of anxiety as a convenient explanatory mechanism and experimental principle for the study, we did not try to manipulate or measure anxiety in any direct sense.

methodologies, such as use of a control or comparison group, and behavioral outcome measures. The search was also intended to identify the number of part-time seat belt users; the reasons these drivers buckle up only some of the time; and the conditions in which part-time users do and do not buckle up.

The literature search included the following sources:

- Computer searches of TRIS, NTIS, ERIC, Sociological Abstracts, Dissertation Abstracts, Criminal Justice Periodical Index, and the Government Printing Office
- Literature provided by NHTSA's Office of Driver and Pedestrian Safety library
- Abt Associates' collection of transportation-related materials
- Literature provided by the project consultant, Dr. Barry Bragg, formerly Director of Evaluation for Transport Canada
- Items referenced in the bibliographies of studies obtained from the above sources.

At NHTSA's direction, few resources were devoted to the literature review in anticipation that there would not be many materials germane to the study. This proved to be the case. Most of the materials examined described studies of safety belt campaigns conducted at the workplace before states passed belt use laws. A review of these studies is available in Geller et al., "Long-Term Effects of Employer-Based Programs to Motivate Safety Belt Use," prepared for NHTSA in 1987. The studies cited in Geller et al. document that workplace programs designed to motivate employees to buckle up can increase usage rates. However, the relevance of these studies to the new study was limited because they involved video presentations or small group discussions, interventions we would not be using because they were too expensive or awkward to implement, or could not be easily replicated.

Two publications provided information about part-time seat belt users. The first Never Say Always: Perspectives on Safety Belt Use by Rothe and Cooper (1988), reports the results of ten focus group discussions and interviews with 390 motorists. The authors found that

many drivers claim they use seat belts only some of the time and that when they do wear them it is typically on the highway, not on local roads. The report recommends the following messages (taken from a campaign conducted by the Insurance Corporation of British Columbia) for motivating part-time belt users to buckle up more often:

- In a crash at 16 km/h...roughly the same speed you drive in a shopping center parking lot...your head and upper body will hit the dash or the steering wheel with the same force you'd face by trying to catch a 200-pound (100kg) weight dropped from seven feet above.
- Imagine what would happen to you if you ran face first, full speed into a steel lamp post. The same thing can happen to you in a low-speed parking lot crash if your face and head collide with the inside of your car.
- When you're in a car crash at only 50 km/h, there is no chance to brace yourself. It will take you just 1/100 of a second to hit the steering wheel...or someone else in the car.

The second publication of interest is "A Follow-up Survey of the 'Seat Belts Pay Off' Community Incentive Program" by Hunter et al. (1985). The report examines a number of campaign strategies that were used to motivate drivers to wear seat belts. A telephone survey was conducted with 421 community residents six months after completion of a community-wide seat belt campaign. Tables 1 and 2 show the distribution of a series of opinions on the impact of campaign events designed to motivate three target groups to buckle up: students (N=144), community residents (N=203), and campaign winners--drivers given prizes when observed wearing their seat belt (N=74). The authors warn that the results--especially those indicating "some effect"--should be interpreted with caution because a control question on billboards, which were not used in the campaign, induced a sizable minority of respondents to report that seeing roadside billboards influenced them to buckle up. The authors also warn that while the survey was intended to apply only to an individual's belt use during the campaign, "...it was obvious that many respondents were answering as to whether the item in the list would be effective in general in helping (anyone) to create a belt use habit." If we look at just the "strong effect" response category, the survey results indicate

Table 1

Effects of Campaign Events as Reported by Respondents *

	Item	Degree Of Effect	Student	Community	Winners
1.	Having a chance to win a small prize for wearing your seat belt.	Some effect Strong effect	34% 10%	25% 11%	23% 14%
2.	Receiving a cash payment of $500 or $1,000.	Some effect Strong effect	23% 32%	18% 30%	15% 23%
3.	Hearing about friends winning prizes.	Some effect Strong effect	34% 13%	24% 14%	11% 14%
4.	Seeing bumper stickers.	Some effect Strong effect	33% 8%	28% 8%	30% 3%
5.	Reading or seeing the campaign brochures.	Some effect Strong effect	31% 6%	24% 5%	16% 8%
6	Seeing roadside billboards.	Some effect Strong effect	28% 3%	18% 10%	15% 5%
7.	Hearing announcements on WCHL.	Some effect Strong effect	28% 9%	20% 16%	18% 11%
8.	Receiving a flier in the mail.	Some effect Strong effect	18% 5%	14% 3%	12% 3%
9.	Learning about accidents involving local residents.	Some effect Strong effect	23% 26%	13% 32%	14% 27%
10.	Reminders to buckle up (from children, friends, neighbors, etc.)	Some effect Strong effect	21% 28%	14% 31%	18% 19%

* Hunter et al, "A Follow-up Survey of the 'Seat Belts Pay Off' Community Incentive Program," University of North Carolina Highway Safety Research Center (Chapel Hill, North Carolina, 1985).

Table 2

Effects of Campaign Events for Those Respondents Who Wore Their Seat Belts More During the Campaign *

	Item	Degree Of Effect	Student	Community	Winners
1.	Having a chance to win a small prize for wearing your seat belt.	Some effect Strong effect	45% 25%	38% 30%	29% 57%
2.	Receiving a cash payment of $500 or $1,000.	Some effect Strong effect	10% 55%	22% 62%	21% 64%
3.	Hearing about friends winning prizes.	Some effect Strong effect	45% 20%	43% 22%	7% 50%
4.	Seeing bumper stickers.	Some effect Strong effect	50% 25%	51% 14%	86% 7%
5.	Reading or seeing the campaign brochures.	Some effect Strong effect	45% 10%	32% 11%	36% 29%
6.	Seeing roadside billboards.	Some effect Strong effect	45% 0%	30% 16%	36% 14%
7.	Hearing announcements on WCHL.	Some effect Strong effect	40% 15%	35% 30%	50% 43%
8.	Receiving a flier in the mail.	Some effect Strong effect	25% 10%	22% 8%	14% 7%
9.	Learning about accidents involving local residents.	Some effect Strong effect	40% 40%	22% 62%	14% 79%
10.	Reminders to buckle up (from children, friends, neighbors, etc.)	Some effect Strong effect	45% 45%	22% 54%	29% 57%

* Hunter et al. "A Follow-up Survey of the 'Seat Belts Pay Off' Community Incentive Program," University of North Carolina Highway Safety Research Center (Chapel Hill, North Carolina, 1985).

that reading or seeing campaign brochures or receiving fliers in the mail has little effect, except among campaign winners, with those respondents who increased their belt use during the campaign (Table 2). The three interventions the respondents reported were or would be "strongly effective" were receiving a large cash payment ($500-$1,000), learning about crashes involving a belted local resident who survived uninjured, and hearing reminders from children, friends, and neighbors to "buckle up."

One publication had a relevant discussion of the use of prizes to motivate safety belt use: Geller et al., "Long-Term Effects of Employer-Based Programs to Motivate Safety Belt Use" (1987). The publication points out that many campaigns to promote safety belt use have made use of "enhancers"--special prizes designed to motivate the public to buckle up by "enhancing" with an external reward the intrinsic safety incentive provided by wearing a belt. Enhancers have included money, "goodies" (e.g., refrigerator magnets, automobile trash bags), and special treatment (e.g., preferential parking in the company lot). As with pledge cards, the purpose of enhancers is to get the driver to try buckling up in the hope that the behavior will become a habit.

In their review of 28 programs that increased employees' use of safety belts, Geller et al. (p. 27) found that short-term and long-term belt use were highest for those programs that did not involve the use of enhancers. Although the authors report that this finding was "unexpected," they go on to suggest that "A variety of theoretical formulations and empirical investigations suggest that extrinsic incentives/rewards may not be the optimal approach for motivating lasting behavior change."

> The "minimal justification principle," for example, proposes the use of less powerful extrinsic techniques of social control, especially when long-term impact is desired. Thus, from this perspective an extrinsic motivator may prevent an individual from gaining internal justification for performing the target behavior (e.g., safety belt use). Furthermore, the desired behavior may decrease in frequency when the external controls are withdrawn. This proposition has received considerable empirical support from experimental tests of over justification, intrinsic motivation, and cognitive dissonance and attribution theory. (p.28; references omitted)

As anticipated, the literature review provided little guidance for the present study. Two of the recommended messages in Cooper and Rothe targeted to part-time belt users were incorporated into the study. The data reported by Geller et al. contributed to our decision not to award cash prizes to drivers observed buckled up all the time but instead to offer participation in a cash prize drawing as a means of motivating drivers to read a brochure on why they should buckle up all the time. It was the job of the brochure, not the cash prize, to motivate drivers to wear their belts. Abstracts of these reports and the Hunter et al. study are provided in Appendix A.

Study Overview and Limitations

Based on the results of the literature search and further consultation with NHTSA staff, we designed a study on the principle of anxiety arousal and reduction to encourage part-time belt users to use safety belts while traveling on local roads. To conduct the study, it was necessary to identify a readily accessible population of drivers that included many individuals who did not already use their seat belts all the time, could be observed easily on repeated occasions, and could be observed while they were about to drive on local, neighborhood roads (although they might be using local roads to get to a highway for a variety of trip purposes). These requirements led to the use of apartment complexes as the source of test subjects. Using apartments made it possible to select residents who were known to be primarily lower-middle class and who therefore were less likely to buckle up regularly than upper-middle class drivers would be.[2] We could send information to residents using name-addressed first-class mail. We could also observe residents easily and repeatedly as they drove out of their apartment as long as there were limited points of egress from the complex. Finally, as long

[2]The National Personal Transportation Survey study for 1983-1984 found that household income and education were only poorly correlated with whether a driver or passenger wore a seat belt "sometimes." However, a study by Hunter et al. (1985) found that drivers who reported they wore their seat belts sometimes had higher education levels than drivers who never buckled up, and drivers who wore their seat belts all the time had the highest education levels.

as the apartment complexes were not adjacent to a highway access ramp, residents would have to travel at least a short distance on local roads whenever they drove out of their parking lot.

A brochure was selected as the medium for testing the anxiety arousal and reduction principle because it was the most practicable method for reaching the target audience given the resource constraints of the contract and a decision to rely on in-person observations of seat belt usage (rather than self-reported behavior) among a population of regular automobile drivers.[3] Participants in two pre-intervention focus groups reacted to two draft brochures, providing insight into the best ways to write and format the brochure ultimately used in the study.

Figure 2 presents the basic features of the test design. Four apartment complexes participated in the study. A fifth site, a busy intersection, served as a comparison location. Residents of three apartment complexes were sent the newly designed brochure targeted specifically to raising and reducing low-level anxiety among part-time seat belt users; residents of the fourth apartment complex were sent an existing brochure designed for non-users. Several members of the pre-test focus groups indicated that they routinely threw away, unopened, third class mail sent by a mail order house (with CAR*RT SORT on the envelope) or mail addressed only to "resident." As a result, the brochures were sent by name-addressed, first class mail to improve the chances that residents would open the envelope. Residents of three apartment complexes were sent two follow-up postcards reminding them

[3]The study design was limited by other constraints, as well. It was not possible with the resources available to the project, and with the sponsoring agency's prohibition against using a survey instrument that required Office of Management and Budget (OMB) approval, to design an experiment that included only part-time seat belt users in the sample or involved questioning observed drivers to determine how often they wore their belts. In addition, the latter approach would have sensitized drivers to the existence and nature of the study, thereby invalidating subsequent observations of belt use. The pilot test of the observation checklist also indicated it was not feasible to record even three digits of each driver's license plate number in order to compare the seat belt usage behavior of each individual driver before and after the experimental intervention.

Figure 2

Test Design

Apartment Complex and Comparison Location	**type of brochure**	**quiz with cash prize**	**reminder postcards**
A	new	quiz & prize	two
B	new	quiz & prize	one
C	new	none	two
D	existing	none	two
Comparison Location	none	none	none

to buckle up and (in the case of the two apartments that were sent the quiz) to participate in the drawing. One apartment was sent one reminder postcard.

Residents of two of the apartment complexes who received the new brochure were given the opportunity to participate in a cash prize drawing if they mailed back the answers to six questions based on information provided in the brochure. The prize was included to motivate drivers to read or re-read the brochure carefully. The Connecticut Traumatic Brain Injury Association, a local non-profit organization in the health field, agreed to provide its logo on all the campaign materials and conduct the drawing.

Belt usage rates were compared before and after the mailings to determine whether more drivers buckled up after receiving the brochure, and whether the cash prize contributed to any change in belt use rates.

Because we did not use a random sample of drivers (drivers were observed who were residents of apartment complexes which were not randomly chosen), we cannot be sure that the brochure's effect on seat belt use would be the same in other jurisdictions. However, there is no clear reason that would lead us to suspect that the intervention would have a different impact on drivers in other jurisdictions who are of the same approximate socioeconomic status (i.e., predominantly blue collar) as the subjects in the present study.

A second limitation is that the study's design does not permit distinguishing between drivers who never buckle up and drivers who sometimes buckle up. It was not feasible to learn how often drivers observed in the study wore their seat belts before the intervention and afterward. Thus, although the intervention strategy was targeted to part-time users, drivers were observed regardless of prior seat belt use habits.

2

Test Design and Procedures

This chapter describes the test materials, sponsor, and test sites, and how they were chosen. The chapter also describes the test procedures.

Test Materials

As noted, a brochure and a quiz (involving a cash prize drawing) were selected as the test materials or interventions. Appendix B describes the process used for selecting these interventions. Below, each of the test materials is described.

Brochure

The objective for the brochure was to make drivers somewhat anxious about driving without belts in their neighborhood by presenting specific risks associated with automobile traffic on local roads and to reduce that anxiety by recommending they wear seat belts. One of the results of the literature search, along with consultation with the experts and NHTSA staff, was a list of five misconceptions many drivers have about the risks of driving short distances. For each of these misconceptions, a countervailing theme was created designed to make drivers nervous about driving unbuckled in their neighborhoods. One or more sample messages were then identified that could be included in the brochure to buttress the anxiety-arousing theme with factual information documenting the risks of local automobile travel. Figure 3 presents the misconceptions and their associated theme and message(s).

Two draft brochures were developed that expressed these themes and messages but provided the information in slightly different ways. A mock-up of each brochure was reviewed by two focus groups. The first brochure was provided to participants in a sealed envelope with a return address from a fictitious local hospital. Inside the envelope was a business reply card

Figure 3

Themes and Messages Proposed to Address Part-Time Belt Users' Misconceptions about Safety Belt Use

Misconception	Theme	Sample Message(s)
1. Short trips, because they involve slow speeds, will not lead to crashes.	Most crashes occur on short trips near home.	• 80% of all crashes occur at less than 40 m.p.h.
2. Even if short trips do lead to a crash, there is little risk of injury because they involve slow speeds.	Even at slow speeds, drivers in a crash often sustain serious injuries.	• Fatalities involving non-belted occupants have occurred at 12 m.p.h. • 75% of fatal crashes occur within 25 miles of home • No one is strong enough--or has the time--to brace themselves. The force of a crash at 30 m.p.h. is like jumping from a 3-story building, and it all happens in seven tenths of a second. • In a crash at 10 m.p.h., your head and upper body will hit the steering wheel with the same force you'd face trying to catch a 150-pound weight dropped from seven feet above you.
3. Crashes won't occur when there is little traffic.	The few drivers on the road may be drunk or reckless.	• Some evenings, as many as one out of every 50 drivers on the road is legally drunk.
4. Good driving practices and skills can prevent crashes in good weather.	Drivers cannot control other drivers' or their own lapses in concentration.	• Drivers cannot control drunk or aggressive drivers. • We all have dangerous mental lapses at times that lead us to run a stop sign, run a red light, or change lanes without signaling.
5. The odds of a crash on a short trip are so remote it's O.K. to forget to buckle up.	Most crashes occur on short trips near home.	• 75% of fatal crashes occur within 25 miles of home. • Most people always lock their door even if they plan to be gone from home only a short time.

with six quiz questions and instructions for answering the questions in order to participate in a cash prize drawing. After reviewing the materials in the envelope, participants were given the second brochure and quiz to respond to. (The order in which participants received the two brochures was reversed for the second focus group.) The focus groups were designed to identify obstacles to getting people to open the letter, read the brochures, and mail back the quiz. Participants were also asked to indicate whether the themes and messages in the brochures made them nervous about driving in their local neighborhood and whether the brochures would motivate them to buckle up more often as a means of reducing their anxiety. A copy of the focus group moderator's guide is provided in Appendix C. A description of the group discussion results is provided in Appendix D.

The focus groups were conducted in a suburb of Hartford, Connecticut, where the study would be conducted. Participants were screened to ensure they lived in an apartment, regularly drove an automobile, were part-time seat belt users, and earned between $15,000 and $40,000 annually if single, or between $25,000 and $50,000 if married. These screening criteria made it possible to recruit participants who were roughly comparable to the people to whom the final brochure would be sent.

Twenty-nine individuals participated in the focus groups. (The focus groups were so large because, after the normal procedure of overrecruiting participants in anticipation of no-shows, all but one of the individuals recruited appeared, and we chose to allow the extras to participate.) Ten members were between 18-29 years old; eleven were between 30-39 years old; and eight were between 40-59 years old. There were ten males and nineteen females.

Participants said that three items in the brochure were especially effective in creating anxiety about driving unbuckled on local roads: the possibility that drunk drivers might be using back roads to escape attention from the police (three participants said they themselves used to do this); the fact that the force of a crash at 30 miles per hour is like diving from a three-story building; and the illustration and accompanying text showing that in a crash of only 10 miles per hour, the driver will hit the windshield with just as much force as if someone tried to catch a lead weight dropped from seven feet above that weighs as much as the driver. A few

participants expressed concern about the possibility of a crash because a driver's attention wandered.

Focus group members recommended strongly that an initial paragraph drawing the reader's attention to the opportunity of winning a cash prize by answering and mailing back the quiz be eliminated because it smacked of hucksterism and would "turn off" many people.

Figure 4 is a reproduction of the version of the specially designed brochure that was ultimately implemented in the test.

Residents of one of the four participating apartment complexes were sent a brochure previously developed by NHTSA in conjunction with the American Academy of Family Physicians. This brochure was not explicitly targeted to the part-time seat belt user. Like most other existing seat belt promotional literature, it was designed to convince the non-user to buckle up. A reproduction of the brochure is provided in Figure 5.

Quiz and Cash Prize Drawing

The study by Geller et al. (1987) suggested that "extrinsic incentives/rewards may not be the optimal approach for motivating lasting behavior change." The project staff and the National Highway Traffic Safety Administration decided to include a cash prize drawing as part of the present study because the purpose of the incentive was to induce drivers to read and reread the brochure, not to motivate them to buckle up. The cash prizes were not given to drivers who buckled up but to drivers who could correctly answer six quiz questions based on information presented in the brochure. It was still the brochure's job to motivate the drivers to wear their safety belts. Thus, the prizes were expected to increase the opportunity to test whether the brochure was effective in increasing seat belt use by motivating as many participants as possible to read it carefully. By including prizes, it might be possible to test more fully whether drivers who read the brochure buckled up more often as a result of the publication.

- Suppose you crash at only 10 mph, and YOU'RE NOT WEARING A SEAT BELT. Your head and upper body will hit the windshield with just as much force as if you tried to catch a lead weight dropped from 7 feet above *that weighs as much as you.*

Traffic accidents can and *do* happen close to home—and many of them lead to serious injury. Broken bones or injuries to your head, neck, and face will seriously upset your work and family life.

Wearing your seat belt around town will significantly reduce your chances of being injured or killed.

YOU JUST NEVER KNOW *WHEN* YOU WILL NEED YOUR SEAT BELT...

SO

BUCKLE UP!

EVERY TIME!

EVERY TRIP!

For further information, footnoted statements in this brochure were drawn solely from the following publications:

1. O'Day, J., and Filkins, L.D. "Attitudes Toward Wearing Belts: A Survey of Michigan Drivers," UMTRI Research Review, 1983, *14*(1).

2. Wolfe, A.C. *Changes in the Incidence of Drunk Driving in the United States,* 1973 1986. Ann Arbor, Michigan: Mid-America Research Institute, 1986.

TBIA

Connecticut Traumatic Brain Injury Association, Inc.
1800 Silas Deane Highway, Suite 224
Rocky Hill, Connecticut 06067
Phone (203) 721-8111

How many times have you buckled your seat belt for a long trip...but didn't bother on a trip to the neighborhood store?

Yes, seat belts *are* a hassle, but *you know* that seat belts save lives and reduce injuries.

That's why you buckle up when you take a long trip, use a highway, or drive in bad weather.

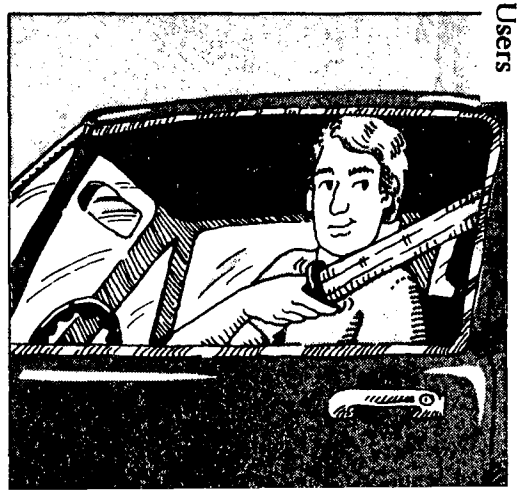


Figure 4
Brochure Designed for Part-Time Seat Belt Users

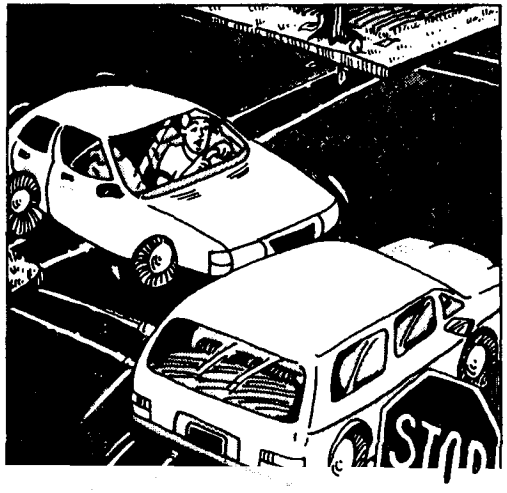
But, ...

- Three out of four serious car accidents take place *WITHIN 25 MILES OF HOME*[1]—most likely on the way to work, while running errands, or visiting friends.

- Four out of five accidents happen at speeds *UNDER 40 MILES PER HOUR*—drivers without seat belts have been killed at speeds as low as 12 mph![1]

So you need to **BUCKLE UP! EVERY TIME! EVERY TRIP!**—including on short trips—because you never know what may happen while driving around town.

- *You never know when* a careless or impatient driver will run a red light or a stop sign or a yield sign



- *You never know when* **your** attention will wander—who hasn't gone through a red light or missed a stop sign by mistake—and nearly been hit by another car.

- *You never know when* a child or animal will dart out between parked cars and force you to swerve or stop short.

- *You never know when* a drunk driver may be driving through your **own** neighborhood. Over half of all serious accidents involve a drinking driver—at times, one out of every 12 drivers on the road has been drinking.[2]

Some drunks use quiet side streets, just to avoid getting caught.

You never know *when* you'll need your seat belt....So...

BUCKLE UP!
EVERY TIME!
EVERY TRIP!

If you do get into an accident—even at very slow speeds—you can be seriously injured if your belt isn't fastened.

- You are not strong enough—or fast enough—to brace yourself in a car crash. The force of an accident at 30 miles per hour is like diving from a three-story building, and it all happens in less than a second!

Figure 4 (continued)

If I buy a car with air bags, can I stop using the safety belt?

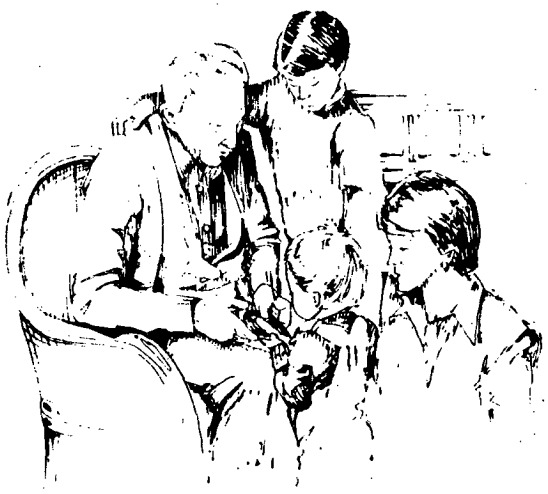
No. When air bags are used, safety belts must also be worn. Air bags are very effective in frontal crashes. For rear or side collisions, rollovers, fender-benders, and panic stops, you need the protection of safety belts.

I feel safer holding my baby. Do I really need a child safety seat?

Yes. All 50 states now have laws that require children to travel in child safety seats or safety belts. A child safety seat is the best way to protect your baby in the car. No one has the strength to hold onto a child in a crash. The force of a crash will throw an unrestrained child against the dashboard or windshield. To be safe, put your child in an approved child safety seat and follow the manufacturer's instructions.

Do rear seat passengers need to wear safety belts?

Yes. Lap belts greatly reduce the risk of death or injury in the back seat. Beginning in 1990, all new cars will be equipped with combination lap and shoulder belts, which are even safer.



Produced by
American Academy of Family Physicians
8880 Ward Parkway
Kansas City, MO 64114

with support from
U.S. Department of Transportation
National Highway Traffic Safety Administration

U.S. Department of Transportation
National Highway Traffic Safety Administration

DOT HS 807 513
January 1990

IS 40 YEARS OF YOUR LIFE WORTH 3 SECONDS OF YOUR TIME?

Figure 5
Existing Brochure Developed for Non-Users

What's the easiest way to save 40 years of your life?

A good diet, regular exercise, watching blood pressure, and not smoking all help us live longer.

But did you know that you can save 40 years of your life simply by fastening your seat belt? People killed in car crashes on average lose **40 years** of life. The best way to prevent serious injury and death in a car is to wear safety belts. And buckling up is so easy—it takes only 3 seconds!

Think about what you would miss over the next 40 years. Is it worth 3 seconds of your time to save those 40 years?

This pamphlet answers questions that patients most often ask about use of safety belts. If you have other questions, ask your doctor or other health care provider.

Do I need to wear a safety belt when I'm just going around the corner?

Yes. Most accidents occur near home. Almost 80 percent of all crashes happen at less than 40 mph.

Isn't a good defensive driver safe without a belt?

No matter how good a driver you are, you can't control the other car. If the other driver is careless or sleepy or drunk, you may not be able to avoid a crash. Good drivers protect themselves and their passengers by using safety belts.

Isn't it safer to be thrown clear of the car?

No. If you are belted, the car provides protection in a crash. If you are thrown from the car, you will hit the ground or an object, and you may be crushed by the car. The chances of being killed are four times greater if you are ejected.

What if the car catches fire or lands in water? I might be trapped by the safety belt.

Despite what you may have seen on TV, fire and submersion are very rare in automobile accidents. Wearing a safety belt helps you avoid injury and stay conscious—so you can escape when you need to.

Can I be sure the belt will work? It doesn't lock when I tug on it.

Belts that let you move freely during normal driving conditions are working properly. The newer belts are "car sensitive," so they only lock during sudden stops or braking.

What is the proper way to wear safety belts?

The shoulder belt should be worn snug across the shoulder and chest. Don't wear it loose, against your neck, behind you, or under your arm. If your shoulder belt has the window shade device, adjust it often to remove slack. Placing the shoulder belt under your arm can cause serious injury to the heart and lungs.

The lap belt should be worn low across the hips. If you wear the belt across the soft part of your abdomen, it could hurt the internal organs.

If the belts are too short to fit you properly, belt extenders are available from most car dealers.

While I'm pregnant, won't the belt harm my baby?

There is no evidence that safety belts increase the chance of injury to the unborn baby. The baby is very well protected inside the mother. The leading cause of fetal death in a collision is death of the mother. Protect your unborn baby by protecting yourself.

Figure 5 (continued)

Along with the new brochure, residents of two apartment complexes received a pre-stamped, pre-addressed business reply card containing six quiz questions. Answers to the questions could be found in the brochure. Figure 6 presents the quiz questions along with instructions for participating in the cash prize drawing. Residents who answered all the questions correctly were eligible to win one $500 prize or one of ten $50 prizes. As noted above, the objective of the quiz and drawing was not to increase seat belt use but to motivate residents to read and reread the brochure.

Supplemental Materials

Several supplemental materials were developed in order to motivate residents to pay attention to the materials--that is, at least to open the envelope and, if possible, to read the brochure and return the quiz.

Three different cover letters were prepared to accompany the brochure. The cover letter that accompanied the brochure which contained the quiz highlighted the cash prize (Figure 7). The cover letter that accompanied the brochure which did not provide the quiz made no mention of the prize (Figure 8). At the request of one apartment manager, the cover letter sent to residents of his apartment complex began, "The management of _____ has allowed us to send you the enclosed flier explaining why . . . ." The rest of the cover letter was unchanged from the version sent to the other apartment complex that did not receive the quiz (Figure 9).

Residents of all four apartment complexes were sent a reminder postcard urging them to buckle up all the time and, in the case of residents who received the quiz, a reminder to answer the questions and mail it back (Figure 10). Except for residents of one of the apartment complexes that received the new brochure (Apartment Complex B), residents received a second reminder postcard that again urged them to buckle up all the time (Figure 11). The second reminder postcard was carefully designed to remind readers of the risks of driving unbelted on local roads and of how buckling up could relieve them of the worry these hazards could cause.

Figure 6

Quiz and Cash Prize Drawing Instructions

YOU CAN WIN ONE OF SEVERAL PRIZES RANGING FROM $50 TO $500 IF YOU COMPLETE THIS QUIZ AND MAIL IT BACK TO US!

To mail back the quiz, simply fold this page inside out so that the quiz is on the inside and our address is on the outside. Press the crease and seal the page with tape. Drop it in the mail—no postage is required.

IF YOU CAN ANSWER ALL THE FOLLOWING QUESTIONS CORRECTLY, YOU ARE ELIGIBLE TO WIN ONE OF SEVERAL PRIZES RANGING FROM $50 TO $500.

Below is a short quiz on why you should buckle up every time, every trip. The answers are somewhere in the attached flier.

Simply circle the one correct answer to each question and mail back the card—no postage is required.

1. About how many accidents take place *near home*? (circle one)

   1 out of every 2 — 2 out of every 3
   3 out of every 4 — 4 out of every 5

2. *How fast* is the driver going when most crashes occur? (circle one)

   under 10 mph — under 40 mph
   over 40 mph — over 60 mph

3. About how many serious accidents involve a *drinking driver*? (circle one)

   1/5 — 1/4 — 1/3 — 1/2

4. What is the *slowest speed* at which drivers without safety belts have been killed? (circle one)

   12 mph — 24 mph — 30 mph — 36 mph

5. How often do *serious injuries* happen when the driver isn't wearing a seat belt? (circle one)

   serious injuries are pretty rare
   injuries are common but not usually serious
   injuries are common and sometimes serious

6. Will wearing seat belts around town significantly reduce your chances of being injured or killed? (circle one)

   Yes — No

Your name: _____

Your address: _____

Figure 6

Quiz and Cash Prize Drawing Instructions

(continued)

Connecticut Traumatic Brain Injury Association
1800 Silas Deane Highway
Suite 224
Rocky Hill, CT 06067

From: _____ Name

_____ Street/Apt. #

_____ City, State, Zip Code

To Take Part in the Drawing

No purchase is necessary. To enter simply return this envelope with all the quiz questions answered. Limit one entry per person.

Eligibility

Open to licensed drivers only. All envelopes must be received by June 30, 1990 in order to be eligible for the drawing, which will be held on July 6, 1990. Only licensed drivers who answer all six quiz questions correctly will be eligible for the drawing.

The Prize

Winners of the first envelope drawn will be sent a check for $500 no later than July 31, 1990. The winner of the next ten envelopes drawn will be sent a check for $50 no later than July 31, 1990. Odds of winning a prize depend on number of entries, but will be no lower than 1 in 90. All prizes will be awarded if at least 11 quizzes are answered correctly. Payment of any taxes is the sole responsibility of the winners.

Figure 7

Cover Letter: Quiz Brochure/Cash Prize

TBIA
Connecticut Traumatic Brain Injury Association, Inc.

I have enclosed a brief flier explaining why it is important for you to use your seat belt every time you ride in your car. If you are someone who buckles up on long trips but not around town, or if you buckle up in bad weather but not in good weather, this flier is especially for you.

The Connecticut Traumatic Brain Injury Association is providing this information as a public service to help residents in the Hartford area like yourself avoid injury or death in a motor vehicle accident.

Included with the flier is a short quiz. You will find the answers to the quiz questions in the flier. To encourage you to read the flier and complete the quiz, we will enter you in a drawing for eleven cash prizes if you correctly answer all six questions and return the quiz (no postage necessary). There will be a grand prize of $500, and ten smaller prizes of $50 each.*

So please take a few minutes to read the flier and answer the questions. And we hope you decide to buckle up -- every time, every trip!

Thank you.

Sincerely,

Kathleen Ryan

Kathleen Ryan
Executive Director

*Funds supplied by an anonymous donor not affiliated with CTBIA.

1800 Silas Deane Highway, Suite 224
Rocky Hill, Connecticut 06067
Phone (203) 721-8111

Figure 8

Cover Letter: With Quiz Brochure/No Cash Prize

TBIA

Connecticut Traumatic Brain Injury Association, Inc.

I have enclosed a brief flier explaining why it is important for you to use your seat belt every time you ride in your car. If you are someone who buckles up on long trips but not around town, or if you buckle up in bad weather but not in good weather, this flier is especially for you.

The Connecticut Traumatic Brain Injury Association is providing this information as a public service to help residents in the Hartford area like yourself avoid injury or death in a motor vehicle accident.

So please take a few minutes to read the flier and answer the questions. And we hope you decide to buckle up -- every time, every trip!

Thank you.

Sincerely,

Kathleen Ryan

Kathleen Ryan
Executive Director

1800 Silas Deane Highway, Suite 224
Rocky Hill, Connecticut 06067
Phone (203) 721-8111

Figure 9

Cover Letter: Without Quiz Brochure/Cash Prize

TBIA

Connecticut Traumatic Brain Injury Association, Inc.

The management of has allowed us to send you the enclosed flier explaining why it is important for you to use your seat belt every time you ride in your car. If you are someone who buckles up on long trips but not around town, or if you buckle up in bad weather but not in good weather, this flier is especially for you.

The Connecticut Traumatic Brain Injury Association is providing this information as a public service to help residents in the Hartford area like yourself avoid injury or death in a motor vehicle accident.

So please take a few minutes to read the flier and answer the questions. And we hope you decide to buckle up -- every time, every trip!

Thank you.

Sincerely,

Kathleen Ryan

Kathleen Ryan
Executive Director

1800 Silas Deane Highway, Suite 224
Rocky Hill, Connecticut 06067
Phone (203) 721-8111

Figure 10
First Reminder Postcards

A
Version sent to residents who received the quiz

A few days ago we sent you a flier about why you should wear your seat belts every time, every trip.

Along with the flier, we included a brief quiz that you could mail back to us to become eligible for eleven cash prizes.

If you have already read the flier and returned the quiz, thank you! If you haven't, why not read the flier and return the quiz now. No postage is needed.

Thank you.

Sincerely,

Kathleen Ryan

Kathleen Ryan
Executive Director

P.S. We hope you decided to buckle up every time, every trip!

B
Version sent to residents who did not receive the quiz

A few days ago we sent you a flier about why you should wear your seat belts every time, every trip.

If you have already read the flier, thank you! If you haven't, why not read the flier now!

Thank you.

Sincerely,

Kathleen Ryan

Kathleen Ryan
Executive Director

P.S. We hope you decided to buckle up every time, every trip!

Figure 11
Second Reminder Postcard

A
Version sent to residents
who received the quiz

Nobody likes to think about what might happen to them in a car accident. If you are like most people, you already use your seat belt on long trips, on high-speed roads, and in bad weather.

We recently sent you a flier showing why you just never know when you will need your seat belt, even when driving at low speeds and close to home. You never know when some other driver will do something that might get **YOU** into an accident.

This is one final reminder to say that wearing your seat belt **EVERY TIME, EVERY TRIP** gives you a lot less to worry about.

Sincerely,
Kathleen Ryan
Kathleen Ryan
Executive Director

B
Version sent to residents
of one of two apartment complexes
that did not receive the quiz *

Several weeks ago we sent you a flier about why you should wear your seat belt whenever you drive. This is one final reminder to say we hope you decided to buckle up **EVERY TIME, EVERY TRIP.**

Sincerely,
Kathleen Ryan
Kathleen Ryan
Executive Director

* Residents of the second complex were not sent a second reminder postcard.

Drafts of the supplemental materials were reviewed by the two focus groups. The draft cover letter and reminder postcards originally made several references to the quiz and drawing; focus group members recommended the emphasis on the drawing be toned down to avoid sounding like a fraudulent "give-away."

Site Selection

A two-stage site selection procedure was implemented that involved identifying an appropriate community and then recruiting apartment complexes from the chosen jurisdiction.

Test Jurisdiction

Three criteria were developed for selecting a test jurisdiction:

1. availability of a large number of apartment complexes with predominantly lower middle class tenants;
2. moderate weather;
3. location in a state with a mandatory seat belt usage law.

Lower middle class tenants were sought because the relatively high percentage of upper middle class drivers who already use seat belts would make it difficult for the planned intervention to show any effect. (See note 2, page 9.) We wanted to avoid snowstorms and icy roads during observation days because drivers who ordinarily fail to use their seat belts might buckle up in very inclement weather, making it impossible to evaluate the independent effect of the intervention. A state with a mandatory usage law was chosen because NHTSA encourages states to enact legislation promoting seat belt use.

We originally selected Charlotte, North Carolina, as the test site but rejected the city when we learned that the seat belt use rate was already very high--65 percent--again making it

difficult for us to show that the intervention had an effect. Charlotte also had an active comprehensive community traffic safety program that would have added to the difficulty of demonstrating the effect of a single intervention.

We therefore opted to wait until the late spring and test the intervention in Hartford, Connecticut. Seat belt use in the state was 55 percent; it was 56 percent in West Hartford, and 47 percent in East Hartford. We made sure that neither the region nor the state had a seat belt enforcement or education campaign planned during the anticipated test period, or had pending legislation that might influence test subjects to buckle up independent of the study treatments. A review of the Connecticut Apartment Selector, conversations with local realtors, and on-site observation confirmed that there were a number of apartment complexes in the Hartford area that met the study criteria.

Apartment Complexes

Criteria for selection of apartment complexes were that they (1) had at least 250 units (to ensure an adequate sample size for statistical purposes); (2) had their own parking area with no more than three entrances or exits; and (3) rented to primarily lower middle class persons, as determined by on-site observation of residents' cars and condition of the facilities, perceptions of the apartment manager, and rental rates compared to average rents statewide.

Thirteen apartment complexes situated within a 20 mile radius of Hartford were located that met these criteria. Introductory letters were sent to the property manager of each apartment complex from Abt Associates and NHTSA, followed by calls from project staff to explain the study, verify the appropriateness of the complex, and recruit the manager's participation. Four apartment managers agreed to cooperate. Apartment managers who refused to cooperate either did not want anyone observing drivers on their property or did not want to become "involved" for unstated reasons. Apartment managers did not refuse to participate due to concerns about providing names and addresses of their tenants or addressing and mailing the brochure and reminder postcards themselves. Of the four apartment managers that agreed to

cooperate, three unhesitatingly provided us with the names and addresses of their tenants; the fourth conducted the mailing himself.

Figure 12 presents information about the four apartment complexes that participated in the study. As the data show, one apartment complex has primarily white collar residents and three have a mixture of blue and white collar residents. One of the apartment complexes does not have a common parking lot but, by including two short streets containing twenty-four condominium units and thirty-two private dwellings that are located next to the complex, it was possible to station observers at two intersections which all residents have to drive by in order to leave their apartments. (Brochures and reminder postcards were distributed by hand to the residents of the two added streets.)

Sponsor

The National Highway Traffic Safety Administration proposed that the name and logo of an in-state, private organization appear on the envelope, cover letter, brochure, and reminder postcards. It was thought that residents would be more likely to open the envelope and read the brochure if they saw the name of a local, state, or regional private organization on the materials than if the materials were sent by an out-of-state organization or, especially, by a government agency. This approach also more closely replicates the manner in which such programs are usually conducted--through sponsorship by private organizations rather than directly by the federal government. Using an in-state, private sponsor for the study would therefore serve to test the feasibility of this approach at the same time that it might increase residents' interest in examining the materials.

We asked the two focus groups conducted before the test to indicate types of organizations that would motivate them best to respond to the materials. Participants suggested hospitals and other non-profit organizations would be most effective. As a result, we attempted to secure the cooperation of the three hospitals in the Hartford area. While two were unwilling to cooperate, a third hospital expressed interest, until it learned that a drawing with cash prizes

Figure 12

Characteristics of Apartment Complexes

Characteristic	Apartment Complex A	B[a]	C	D
Type of employment	blue collar white collar (entry level)	blue collar white collar (entry level)	blue collar white collar (entry level)	white collar
Age	20-30 mostly single	all families	NA	20-50
Income range	NA	$24K-$30K	$13K-$34K	NA
Monthly rent (2 bedroom)	$645-$715	$311-$397	$377-$454	$650-$725
Percent of units subsidized[b]	20%	100%	100%	0
Number of units	583	396	374	432
Percent two-bedroom	21%	100%	56%	70%
Number of buildings	28	17	31	15
Number of exits from parking area(s)	2	2	2	1

[a]Observations at this complex included residents of 17 private homes and 24 condominium units adjacent to the complex. The data presented in the figure do not include these residents.

[b]Under Section 8 of the Housing and Urban Development (HUD) code, landlords receive rent supplements for qualified tenants, who are then charged reduced rents.

would be part of the study. Hospital staff felt that its fund raising efforts might be compromised if it appeared that it had $1,000 in prize money to give away at a time when funding cutbacks were taking place in hospital services.[1] In addition, hospital public information staff felt that the early drafts of the materials, with their emphasis (later removed) on the opportunity to win cash prizes, created an atmosphere of a "sales promotion" and "hucksterism" that was antithetical to the image the hospital wished to convey to the public. The hospital would require a written opinion from the state Attorney General, state Consumer Protection Commission, and the Charitable Games Commission of the State Police indicating the drawing did not violate any state laws. Finally, the hospital needed 60-90 days to secure approval to collaborate from its president and board of directors.

Several Hartford area insurance companies were also contacted, but none agreed to cooperate. Some insurance companies did not return calls even after they had been sent a cover letter explaining the project; others indicated that staff cutbacks precluded their devoting even minimal time to assist us or that concern for their legal liability prevented them from sponsoring any activity in the community.

Three local non-profit organizations expressed tentative interest in participating: The Connecticut Safety Belt Coalition, the North Central Connecticut EMS Council, and the Connecticut Traumatic Brain Injury Association (TBIA). The TBIA appeared to be in the position to cooperate most quickly and was therefore chosen as the sponsor.[2] The Connecticut Traumatic Brain Injury Association provided letterhead stationery for the cover letter, envelopes for the mailings, and its logo and return address for printing on the brochure and reminder

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[1]The organization that was eventually selected as the sponsor expressed the same concern about appearing to have money to "give away" at a time when it was pleading shortage of money in its fund raising solicitations. As a result, we included a footnote in the cover letter to residents noting that the "Funds [were] supplied by an anonymous donor not affiliated with CTBIA [the sponsor]."

[2]The TBIA, formed in 1981 from a grassroots movement, has ten support groups statewide that provide encouragement, understanding, and information to families and people with traumatic brain injury. Program staff assist individual clients, educate professionals and people with traumatic brain injury and their families, and conduct prevention education.

postcards. (See Figures 4, 6-11.) The TBIA address was also used as the place residents sent the business reply card with the quiz answers, and the TBIA conducted the drawing to determine the winners. All mailings were posted by TBIA staff to make sure a Connecticut postmark appeared on the envelopes and postcards. As far as the residents in the study knew, it was the TBIA that was conducting the campaign.

Experimental Procedures

The experimental procedures consisted of the interventions (brochures, cover letter, quiz, reminder postcards) and observations of seat belt use.

Sequence of Interventions

Figure 13 shows the sequence of interventions and observations. As the figure shows, baseline observations were conducted at the four apartments and comparison location on Wednesday, June 6, 1990, from 6:30 a.m.-10:00 a.m., noon-2:00 p.m., and 5:00 p.m.-8:30 p.m., and on Saturday, June 9, 1990, from 8:00 a.m.-11:00 a.m., 1:00 p.m.-3:00 p.m., and 6:00 p.m.-8:30 p.m. Nearly 9,000 observations were made among all the sites, with over 1,000 observations at each site.

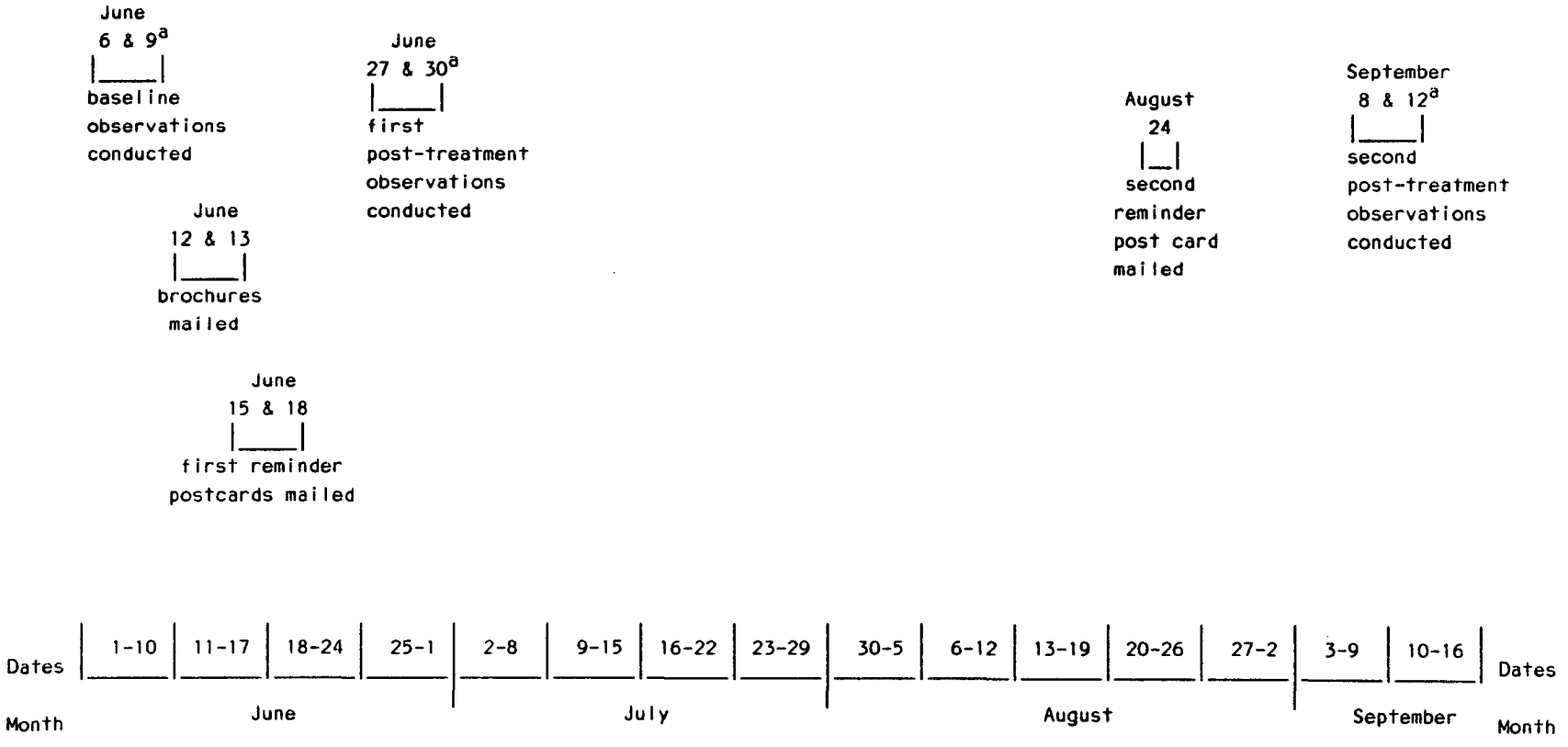
The brochures were mailed (with the appropriate cover letter and, if applicable, the quiz) on June 12 and 13. The first reminder postcards were mailed on June 15 and 18. The first round of post-treatment observations was conducted on Wednesday, June 27, and Saturday, June 30, at the same times of the day as the baseline observations were made. Nearly 10,000 observations were recorded. The second reminder postcard was sent August 24.

The third round of observations (second post-treatment set) was conducted on Saturday, September 8, and Wednesday, September 12. Over 8,000 observations were recorded. Unlike the previous two rounds of observations in June, the evening shift ended at 7:00 p.m.

Figure 13

Sequence and Dates of Experimental Procedures

June - September, 1990



[a]Each wave of observations was conducted on a Wednesday and a Saturday.

each night instead of 8:30 p.m. because early darkness made it impossible to see whether the residents were buckled up.

Observation Procedures

The Hartford Research Center was subcontracted to hire staff from Manpower Inc. to record the observations. The same individuals conducted the observations of the first two rounds of observations at the same sites; a different set of individuals, hired from the same source, made the observations for the third round.

Project staff trained the observers on-site. Staff described the project and explained why the observers' role was critical to the success of the study--and, possibly, to saving lives and reducing injuries if nationwide dissemination of the brochure occurred because their observations demonstrated that the brochure increased belt use. In order to avoid a potential bias in the observations, observers who would be monitoring traffic at the apartment complex receiving the existing NHTSA brochure and at the comparison location were given the same "pep talk" as the observers who would be monitoring drivers who had received the specially designed new brochure. The observers were instructed as a group in how to complete the observation checklist. Observers were told to record seat belt use and sex for every car, van, and pick-up truck exiting the apartment complex (or stopping at the intersection in the direction of the rush hour traffic at the comparison location). Observers were instructed to place a question mark on the observation checklist when it was unclear whether a driver was belted, or when the driver's sex could not be discerned.

Observers were told that if a resident asked them what they were doing they should say they were conducting an automobile survey. If pressed for further information, they were to explain they were observing seat belt use. However, only two observers subsequently reported that anyone asked what they were doing.

Observers were then driven to the control location where, one by one, they filled in a checklist for approximately 25 cars, while the project director filled in a checklist of his own.

The checklist completed by the observer was then compared with the project director's checklist for completeness and accuracy. Although discrepancies were rare, when they occurred the observer did another dry run with another 25 cars, and his or her responses were again compared with those of the project director. Answers were always the same on the second round of practice observations, thereby achieving 100 percent inter-rater reliability.

Each observer was then driven to his or her pre-assigned site and shown exactly where to stand to observe apartment residents as they drove out of the complex. A supervisor hired by Hartford Research Center visited every site on every shift to make certain that each observer was on duty, in the correct location, and recording the required information properly. On the two occasions when an observer was not present, the observations were conducted the following day (Thursday) by one of the other observers.

Figure 14 is a copy of the observation checklist. The checklist was pilot-tested for feasibility and then revised. Instructions for completing the form were provided on the back of every checklist in case observers were uncertain about their assignment. (See Figure 15.)

Follow-up Focus Group

At the conclusion of the test period, a focus group was held with eight residents from three of the apartment complexes. The purpose of the focus group was to obtain information about why participants read the brochure, what impact the brochure had on them, and why residents who did not read the brochure failed to do so.

Our original intention was to conduct four focus groups for 8-12 residents from each apartment complex. However, participants from Apartment Complex C could not be contacted because the property manager refused to permit recruitment following a query from a tenant wondering how her address had been obtained for the brochure mailing. No residents from Apartment Complex D were willing to travel to the focus group site. Many residents from Apartment Complexes A and B either had unlisted telephone numbers or no telephone. Residents who were reached using a cross reference telephone directory were ineligible, claimed

Figure 14

Observation Checklist

1. OBSERVER: ______________	4. DAY: Wednesday Saturday 13/	Do not fill in this section Site:
2. OBSERVER CODE: _ _ 3-6/	5. SHIFT: am noon pm 14/	Site Code: 0 1 1-2/
3. DATE: _ _ / _ _ / 9 0 7-12/ mo. day year	6. WEATHER: raining not raining 15/	Batch #: _ _ 16-17/ Card #: 0 1 18-19/

Belt Use		Sex		Belt Use		Sex		Belt Use		Sex	
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F
Y	N	M	F	Y	N	M	F	Y	N	M	F

Figure 15

Instructions for Completing Observation Checklist

INSTRUCTIONS

PLEASE CHECK IN WITH THE OFFICE AT THE END OF THE MORNING SHIFT TO LET THEM KNOW YOU WERE COUNTING DRIVERS. CHECK BACK IN BEFORE THE AFTERNOON AND EVENING SHIFTS.

Page ___ of ___:	Complete at the end of each shift.
OBSERVER:	Fill in your complete name.
OBSERVER CODE:	Record the identification number you have been assigned.
DATE:	If the month or day is only one digit, include the number in the second available box under month or day, and record a 0 in the first available box. For example, June 9 would be filled in: 0 6/ 0 9/ 9 0 mo. day year
DAY:	Circle the day of the week you are observing.
SHIFT:	Circle the shift you are observing. The shifts are as follows:

Wednesdays:	6:30 a.m. -	10:00 a.m.
	12:00 p.m. -	2:00 p.m.
	5:00 p.m. -	8:30 p.m.
Saturdays:	8:00 a.m. -	11:00 a.m.
	1:00 p.m. -	3:00 p.m.
	6:00 p.m. -	8:30 p.m.

WEATHER:	At the end of the shift, circle the weather condition that prevailed when most of the cars exited the complex. If it rained some of the time and was dry some of the time, circle both "raining" and "not raining."

BELT USE:	Circle Y for Yes (the driver was buckled up) or N for No (he or she was not buckled up).
SEX:	Circle M for male or F for female.

In an emergency, telephone (203) 236-6133. If there is no one there, telephone Peter Finn collect (617) 492-7100 daytime and evenings.

not to speak English, or refused to participate. Because of these limitations, were able initially to recruit only three residents from all the apartment complexes combined. Efforts to increase participation by raising the cooperation payment from $30.00 to $40.00, placing posters in English in the lobbies and laundry rooms of the three participating apartment complexes, and asking the three residents who were willing to participate to refer other residents, generated only five additional participants, for a total of eight (all English speaking).[3]

Because of these recruitment difficulties, participants in the post-test focus group were highly atypical of the study population. Although Appendix E provides a summary of the focus group discussion, the reader is cautioned that the comments may be extremely uncharacteristic of the typical apartment resident. Furthermore, the focus group results were used sparingly to contribute to the conclusions, policy implications, and recommendations presented in Chapter 4.

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[3]The initial three participants were recruited after 367 telephone calls were placed. (The other five residents who participated were recruited when they telephoned the recruitment subcontractor after having read the recruitment poster placed in the apartment complexes.) One hundred and sixty-seven calls resulted in a busy signal or no answer. Of the 123 contacts with residents that were made but were unsuccessful in recruiting anyone, 31 residents claimed they did not speak English, 36 residents were not interested in participating, and two residents could not make the dates for the focus groups. In addition, twenty-seven residents were ineligible because they always wore their seat belts (16), did not remember receiving the brochure or postcards (10), or did not drive (1). Finally, 72 residents could not be reached because they no longer had a phone in active service, had moved, or had a new but unlisted telephone number.

3

Analysis and Results

This chapter presents the analytical approach and statistical results of the study. The principal objective of the analysis was to assess the impact of the interventions and other independent variables on seat belt usage rates. To achieve this goal, we examined seat belt use at three points in time.

Summary

Sample Size

The sample in this study consists of all individuals who drove past the observation points established at the entrances of the four apartment complexes and the comparison location. A total of 26,917 observations were recorded across the five locations and three waves of observations (see Table 3).

The number of cases varies across waves of observation. More cases were recorded in the second wave of observations than in the first at two locations, while considerably fewer observations were made at one other location. The apartment managers at these locations were not able to suggest why changes in the driving patterns of residents might have occurred, other than to speculate that the end of the school year and vacations might have changed residents' travel patterns during late June when the second wave of observations were made, compared with early June when the baseline observations were conducted.

In the third wave there was decrease in the number of cases for all four apartment complexes but an increase at the comparison location. The decline in the number of cases for the four apartment complexes is due to a reduced observation period during the evening shift for the third wave of observations. During the first and second observation periods in June, the evening shift lasted until 8:30 p.m.; however, observations during the third observation wave ended at 7:00 p.m. because the reduced daylight in September made it impossible later in the evening to see whether drivers were wearing their belts. The end of summer and school vacations may account for the rest of the decrease in observations. Fewer observations were also recorded at the comparison location on the third wave during the evening compared with

Table 3

Number of Seat Belt Observations
by Site and Round

Site	Sample Size: First (baseline) Observation (June 6&9)	Second Observation (June 27&30)	Third Observation (Sept. 8&12)
Apartment Complex A	1,851	2,177	1,429
Apartment Complex B	1,646	2,723	1,282
Apartment Complex C	1,337	948[a]	904[a]
Apartment Complex D	1,231	1,331	740[a]
Comparison Location	2,765	2,627	3,926
	8,830	9,806	8,281

[a] See text for a discussion of the lower numbers of observations at Apartment Complex C in the second and third waves and at Apartment Complex D in the third wave.

the number of observations recorded on the earlier waves. However, this decrease was more than offset by a gain in cases during the Saturday daytime observation period, apparently due to a high school fair held one block from the observation point.

Major Findings

The main conclusions from the analysis are:

- A statistically significant increase in belt usage was found during the second wave of observations among residents who received the specially developed brochure, but the gain did not persist over time.

- Slightly higher proportions of individuals who received the pre-existing brochure buckled up in the last two (post-intervention) waves of observations than in the first (baseline) wave, but the increase was not statistically significant.

- Belt use of residents who received the quiz did not increase at a statistically significant level.

Analytical Approach

Dependent Variable

The dependent variable of interest in this study was the seat belt usage rate. This rate was measured by the proportion of drivers observed who were wearing their seat belts.

Independent Variables

Two interventions constituted the principal independent variables: the brochures (both the newly developed and the existing brochure) and the quiz with its associated opportunity to participate in a cash prize drawing. Table 4 shows the number of residents who were sent the quiz and given the opportunity to participate in the cash prize drawing if they could answer all six questions correctly. The data show that 16 percent (N=160) of 979 residents sent the quiz returned their answers, representing 16 percent from Apartment Complex A and 17 percent from Apartment Complex B. Overall, 86 percent of the residents who returned the quiz answered at least five out of six questions correctly; 70 percent answered all six questions correctly. Although almost equal proportions of residents from the two apartment complexes returned the

Table 4

Quiz Results

	Apartment Complex A	Apartment Complex B	Total
Residents sent quiz (i.e., eligible for drawing)	583 (100%)	396 (100%)	979 (100%)
Residents who returned quiz	91 (16%)	69 (17%)	160 (16%)
Residents who answered correctly:			
5/6 questions	81 (89%)	56 (81%)	137 (86%)
6/6 questions	70 (77%)	43 (62%)	113 (70%)

quiz, a larger percentage of residents from Apartment Complex A answered the questions correctly than did residents from Apartment Complex B (see Table 4). This discrepancy may reflect the higher socioeconomic status of the residents in Apartment Complex A.

The quiz variable is dichotomous, and measures whether or not a case is from a location where the quiz was distributed. A case receives a 1 if it is from Apartment Complex A or B (the two complexes where the quiz was distributed), or a 0 if it is not. The brochures were treated in a similar manner. Two dichotomous variables were created; one measures the use of the old brochure, and the other measures the use of the new brochure, leaving people who were observed at the traffic intersection as the comparison group for both variables.

Three independent variables that were external to the study design -- that is, were not introduced artificially as part of the experimental intervention -- were included for their possible interaction with the intervention variables: sex of driver, day of the observation (Wednesday or Saturday), and time of the observation (morning, noon, or early evening). Driver's sex was included because female drivers might be more likely than male drivers to buckle up as a result of the intervention. Day of the week was included in case drivers exhibited different patterns of belt use on weekdays compared with weekend days. Usage rates might also vary according to the time of day a person was driving, with commuters (presumably overrepresented in the morning shift of drivers exiting the complexes) more likely to buckle up due to heavier rush hour traffic than drivers leaving home to run errands or pay social visits (presumably overrepresented among drivers exiting at noon and during the early evening).

Additional Design Variables

Two other factors were included in the analysis to control for additional design characteristics: location and wave of data collection. Each location was chosen in part because of the socioeconomic status (SES) of its population, but the study did not measure this variable directly. Baseline seat belt usage rates varied by location due in part, perhaps, to SES differences (in particular, seat belt use was very low at Apartment Complex B). In order to control for these factors when estimating the impact of the interventions, dummy variables were created for the four apartment complexes, leaving the comparison location as the omitted

category.[1] The three waves of data to be analyzed were handled through the use of two dummy variables, one for the second wave of observations and one for the third wave, leaving the baseline observations as the comparison category.

Tests of Significance

Logistic regression was used to assess the impact of the interventions because this technique is designed to estimate dichotomous dependent variables while simultaneously controlling for multiple independent variables. Analysis using logistic regression was necessary to estimate the effects of the intervention variables on seat belt usage in a manner that takes into consideration all other independent and design variables.

For the logistic regression, the individual belt usage observations were not aggregated by location; instead each case was entered into the analysis as an independent observation, and the regression equation was estimated for the entire sample of almost 27,000 cases. Each case record consisted of a seat belt observation, the sex of the driver, the day of the week, the time of the observation, and all of the intervention and design variables associated with the location where the observation was made (e.g., type of brochure or no brochure, quiz or no quiz).

Modeling

Logistic regression modeling involves entering different sets of variables into an equation simultaneously and measuring the impact of each variable, while controlling for the rest. Multiple models may be developed before a researcher feels that one fits the data and the research design better than any other. Such is the case in this study -- several preliminary models were tested before developing the model we ultimately used in the analysis.

We began with a model which included all of the variables discussed above that might predict seat belt use -- sex, day of the week, time of day, new brochure, old brochure, quiz, the location variables, and wave. Day of week and time of day had no statistically significant

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[1] When there are more than two categories to measure, the categories are broken down into multiple dummy variables (the number of variables equals the number of categories, minus one). In this case there are five sites, so four dummy variables were constructed. The last category, referred to as the omitted or comparison category, has no variable to measure it.

impact on belt usage. However, before removing these two variables from the logistic regression, we tested for interactions between the day and shift variables, and each of the intervention variables, to see if the interventions had more of an impact for some shifts and days than for others. None of these interactions were statistically significant either, so to improve the statistical efficiency of the model, day and shift were dropped from the analysis.[2] When sex was left in the equation, female drivers were more likely than male drivers to wear their seat belts; however, the brochures and quiz did not change women's seat belt use any more than it changed men's. As a result, these interaction variables with sex were also dropped from the analysis.

The next model retained sex, the quiz, the location variables, and the brochure and wave variables, because they were found to have a significant effect on seat belt use. The brochure and wave variables were again entered separately to examine the effect of the brochures and time independent from one another, controlling for the above variables. This new model showed an overall positive effect of the brochures on seat belt use from the baseline point to the end of the observation periods. However, the results from this model are imprecise, because they average the two post-intervention observations (the effect of each brochure is measured by comparing the second and third waves simultaneously against the first wave). We needed a model that combined the brochure and wave variables into four interaction variables, to tell us more specifically how much change occurred and when it occurred. Using this model we could compare the effect of each brochure in each of the waves, allowing us to examine nonlinear trends over time. Results from this model are described below.

Limitations

The data were collected from five locations in a relatively small, northeastern city. As a result, the findings cannot be directly applied to other jurisdictions.

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[2] All variables which did not contribute to the prediction of the dependent variable (day of the week, time of day, and the interactions between the brochure variables and the day of the week, time of day, and sex) were removed to improve the reliability of the remaining regression coefficients.

Results

Changes in Belt Use

Figure 16 presents the trends in seat belt usage rates for all five locations over the three waves of observations. The apartment complexes that received the newly developed brochure experienced immediate increases in the seat belt usage rate, but these gains did not persist over the long term.[3] There was a numerical decline in seat belt usage at these locations between the first and third waves, but this overall change amounts to only a few percentage points. The seat belt usage rate for the location that received the existing brochure increased slightly over time, but the increase was small. The belt usage rate for the comparison location decreased throughout the study. Fluctuations in the experimental conditions which were not controlled by the research design caused this change (for example, differences in drivers observed at each wave, and in observers used during the third wave of data collection).

Influence of Independent Variables

Table 5 presents the results from the logistic regression model we ultimately developed, where the brochure and wave variables have been combined in order to examine directly the impact of each intervention over time. These variables measure the change in seat belt usage separately at the second and third waves, compared with the baseline rate. This model allows us to see the weak effect of the old brochure and the strong initial effect of the new brochure, controlling for the effects of the study design. Each variable must be interpreted as the effect of that attribute compared with the omitted category. For example, to interpret the impact of the variable for Apartment Complex A, one would discuss the impact of living in Apartment Complex A on seat belt usage compared with the impact of driving by the comparison location.

Residents who received the <u>new</u> brochure were 1.12 times more likely to wear their belts in the second wave than in the first wave. This increase was lost by the third wave, when the odds of wearing a belt (compared with behavior in the first wave of observations) were 0.93 for those drivers who received the new brochure. One possible explanation for this decline is that some of the residents who were observed in the third wave in September were not the same people who received the brochures in June. Many people move during the summer when their

[3] Statements about changes in this section of the chapter are based solely on the percentages shown in Figure 16, before controlling for independent variables, as described below.

Figure 16

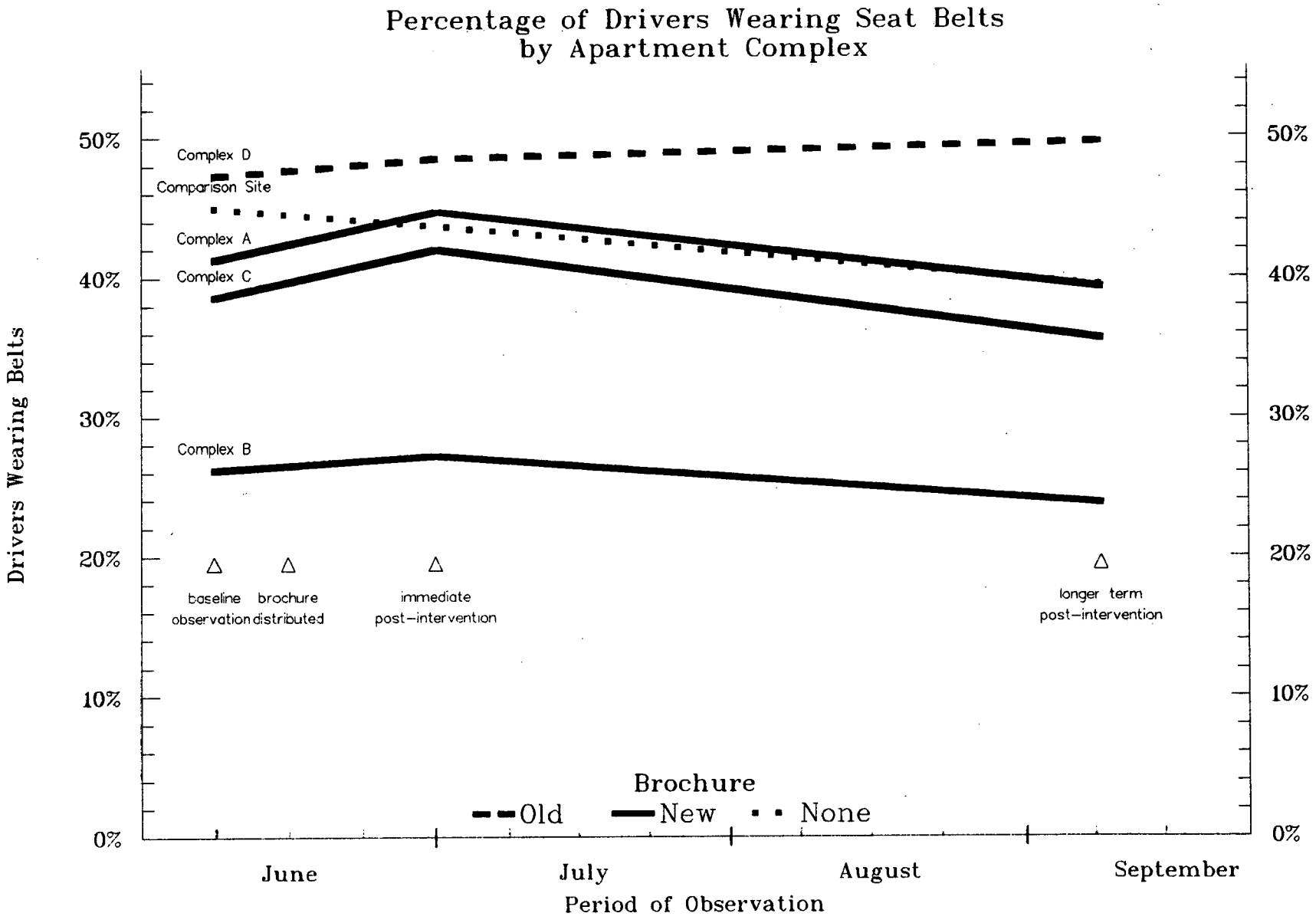
Percentage of Drivers Wearing Seat Belts
by Apartment Complex
Drivers Wearing Belts
50%
40%
30%
20%
10%
0%
Complex D
Comparison Site
Complex A
Complex C
Complex B
baseline observation
brochure distributed
immediate post-intervention
longer term post-intervention
Brochure
Old
New
None
June
July
August
September
Period of Observation

Table 5

Results of the Logistic Regression of the Probability of Wearing a Seat Belt on the Interventions and Driver Gender

Independent Variables	Regression Coefficients (level of significance in parentheses)	Odds Ratios
Constant	-.6418 (--)	---
Sex (female)	.2902 (<.01)	1.34
Old Brochure, Second Round	.0297 (.46)	1.03
Old Brochure, Third Round	.0421 (.37)	1.04
New Brochure, Second Round	.1161 (.02)	1.12
New Brochure, Third Round	-.0690 (.14)	.93
Quiz	-.0076 (.86)	.99
Apartment Complex A	-.0501 (.07)	.95
Apartment Complex B	-.4282 (<.01)	.47
Apartment Complex C	-.1537 (<.01)	.83
Apartment Complex D	.0622 (.08)	1.06

Log Likelihood: 34827.68 (p<.001)

Chi-Square: 1148.41 (p<.001)

N: 26867

df: 26855

children are not in school; this is especially true in more transient neighborhoods with numerous apartment complexes.[4] Thus, seat belt use may have declined at wave three compared with wave two because some residents who had received the brochure (and had, as a result, buckled up) had moved by the time of the final wave of observations and were replaced by residents who had not received the brochure (and, as a result, did not wear their seat belts). Other confounding factors may have contributed to the decrease in the third wave, including the use of different observers for the final wave of observations. Thus, the decreased belt use at the third wave may not indicate a decline in belt use among residents exposed to the new brochure.

There was a slight increase in the belt usage rates for residents receiving the existing brochure. Compared with the baseline rate, the increased odds of wearing a belt after receiving the existing brochure were 1.03 in the second wave and 1.04 in the third wave. Odds close to 1 indicate that the increase in the usage rate for drivers who received the existing brochure was slight; it was not statistically significant.

[4] See the last page of Chapter 3 for a discussion of the difficulties encountered when attempts were made to contact residents in the three apartment complexes for a post-intervention focus group.

4

Discussion

This chapter presents the policy implications of the study and recommendations for further research.

Implications for Replicating This Program

The study suggests that a brochure intended to generate and reduce low-level anxiety among part-time seat belt users can be used to increase belt use modestly in the short term even when disseminated to drivers who include non-users as well as part-time users. However, the post-intervention focus group suggested that some residents may not have opened the letter that included the brochure. (See Appendix E.) It is likely that if methods were found that could increase the percentage of drivers who read the brochure, even more drivers would increase their short-term use of seat belts. The study also indicated that the increased use the brochure stimulates may decline over time. It is likely that if methods could be found to reinforce the brochure's messages periodically over time, the initial increase in belt use the brochure achieved could be sustained.

The approach of arousing and reducing low-level anxiety that was tested in this study can be replicated in two different ways. First, local organizations may use the brochure by itself. Appendix F provides guidelines for using the brochure as a stand-alone activity.

A second approach to using the brochure is to include the document as one part of a community-wide program that uses a variety of activities all of which are based on the anxiety arousal and reduction strategy targeted to part-time users. Such a broad-based strategy would reach more segments of the community--not just apartment residents, or students, or workers. The strategy would make use of a variety of media and involve the participation of many organizations that would share responsibility for the campaign. The community as a whole would plan and tailor the program to meet its specific needs and take advantage of its own interests and capabilities.

Media could include television and radio, newspapers, billboards and signs, posters, and fliers and brochures. Organizations could develop brief public service announcements (PSAs) targeted to the part-time user for airing on radio or television, while public officials, entertainment or sports figures, and representatives of public interest groups could prepare press releases or short "pitches" on the hazards of part-time use. Slogans and factual information designed to create anxiety about not buckling up all the time could be presented on billboards, signs, and marquees on highways and in front of schools and businesses. Posters could be mounted in strategic places throughout the community. Written materials developed to supplement the brochure could be distributed to schools, businesses, and to other "gatekeepers" for further dissemination to the driving public. Finally, the Convincer could be made available at several well trafficked locations to demonstrate the potential consequences of a crash occurring at very low speeds.

Appendix B describes some of the advantages and drawbacks of these strategies. Program Activities Associated with Safety Belt Use: Volume 1: User's Summary, a publication available from the National Highway Safety Administration (NHTSA), documents the types of activities conducted at the community level that appear to be related to high belt use rates (Report No. DOT HS 807 382, November 1987, available from the Office of Driver and Pedestrian Safety, Room 6240, NRD-41, 400 Seventh Street, S.W., Washington, D.C. 20590).

Whether the brochure is used by itself or as part of a broader, community-wide campaign strategy of arousing and reducing low-level anxiety among part-time belt users, further dissemination of the brochure should be contingent on removing two obstacles to success revealed in the study: (1) identifying and implementing cost effective strategies to increase the number of drivers who read the brochure and (2) maintaining increased seat belt usage over time.

Promoting Readership

Both pre-test focus groups and the post-test focus group indicated that it is difficult to motivate many people to open an envelope that does not have visible and personal importance to them. Many people are unwilling to open what they consider to be "junk mail"--sales pitches

or solicitations for contributions. This suggests that future use of the brochure should involve a sponsor or multiple sponsors that have relevance to as many individuals in the target population as possible. Sponsors should be chosen that already have some ongoing relationship with the driver--for example, a landlord or employer--or that represent a field in which drivers have a personal interest--for example, child safety for parents, and insurance coverage, driver licensing, or automobile registration renewals for automobile owners. The fact that the sponsor used in the present study was able to motivate some residents to read the brochure, even though very few (if any) residents in the study had ever heard of the organization, suggests that a sponsor known and important to drivers might motivate many more drivers to read the brochure. Thus, one solution to the junk mail barrier may be to select a sponsor whose name makes clear that the material is not junk mail. A second solution may be to apply direct mail principles to mailing the brochure, including use of first class mail and name-addressed envelopes.

The study suggested that a monetary prize, at least under conditions similar to those involved in this study, may not motivate many drivers to read or re-read the brochure. Only 16 percent (N = 160) of the 979 residents who were sent the quiz and given the opportunity to participate in the cash prize drawing mailed back their answers. However, a large majority of residents who returned the quiz answered at least five of the six questions correctly, suggesting that they had read--or re-read--the brochure carefully.

Many of the residents who returned the quiz answers may have completed the quiz even if no monetary incentive had been offered. Anecdotal evidence suggests that some people answer quiz questions for its own sake. For example, several participants in the pre-intervention focus groups reported they would answer quiz questions on set belt use regardless of any offer to participate in a cash prize drawing based on answering correctly.

Sustaining Increased Belt Use

Sustaining increased belt use over the long term requires a continuous effort that may tax the resources or motivation of campaign sponsors. One solution to this problem is to select sponsors that are well positioned to maintain ongoing contact with the target audience. For example, employers and landlords have continual contact with employees and tenants that

provide ready-made avenues for repeating the brochure's messages in other formats. While the reminder postcards failed to maintain the increased belt use in the present study, this approach also had to overcome the junk mail barrier, whereas employers, landlords, and many other sponsors may be able to gain the instant attention of the target audience, even on repeated occasions.

The principal replication implication of the study is therefore that the brochure should be disseminated but only if the distribution can be combined with techniques that avoid or overcome the junk mail barrier and involve reinforcement over time.

Recommendations for Further Research

Further research could be devoted to improving both the strategy of arousing anxiety among part-time belt users and the use of the brochure as one method of creating such anxiety.

Refining the Strategy

Additional research is needed to identify methods of raising and reducing low-level anxiety more effectively among part-time belt-users than the study reported in this publication achieved. For example, additional studies could compare different content designed to make part-time users nervous. In particular, would attempting to induce low level anxiety about non-compliance with a State belt use law result in higher usage rates than focusing on the personal injury risks of driving unbuckled on local roads? Would attempting to raise low-level anxiety about both adverse consequences be more effective than focusing on just one? The effectiveness of different routes for disseminating anxiety arousing and reducing messages could also be studied, including comparisons of direct mail, hand delivery, media presentations, billboards, and the Convincer. Workplace and school-based campaigns could also be compared with each other and with community-wide programs.

Research is also needed to determine whether there are identifiable subgroups within the part-time user population that would respond better to messages developed especially for them. For example, some of the parents who participated in the focus groups indicated they were concerned to act as positive role models for their children; other parents were anxious to

make sure that a crash-related injury did not prevent them from fulfilling their responsibilities as a parent. This suggests that messages targeted specifically to parents who are part-time belt users might be effective. Messages could also be targeted to young women who always buckle up when they drive alone but do not wear their belt on a date with an unbuckled male driver. Testing messages targeted to pregnant women, the elderly, and health professionals could also yield useful information.

To provide an empirical basis for changing the current exclusive emphasis on non-users in current public relations, public information and education, and enforcement campaigns, it is important to compare the effect of several community-wide seat belt campaigns that vary from no attention to the part-time user to exclusive attention to the part-time user. If, as suggested in chapter 1 of this report, non-users are a difficult population to motivate while part-time users are more amenable to change, such a comparative evaluation might show that higher belt use results from an exclusive focus on the part-time user than does a focus on both groups or on only the non-user.

Further research is needed to identify effective ways to reinforce increased belt use over time. Such studies might involve observation of seat belt use, but use of self-reports would be a viable less expensive option. The information provided by this research would be valuable for suggesting how sponsors could make sure the increase in belt use they achieved by arousing and reducing low-level anxiety in the part-time user was maintained over the long run.

Improving the Brochure

Additional research would be helpful that compares the impact of a monetary prize on drivers' willingness to read or re-read the brochure with both no prize and with non-monetary prizes. In addition, it would be valuable to test whether the quiz alone motivates readers to read or re-read the brochure independently of any prize. Tests would also be useful to demonstrate the value of different methods of overcoming the junk mail barrier. Mailouts using different types of sponsors, and inclusion of the brochure with paychecks or utility bills, could be compared to determine the most effective means of motivating people to pay attention to the brochure.

These studies would not require observations of actual seat belt use. Their objective would be to determine under what conditions people are most likely to read the brochure. The present study already demonstrated that some drivers who read the brochure are likely to increase their belt use over the short term.

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APPENDICES

Appendix A

Literature Review Abstracts

Literature Review Abstracts

Study Abstracts

submitted to the

National Highway Traffic Safety Administration

in fulfillment of the literature review

for contract

DTNH22-89-C-07471

Encouraging Full-Time Use of Safety Belts Among Current Part-Time Users

by

Abt Associates

October 1989

Title: **Seat Belts Pay-off: A Follow-up Survey of the Seat Belts Pay-off Community Incentive Program**

Authors: Hunter, William W., Jane C. Stutts and Tamara Fishell

Source: University of North Carolina Highway Safety Research Center, January 1985

I. DOCUMENT PURPOSE AND OBJECTIVES

Briefly describes a community-wide seat belt incentive program conducted in 1983 and 1984 in Chapel Hill, North Carolina. Then presents in greater detail the results of a follow-up survey of 421 community residents conducted 6 months after completion of the incentive program.

II. CONTENT

A. Design

The original incentive program utilized both educational materials (e.g., fliers mailed to all residents, radio announcements, brochures given to program participants) and incentives (e.g., small prizes worth $3-$5, plus inclusion in a monthly drawing for $500 and a final drawing for $1,000). Incentives were given to drivers who were observed wearing their seat belt at any one of hundreds of sites throughout the community. In total, some 7,500 prizes were distributed to this community of 50,000 residents. Observed seat belt use rose from the pre-program level of 24 percent to 41 percent during the final week of the program. Follow-up measures indicate belt use remained at between 36 and 40 percent as late as one year after the program's completion.

The current study reports on a follow-up telephone survey of community residents designed to ascertain awareness of (and attitudes towards) the incentive program; self-reported seat belt use prior to, during, and after the program; and perceived factors influencing seat belt use.

B. **Sample or Target Populations**

Random samples from three distinct target populations were drawn for the follow-up survey: 1. university students (N=144), 2. community members not attending the university (N=203), and 3. incentive "winners" from the campaign (N=74).

C. **Methods**

Two different questionnaires were used, depending on whether or not the respondent had been aware of the program. All respondents were asked about their seat belt wearing behavior and for demographic information. Those who did know about the incentive program were also asked about their level of exposure (e.g., How did the respondent know about the program? Did the respondent ever see campaign staff distribute prizes to seat belt wearers? Had the respondent ever been stopped?) and attitudes towards the program.

D. **Findings**

1. Winners were more likely to report they "always" wore their seat belts prior to the campaign (66%, compared to 28% of students and 33% of community members). About 20-25 percent of respondents from each of the three samples reported wearing their seat belts more often during the campaign than before.

2. The three program elements most often rated as "strongly effective" were receiving cash payments, hearing about an accident involving a belted community resident who survived uninjured, and receiving reminders from family or friends to buckle up.

3. Comparisons of self-reported belt use before and after the program demonstrate the following increases:

Students	23%
Community	31%
Winners	23%
Community members, no knowledge of program	35%

The authors note that these responses "appear inflated" in that the actual observed belt use rate increased 17 percent, from 24 to 41 percent.

4. Those reporting they did not always buckle up at the time of the survey most often gave "not in the habit" and "only use them on long trips" as their reasons.

III. CRITIQUE

The most obvious weakness in the study is the failure to use the sample with no knowledge of the program as a comparison group in analyzing self-reported belt use before, during, and after the campaign was in effect. Since respondents with "no knowledge" of the campaign reported changes in seat belt use similar to program participants, influences apart from the program may be responsible for the self-reported effects. Respondents may be inflating their seat belt use (exhibiting a "social desirability" bias). Or, those who reported "no knowledge" of the program might have been exposed to the campaign, but later forgotten. Conversely, regular seat belt use prior to the program may be associated with awareness of the campaign (i.e., perhaps the campaign was "preaching to the converted"). Analysis of differences between respondents who were or were not aware of the program could have been used to explore these possibilities.

Features of the study of relevance to the proposed new NHTSA initiative include the following:

- the amount and frequency of lottery prizes
- the program alternatives rated most often as "strongly effective"
- the reasons part-time users gave for not buckling up all the time
- the fact that the lottery prize winners were more likely than other participants to report they were full-time users before the campaign began.

Title: **Long-Term Effects of Employer-Based Programs to Motivate Safety Belt Use**

Authors: Geller, E. Scott, Galen R. Lehman, James R. Rudd, Michael Kalsher, and Fredrick Streff

Source: NHTSA report # DOT-HS-807-11, February 1987

I. DOCUMENT PURPOSE AND OBJECTIVES

To review the methods, findings, and effects of 10 different employer-based seat belt programs. Program effects were measured through follow-up observations from 6 to 18 months post-program.

II. CONTENT

A. Design

This review compares four basic program designs: 1. immediate rewards after direct observation of seat belt use ("Direct"); 2. awareness sessions during which pledge cards were distributed, or direct observations followed by a "thank you," but neither with extrinsic rewards ("No Reward"); 3. the recording of license numbers of vehicles whose drivers were observed wearing seat belts, and a subsequent chance of receiving a reward ("Delayed"); and 4. incentives to reward the signing of pledge cards, with no observation of seat belt use ("Indirect").

B. Sample or Target Populations

All programs were based in the workplace.

C. Methods

Compares observed seat belt use rates before, during, and after each program. Seat belt use rates are then examined by type of intervention.

D. Findings

The attached table (Table 3 from the study, p.18) presents the findings given in this report. The only type of program design that failed to exhibit a long-term increase in seat belt use was the use of pledge cards with incentives ("Indirect and delayed").

Table 3

Average Percent Change in Safety Belt Use as a Function of Program Type*

Percent Change (Net Gain)
(n = # of observed drivers)

TYPE OF PROGRAM	BASELINE TO FIRST INTERVENTION	BASELINE TO WITHDRAWAL	BASELINE TO FOLLOW-UP
Direct and Immediate 6 Locations (n = 67,939) 7 Interventions	**137%** 6 Locations (n = 63,979) 6 Interventions	**88%** 5 Locations (n = 55,924) 5 Interventions	**62%** 4 Locations (n = 52,837) 4 Interventions
Direct and Delayed 6 Locations (n = 127,420) 6 Interventions	**101%** 5 Locations (n = 109,860) 5 Interventions	**52%** 5 Locations (n = 109,860) 5 Interventions	**15%** 5 Locations (n = 109,860) 5 Interventions
Indirect and Delayed 1 Location (n = 4,642) 2 Interventions	**46%** 1 Location (n = 4,642) 2 Interventions	**12%** 1 Location (n = 3,175) 1 Intervention	**-4%** 1 Location (n = 3,175) 1 Intervention
No Reward 5 Locations (n = 30,136) 6 Interventions	**187%** 5 Locations (n = 30,136) 6 Interventions	**285%** 3 Locations (n = 15,970) 4 Interventions	**152%** 2 Locations (n = 5,565) 2 Interventions
Policy 2 Locations (n = 14,406) 2 Interventions	**66%** 2 Locations (n = 14,406) 2 Interventions	**77%** 2 Locations (n = 14,406) 2 Interventions	——— NA

*Taken from E. Scott Geller et al., Long-Term Effects of Employer-Based Programs to Motivate Safety Belt Use, U.S. Department of Transportation, National Highway Traffic Safety Administration report #DOT-HS-807-11, February, 1987.

Interestingly, the design utilizing awareness sessions with no extrinsic rewards showed the highest increase in seat belt use. Further, the increase in belt use observed immediately after program intervention appears to fade over time. The authors suggest that "intermittent introduction of such programs...are necessary for substantial long-term maintenance of safety belt use" (p. 26). The greater impact of the "no reward" strategies is said to be "unexpected and provocative...suggesting a critical need for further research" (p.27).

III. CRITIQUE

The organizational scheme of the study notwithstanding, the programs reviewed do not fit neatly into any one of four categories. Specifically, some worksites used more than one strategy, and some of the "no reward" programs used pledge cards when others used the "thank you" sign. While aggregating the findings based on program type appears logical, the overlapping of certain program designs and program locations makes conclusions tenuous.

The unexpected finding that the "no reward" programs yielded the longest lasting results is not adequately explained. The rates of the three "no reward" sites show that one of them, a company in Greenville North Carolina, nearly doubled the increase of the other two sites (245% vs. 140% and 150%). This was also the site of the program that used an education/awareness approach involving small group discussions and pledge cards. Whether the small group discussions were actually effective (alone or in combination with pledge cards), or whether some other outside factor in the community accounts for the anomalous rise in seat belt use, is unclear.

The review is significant for the present NHTSA initiative particularly in its finding that the only program design feature that failed to exhibit a long-term increase in seat belt use was the use of pledge cards with incentives. Furthermore, the greater impact of the "no reward" strategies suggests the need to include at least one no reward

strategy in the present experiment. The description of the design and distribution of the pledge cards are of interest to the present study if the new initiative is designed to incorporate the use of this strategy. Pledge cards with instructions for periodic pledge card lotteries were distributed on campus by placing them under vehicle windshield wipers. Pledge cards, raffle "deposit boxes," and promotional posters were located at the sites of merchants who contributed prizes for the raffles and in several campus buildings (e.g., student union, faculty/staff motor pool, book store, library, classroom buildings, and campus police department). Each academic quarter, public prize drawings were held on three consecutive weeks. Prize winners were drawn from the pool of "buckle-up" pledge cards turned in. Also, owners of vehicles with the upper portion of the pledge card hanging from the inside, rear-view mirror (as a "buckle-up" reminder) were eligible for prize coupons placed intermittently under vehicle windshield wipers by campus police. Sweepstakes winners were announced in local newspapers, and on radio and television.

Title: **Never Say Always: Perspectives on Safety Belt Use**

Authors: Rothe, J. Peter and Peter J. Cooper

Source: Insurance Corporation of British Columbia, 1988

I. DOCUMENT PURPOSE AND OBJECTIVES

To describe why and when people do not wear seat belts and suggest ways to motivate regular seat belt use.

II. CONTENT

A. Design

This document presents two studies. The first study employs qualitative and quantitative data collection techniques (focus groups and personal interviews) to explore differences between seat belt wearers, non-wearers, and part-time wearers. The second study describes two seat belt promotion campaigns conducted by the Insurance Corporation of British Columbia. The abstract below addresses each of the two studies separately.

B. Target Populations

1. Drivers observed not wearing their seat belts at several highway rest stops across the province of British Columbia were eligible to be included in several focus groups. Motorists (observed wearers and non-wearers) stopped over a six-week period at one of several highway rest areas or exits in the vicinity of Vancouver were interviewed individually.

2. Of the two seat belt campaigns described in document, one was targeted to habitual non-users and the other to part-time users.

C. Methods

1. Issues relating to seat belt use were discussed in ten focus groups of six motorists each and in interviews with 390 motorists. Respondents' driving records were also accessed.

2. While no secondary analyses were performed, the interventions and reported effects of the two seat belt campaigns are presented.

D. **Findings**

1. *Focus group and interview findings*

(a) The authors conclude that virtually every driver is a part-time safety belt user:"....[P]eople seldom wear safety belts every time they are in a vehicle...people will take risks...especially...when the locations vary between highway sites and urban streets." (p.3)

(b) Most of the drivers in the focus groups identified themselves as part-time users. The focus groups identified several factors associated with seat belt use by part-time users:

- distance and duration of trip
- speed and type of road
- estimated risk of accident
- traffic density
- condition of seat belts (comfort/cleanliness)
- activities in the car that require removal of seat belts (e.g., child care, retrieval of an object from the back seat)

Specifically, part-time users report they are least likely to buckle up on short trips. They assume that because local travel involves relatively slow speeds, a crash is unlikely--and if one does occur, injuries are unlikely to result. Some part-time users also do not buckle up when there is little traffic regardless of the trip length, because they perceived no risk of crashing under these circumstances. Some part-time users report they are more likely to buckle up when dangerous road conditions (i.e., rain, ice, snow) exist which may reduce the driver's control. Less frequent explanations for not buckling up include being in a hurry and simply forgetting.

Myths and social norms also seem to influence participants' decisions to buckle up, such as the belief that seat belts often contribute to injuries and that not wearing one's seat belt is an expression of personal freedom or trust in the driver's skill.

(c) Analysis of the survey failed to find many distinctions between observed wearers and nonwearers associated with several demographic and attitudinal measures, or driving behaviors. However, 31 percent of the respondents who subsequently reported they "sometimes" wear safety belts said that when they do buckle up they are motivated principally by a desire to comply with the law.

(d) Several messages for use with part-time belt users are suggested based on actual use during the focus group.

2. Safety belt campaign findings

(a) Television commercials used in the campaigns include several messages targeted to part-time users. The script for the messages is provided (pp. 137-138). This was the only material relevant to the present NHTSA effort.

III. CRITIQUE

The claim that "when speaking about safety belt wearing, we should 'never say always'," unfairly reduces the concept of full-time users to meaninglessness. Clearly, there are many users who buckle up all the time. While they may unbuckle momentarily to grab something from the back seat, or not buckle up to drive 50 feet from their house to their driveway, conceptually and analytically, and from a policymaking perspective, it is unrealistic to categorize these drivers as "part-time" users.

The book's information on why part-time users do not always buckle up and under what conditions they do and do not wear belts is relevant to the present study's effort to design messages that will motivate full-time use. The inclusion of the text of actual messages targeted to part-time users is also pertinent.

The descriptive information provided about the two safety belt campaigns was insufficient to permit a critique of their impact.

Appendix B

Process Used for Selecting Test Materials (Interventions)

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Process Used for Selecting Test Materials (Interventions)

The figure lists the interventions that were initially considered and how they were rated along several dimensions by six seat belt use motivation experts. The experts included two researchers with the National Highway Traffic Safety Administration, a researcher with Transport Canada, and one state highway safety specialist each from Texas, Connecticut, and New Jersey. A brief discussion of each possible intervention based on the opinions of the experts follows.

Convincer. This is a mechanical device that enables belted subjects to experience the impact of an automobile crash at three different speeds ranging from 2 mph to 7 mph. The experts agreed the device had considerable motivational potential. An observational study by James McKnight (personal communication) ten years ago found modest short-term increases in belt use among high school students who rode the Convincer. The principal drawback to the device is the need for liability insurance, which Abt Associates' underwriter would not provide. There have been lawsuits by users in at least three states claiming personal injury. As a result, New Jersey has discontinued using the device. In addition, getting people to ride the Convincer can be a problem: the machine can develop mechanical problems, it makes a loud noise that can be disruptive in residential neighborhoods, and replication requires access to the machine and possible payment of a rental fee.

Figure

Opinions of Six Experts Regarding Interventions Considered

Intervention	motivational potential	level of interaction	ease of implementation	cost to implement	replication potential
Convincer	excellent	very good	difficult	unknown	fair
map exercise	good	good	uneven	cheap	poor
pledge cards	fair	poor	uneven	cheap	good
brochure	fair	poor	easy	moderate	good
radio PSA	fair	poor	difficult	moderate	fair
role play	fair	very good	difficult	cheap	poor

Map exercise. Subjects locate where they, their family members, and their friends had their most recent automobile accident and "close call," and where they most recently observed an accident and close call. While this exercise has good motivational potential, not everyone can read maps well enough to do it. It may also be difficult to get people to engage in the interactive parts of the exercise. Replicating the exercise requires someone to spend time at the police station and chart the accident locations. The needed data may not be available from the police.

Pledge cards. Subjects sign a card promising to buckle up every time they drive for a specified period of time and to record whether they did. The experts agreed that the goal of the pledge is to develop a short-term habit of buckling up that endures. However, there was no consensus on whether pledge cards can increase either short-term or long-term belt use. To be effective, pledge cards may have to be distributed in person by a respected source.

Brochure. A brief brochure, well illustrated and with little text, can also provide a self-administered quiz at the end. While the experts felt that it would be easy to develop and replicate a brochure, its motivation potential was seen as only fair because many people do not read brochures. Some of this reluctance might be overcome if the brochure were distributed by a respected source.

Radio PSA. Most experts felt public service announcements (PSAs) are expensive to produce and difficult to get aired during prime time. Half the experts also believed radio PSAs have little impact on seat belt use. For most radio stations, it would be impossible to prevent residents in the comparison site from hearing the PSA, making it difficult to design a valid test of the approach.

Role play. The experts agreed that role play activities in which subjects are asked to play the parts of individuals trying to persuade others to buckle up were not feasible because it is difficult to motivate adults to role play without guidance from a skilled facilitator.

Based on the experts' opinions and further discussion with NHTSA staff, it was decided to develop a brochure and quiz as the interventions. The other interventions under consideration were judged to be either difficult to implement in a study of this nature or impracticable for other jurisdictions to replicate.

Appendix C

Pre-Test Focus Group Moderator's Guide
April 1990

Appendix C

Pre-Test Focus Group Moderator's Guide
April 1990

Minutes

10 **INTRODUCTION:** Hello. My name is Donna DeMarco, and I am the moderator of this group. We are here today to talk about some safety campaign materials. This work is being sponsored by the U.S. Department of Transportation as part of a study on safety.

Ground Rules: For those of you who have never participated in a focus group discussion, let me explain how they work.

First of all, I work for an independent research and consulting company. I am hired to find out what people think about different issues and materials. Today, as I mentioned, we will be talking about safety campaign materials.

We will be tape recording the discussion so that I don't have to write down everything you say. The people in the back of the room are here to take notes for me and will not be participating in our discussion.

Since we are tape recording, I will ask you to talk one at a time and in a voice at least as loud as mine. If more than one person speaks at a time, it makes it very hard to decipher what was said when I go back to listen to the tape.

You are being paid for two things today: For your time and for voicing your opinions.

Feel free to make any negative or positive comments about anything that comes up in the course of the discussion. I am interested in all your opinions, both good and bad. There are no right or wrong answers, just different opinions.

I do want to hear from everyone here. Some of us tend to feel more comfortable talking than others, but it's important that I hear from each one of you.

Introduction by Members: Let's begin by going around the room and introducing yourselves to the group. Please tell us:

- your name
- the type of car you drive most often; what you use your car for; how far you usually drive
- how you go through your mail after you've picked it up (separate out the bills first? throw out the junk mail? etc.)
- what you do with promotional material you get (throw it away unopened? open and read only if it's an organization you're familiar with? etc.)
- what kinds of promotions you like and don't like

Minutes

15 I. ADVANCE LETTERS

Instructions: Hand each participant the envelope with his or her name on it. (Remember that the members of the first focus group will receive the longer letter in their envelope; members of the second group will receive the shorter letter in their envelope.) Ask the participants to pretend they are at home opening their mail.

Discussion:

A. Ask participants what they would have done with the letter if they had received it in the mail.

B. Probe for:

(1) What they would have done with the letter.
(2) What effect the letter would have had on them.
(3) What was effective about the letter in persuading them:

- to read it.
- to save it.
- to keep an eye out for the flier.

(4) What, specifically, would have made them:

- throw it away.
- not read it to the end.

(5) What could have been said in the letter that would have persuaded them:

- to read it.
- to save it as a reminder.
- to keep an eye out for the flier.

Instructions: Pass out the second advance letter (not in an envelope). Explain that we may want to use the second letter instead of the one they just read.

Discussion: Repeat the probes used for the first advance letter but concentrate on having the participants compare the two letters. (Remember that the order in which the two letters are distributed will be reversed for the second focus group.) Focus in particular on:

(1) The jazzier wording about the drawing at the beginning of the longer letter--(full CAPS, explanation point, "It could be you!" sentence, etc.).

(2) The repeated extra emphasis on the prize money in the longer letter.

(3) The paragraph in the longer letter about "As health care professionals...."

(4) The P.S. at the bottom of the longer letter.

(5) The extra length of the longer letter versus the briefness of the shorter letter.

Instructions: Ask participants to rank the two letters in terms of which one is better overall, and then in terms of which one:

(1) they would be more likely to read.
(2) they would be more likely to save.
(3) would be more effective in persuading them to keep an eye out for the flier.

55 II. COVER LETTER, FLIER, AND QUIZ

Instructions: Hand out the package of materials containing the cover letter, flier, and quiz. Give the first focus group the packet that contains Flier #1. Give the second focus group the packet that contains Flier #2. Have the participants read through all the materials (without talking to their neighbors) and answer the quiz questions. Allow them to read the materials in any order they wish.

(10) Discussion Letter: Probe for:

(1) What effect the cover letter would have had on them.

(2) What was effective about the letter in persuading them:

- to read it.
- to want to read the flier.

(3) What specific changes in the letter would have persuaded them:

- not to throw it away.
- to read it to the end.
- to want to read the flier.

(35) Discussion
Flier:
[#1 for first group]
[#2 for second group]

Probe for:

(1) What effect the flier would have had on them.

(2) What, specifically, was effective about the flier in persuading them:

- to read it all the way through.
- to use seat belts more often or in a greater number of circumstances.

Probe for specific (a) concepts, (b) sentences, and (c) graphics that would help persuade them to use seat belts more often; be sure to probe for the following:

-- whether participants picked up on the phrase "You never know when...." and found it important or meaningful.

-- whether participants feel the risk of getting hit by a drunk driver in their neighborhood would help persuade them to buckle up more often.

-- whether the tag line, "BUCKLE UP! EVERY TIME! EVERY TRIP!", would help persuade them to buckle up more often.

(3) What specific changes in the (a) concepts, (b) sentences, or (c) illustrations would have persuaded them to:

- read the flier to the end.
- buckle up more often.

(5) Discussion
Quiz:

Discuss, question by question, whether participants had any difficulty answering any of the quiz questions. Probe for what the difficulties were and how the wording should be changed.

(5) Discussion
Follow-up Letter:

Probe for:

(1) What effect the follow-up letter would have on them.

(2) What about the letter would have been effective in persuading them to return the quiz.

(3) What specific changes in the letter would persuade them to fill out and return the quiz.

15 III. SECOND FLIER

Instructions: Tell the participants that we are considering using a second flier instead of the first flier they already discussed. Do not mention any of the differences between the two fliers. Pass out the second flier. (Remember that the order in which the two fliers are passed out is reversed for the second focus group.) Ask participants to read the second flier.

Discussion:

A. Ask participants to identify:

(1) what was more--and less--effective about the second flier for persuading them to read it.

(2) what was more--and less--effective about the second flier in persuading them to use their seat belts more often.

B. Identify for the participants the differences in the two fliers that they did not identify on their own during the preceding discussion. For each difference, ask whether the feature would be more or less effective compared with the first flier in persuading them to:

- read the flier.
- use their seat belts more often.

C. The differences between the two fliers are as follows:

(1) Flier #2 mentions the quiz and drawing at the very beginning; Flier #1 makes no mention of them.

(2) Flier #2 uses the word "crash"; Flier #1 uses the word "accident."

(3) Flier #2 presents an analogy between locking one's home and buckling up: you always lock your door, so you should always buckle up.

Instructions: Ask the participants to rank the fliers in terms of which one is better overall, and then in terms of:

(1) which one they would be more likely to read all the way through.
(2) which one would be more persuasive in getting them to wear their seat belts more often.

15 IV. INCENTIVE/DRAWING SCHEME

Discussion Quiz:

A. Discuss whether participants would--or would not--fill out and mail back the quiz. Probe for what would persuade them to mail it back, and what would discourage them.

B. Ask what kinds of cash prizes would persuade them to fill out and return the flier. Probe for:

(1) whether they prefer to have several smaller prizes or fewer larger prizes.
(2) the smallest amount of money that would motivate them.

C. Discuss participants' opinions of where we should tell people about the quiz and drawing. Probe for:

(1) whether to mention them in the flier.
(2) where to mention them in the flier: at the beginning, middle, or end.
(3) whether to mention the quiz and drawing in the advance and cover letters. Probe for:

--which letters should mention them.
--where in the letters they should be mentioned.

5 V. SPONSOR

Instructions: Inform the group that we are planning to have a local organization send the letters and flier with its name and address on the materials.

Discussion:

A. Ask what type of organization would make them most likely to pay attention to the flier and return the quiz, and why.

B. Ask which specific organization (name of specific hospital, insurance company, etc.) would have the most influence on them and why.

C. Ask which of the following hospitals and insurance companies would, as sponsor, have the most influence in persuading them to read the flier and buckle up more often:

Hospitals	Insurance Companies
Mount Sinai Hospital	Nationwide
Hartford Hospital	Phoenix Mutual
St. Francis Hospital	Travelers
	Hartford Insurance Group
	Aetna

5 VI. RECAP/CONCLUSIONS

Instructions: If time, hold up copies of the flier printed on different colored paper and ask participants to indicate their preferred color.

Instructions: Review with Abt/DOT staff any topics not covered that should now be raised

REMINDER COLLECT ALL MATERIALS FROM EACH PARTICIPANT

Appendix D

Results of Pre-Test Focus Group

Appendix D

Results of Pre-Test Focus Groups

Two pre-test focus groups were conducted with 29 individuals, 15 in one group and 14 in another group. The figure provides demographic information about the participants. Participants were screened to ensure they lived in an apartment, regularly drove an automobile, were part-time seat belt users, and earned between $15,000-$45,000 annually if single or between $25,000-$50,000 if married. The screening criteria were designed to enable us to recruit participants who were roughly comparable to the people to whom the final brochure would be sent. The focus groups were conducted in a suburb of Hartford, Connecticut, in the general area in which the study would be conducted. Each group discussion lasted nearly two hours.

The focus groups were designed to indicate whether people would open a letter sent to their home and, if so, whether they would read the enclosed brochure and complete the enclosed quiz. Participants were also asked to indicate whether the themes and messages in the brochure made them somewhat nervous about driving in their local neighborhood and whether the brochure would motivate them to buckle up more often. A copy of the focus group moderator's guide is provided in Appendix C.

The discussion below presents the participants' comments on each of the materials they were asked to review: advance letter, cover letter, brochure, quiz, and reminder letter. Comments from the two groups are combined in the discussion.

Advance Letter

Participants were given an envelope containing the advance letter. The envelopes were addressed by name to each participant and had the name and address of a fictitious local hospital as the return address. Participants were asked to open the envelope and read the letter. Participants were then asked if they would have opened such a letter if it had been sent to their home. Some said they open all their mail, others reported they never open any "junk mail," and still others said they opened some junk mail depending on whether they felt the materials would

Figure

Pre-Test Focus Group Participants Characteristics

Gender	
male:	10
female:	19
Age	
18-29	10
30-39	11
40-59	8
Marital Status	
married	10
single	19
Income	
$15-$40K	16
$25-$50K	13
Employment	
full-time	25
part-time	3
unemployed	1

be of interest. Participants who were selective about opening junk mail reported they usually threw out mail unopened that was addressed to "resident" or had "sweepstakes" printed on the envelope.

Most of the participants reported that an advance letter of any type was unnecessary--especially if a cover letter would accompany the brochure. Participants were particularly offended by the offer of a cash prize announced at the beginning of the letter. Immediate mention of the prize was considered "tacky" and insulting.

Brochure Cover Letter

Most participants felt that a cover letter accompanying the brochure was also not needed. As with the advance letter, participants were especially opposed to any mention of the cash prize at the beginning of the cover letter.

Brochure

In general, participants liked the brochure--they found it easy to read, well formatted, and informative. Participants reported that three items in the brochure were especially effective in creating some anxiety about driving unbuckled on local roads:

- the possibility that drunk drivers might be using back roads to escape attention from the police (three participants said they themselves used to do this);
- the fact that the force of a crash at 30 miles per hour is like diving from a three story building; and
- the illustration and accompanying text explaining that in a crash of only 10 miles per hour, the driver will hit the windshield with just as much force as if someone tried to catch a lead weight dropped from seven feet above that weighs as much as the driver.

A few participants expressed concern about the possiblity of a crash because a driver's attention wandered. Most participants liked the tag line. BUCKLE UP! EVERY TIME! EVERY TRIP! Participants also felt the illustrations were useful.

While a few participants thought the brochure should point out that driving unbuckled is against the law, other participants resented the idea of being reminded of the statute. An analogy that suggested that just as people always lock the door to their house when they leave home, so they should always buckle up when they drive a car, met with a mixed reception. Some participants reported they do not always lock their house or apartment when leaving. Finally, participants were unanimous in recommending that there be no mention of the cash prize drawing in the brochure; the drawing should be mentioned only in the cover letter and as part of the separately inserted quiz.

Most participants said they would throw the brochure away after reading it, but a few said they would pass it on to someone else to read. While most participants reported that certain messages did generate some nervousness about driving unbuckled on local roads, most also reported that the brochure would have no lasting effect in getting them to buckle up more often; at best, it might stimulate them to increase their belt use for a couple of days.

Quiz

All the participants reported they would fill out and mail back the quiz except for two participants who "weren't interested enough to bother." Several participants realized the purpose of the quiz was to motivate them to reread the brochure--and several of them in fact did so in an attempt to answer the questions correctly. Participants reported they found the quiz challenging and some of the answers surprising. A few mentioned taking the quiz was a learning experience in and of itself. Only a couple of participants said the quiz would not make any difference in whether they read or reread the brochure.

While most participants felt the quiz would motivate them to reread the brochure, or to read it carefully the first time, opinions were mixed about whether the cash prize drawing increased their motivation to complete the quiz. Some said they would not complete the quiz without the prize, but others said they would fill in the quiz even if no prize were offered.

Reminder Letter

All participants reported that a reminder letter was unnecessary--they felt they were being pestered. One participant thought the letter contained his "prize" money.

Sponsor

Participants were asked to identify the types of organizations or agencies they felt would make credible sponsors of the brochure. Most participants felt that hospitals and emergency medical service organizations would be the most effective sponsors for motivating people to open the letter and read the brochure. While a few participants said that insurance companies would be credible sponsors, most felt that insurance companies, as profit making firms, would not lend credibility to the brochure. (Numerous insurance companies have their headquarters in Hartford.) There were mixed feelings about a government agency sponsoring the brochure. Some participants were particularly troubled by the idea of a government agency sponsoring a cash prize drawing in a time of fiscal constraint. Specific government agencies about which participants disagreed in terms of their credibility as sponsors included the state department of motor vehicles and the U.S. Department of Transportation.

Appendix E

Results of Post-Test Focus Group

Appendix E

Results of Post-Test Focus Group

A post-test focus group was conducted with eight apartment complex residents who recalled seeing the mailing or having read the brochure. The figure provides information about the focus group participants. Four apartment residents attended from Apartment Complex A, two from Apartment Complex C, and two from two streets that border or intersect Apartment Complex B.[1,2] Half the participants were male. Two participants reported they always use their seat belts,[3] four said they sometimes use them, and two said they never buckle up. The focus group was held on September 19, approximately fourteen weeks after the brochure was mailed and about four weeks after the second reminder postcard was mailed.

The focus group results should be viewed with considerable caution. As noted, the participants received the brochure over three months before the session, so their recall of how the mailing affected them may be inaccurate. More importantly, the participants were not typical of apartment residents who received the brochure. Because so few residents were willing to participate, those who did agree were likely to be dissimilar in important ways to the residents who refused to participate or who could not be reached. (See recruitment discussion under Follow-up Focus Group at the end of chapter 2.)

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[1]See Figure 2 in Chapter 2 for a description of each apartment complex.

[2] Originally, we intended to conduct four focus groups, one for each apartment complex. However, we were unable to recruit any residents from the apartment complex that received the existing brochure and a total of only eight participants from the other three apartments volunteered, despite an increase in the cooperation payment offered and placement of posters announcing the focus group in the apartment complexes.

[3]Although residents were screened for seat belt use and were excluded from participation if they had always used their seat belts in the previous six months, during the focus group discussion it became clear that two participants who had reported being part-time users said they in fact buckled up all the time.

Figure

Selected Characteristics of Post-Test Focus Group Participants

Participant	Sex	Involvement	Baseline Seat Belt Use	Residence[a]
1	F	read brochure	never	A
2	F	read brochure	sometimes	B
3	M	read brochure	always	A
4	M	read brochure	sometimes	B
5	F	glanced at brochure	always	C
6	F	glanced at brochure	never	C
7	M	didn't open envelope	sometimes	A
8	M	didn't open envelope	sometimes	A

[a] See Figure 2 in Chapter 2 for a description of the apartment complexes.

Reasons Brochure Was Read

Six participants reported they opened the letter containing the brochure. The sponsor's logo (TBIA) and curiosity were the principal reasons given for opening the letter. Four participants reported they read the brochure, and two said they "glanced" at it. Those who read the brochure did so because of the opportunity to enter the drawing and win some money (two participants); a friend told her to read it; and the information seemed related to brain injuries, and she was a nurse. Interest in winning the drawing motivated three participants to reread the brochure in order to answer the quiz questions correctly.

The cover letter and reminder postcards did not appear to have influenced any participant to read the brochure. No one remembered receiving a cover letter, and only two participants recalled receiving a reminder postcard.

Brochure's Impact

Participants who were part-time users and non-users, and who read the brochure, reported it had almost no impact on their use of safety belts. Participants remembered very little of the information and messages in the brochure. The only segment that more than one participant remembered unprompted was the information pertaining to the very low speeds at which drivers have been killed in crashes. Two participants said they remembered the image of jumping off a building, when the moderator reread the passage. When prompted, two participants also said they remembered the image of the weight falling on someone. No one remembered the theme--BUCKLE UP! EVERY TIME! EVERY TRIP!

The two participants who read the brochure and were part-time users gave different explanations for why the brochure had no impact on them.

- One argued [incorrectly] that in certain crashes (e.g., getting rammed sideways) it is safer not to be buckled so the driver could be thrown across the front seat rather than be crushed. The participant also said that "It's a pain to buckle up when you make a lot of stops to run errands--I'm just lazy."

- The second part-time user said she felt "claustrophobic" with belts on--she hated to feel "tied down." She also said that there is no traffic on the local roads, and there are more crashes and drunk drivers on highways than on local roads.

Participants reported that although the warnings about the dangers of local driving highlighted by the brochure were realistic, the document either did not make them anxious or nervous about driving in their neighborhoods or did so for only a moment or two (#s 1, 2). Several participants agreed that the possibility mentioned in the brochure of encountering drunk drivers or children in the streets made them nervous. A few participants reported that three features of local driving not mentioned in the brochure also made them anxious: other drivers running red lights and stop signs; drivers driving too fast; and drivers weaving. However, the part-time users and non-users reported that none of these concerns would motivate them to buckle up more often.

Appendix F

Guidelines for Future Use of Seat Belt Brochure

Appendix F

Guidelines for Future Use of Seat Belt Brochure

This appendix is intended for individuals who have read the study presented in this publication and have decided to use the brochure targeted to part-time seat belt users that was tested in the study. The appendix provides guidelines for how local groups can use the brochure most effectively. The appendix begins with the rationale for using a brochure targeted to part-time seat belt users. Discussions of how to identify audiences for the brochure, a sponsor, incentives, and supplementary materials follow. A concluding section recommends that groups that distribute the brochure evaluate its effect on seat belt use.

Figure 4 in Chapter 2 is a reproduced copy of the brochure. For information about obtaining a camera-ready copy of the brochure without the logo of the sponsor used in the study, write to:

National Highway Traffic Safety Administration
Office of Driver and Pedestrian Research
Room 6240, NRD-41
400 Seventh Street, S.W.
Washington, D.C. 20590

Reproductions of other materials used in the study are listed in the table of contents and provided in the body of this report.

Campaign Rationale[1]

A large percentage of drivers use their seat belts only some of the time--typically, situations in which they feel some risk of crash involvement, such as high speed roads, long trips, or bad weather. Most of these part-time users believe that driving on short trips around their neighborhood does not expose them to a significant risk of crash--or at least of a crash involving personal injury. The campaign guidelines provided here are designed to make part-time users feel low-level anxiety about the true hazards of what they currently consider to be a safe activity--driving on local roads at low speeds. Having made these drivers somewhat nervous about driving in their local community, the campaign offers the solution to their uneasiness they have already adopted in other situations: wearing seat belts.

Almost all current materials designed to encourage safety belt use are targeted toward non-users, a relatively small percentage of the driving population and a group that is especially difficult to motivate to buckle up. Materials targeted to non-users are unlikely to attract the attention of drivers who buckle up part of the time, because these materials focus on the fundamental rationales for using belts that part-time users already accept. These materials also miss the mark because they attempt to get drivers to initiate a behavior part-time users already sometimes engage in. Yet, compared with people who do not use belts at all, part-time users would seem to be more likely to change their belt-use habits. Getting people to do more of something that they already do in some situations should be easier than getting them to initiate a totally new behavior. If they are amenable to using belts on some occasions then they do not harbor the strong "anti-belt" sentiments expressed by many confirmed non-users. Strategies targeting part-time users therefore need not deal with the problems of changing people's basic attitudes about the acceptability and effectiveness of safety belts. Instead, approaches can focus on expanding the number of situations in which people use belts from an already established

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[1] A more complete explanation of the rationale for the campaign may be found in Chapter 1 of this publication.

base. The brochure developed for the study and recommended in this appendix has precisely this focus.

The discussion above explains the rationale for developing special messages designed to motivate the part-time seat belt user to buckle up more often. The seat belt campaign recommended in this appendix addresses a second set of motivational issues: inducing drivers and passengers to read or re-read the brochure. Only if people read the brochure will the specially designed messages have a chance to exert their effect. Motivating people to read the brochure involves:

1. selecting an audience that can be reached with the brochure;
2. identifying a respected organization to sponsor the brochure;
3. providing prizes for people to read the brochure; and
4. preparing supplementary materials that reinforce the desirability of reading the brochure.

Each of these motivational strategies is discussed below.

Identify Target Audience

The most important criterion for selecting a target audience is the extent to which the individuals can be easily reached with the brochure. Size of the group will also be a consideration: it may be more important to reach 25 percent of a group of 5,000 individuals than to reach 90 percent of a group of 500 individuals.

Apartment residents were chosen for the study reported in this publication because they could be easily observed driving out of the apartment complex parking lot. However, "captive audiences" such as apartment residents are also a good target group because there are usually existing communication channels for sending them the brochure--landlords, for example,

communicate regularly with tenants. Similarly, school administrators have ready access to their students, and employers have frequent contact with their employees. The names and addresses of tenants, students, and employees can often be conveniently secured for purposes of mailing the brochure. However, a direct-mail approach might not be feasible for an area-wide or state-wide effort. Instead, landlords, school administrators, and employers can insert the brochure into other materials, including report cards, announcements, and paychecks. Individual apartment managers, work supervisors, and faculty can also distribute the brochure by hand.

Many businesses can provide ready access to their customers or clients. Banks, insurance companies, and utilities--electric, gas, and telephone--can all include the brochure in the materials they regularly mail to their customers. Automobile clubs, rental car agencies, and automobile sales and repair shops might agree to pass out the brochure. Some state agencies may be willing to distribute the brochure--for example, the department of motor vehicles might include the brochure with license or registration renewals.

Finally, most people are members of one or more professional or social organizations that have mailing lists of members. Such groups include the American Association for Retired Professionals, Veterans of Foreign Wars, the American Medical Association, labor unions, religious bodies, fraternal organizations (Elks, Moose, Rotary, etc.), and parent teacher organizations.

Identify a Sponsor

The reason for selecting an organization to sponsor the brochure and other campaign materials is that many people who will throw an envelope or brochure in the wastebasket without opening and reading it will respond to a mailing that has the name and logo of a respected organization on it. In many cases, the choice of the target audience will dictate or at least suggest the choice of sponsor. For example, if employees at a worksite are the target audience, the company may be the best sponsor. If the members of a professional association are the target, it may be easiest and most effective for the association itself to sponsor the campaign.

However, the conduit for reaching the target audience (say, an employer) may not be the most effective group for motivating the target audience (employees) to read the brochure. In this example, the employer may be useful in gaining access to employees but lack the credibility of other organizations for promoting safety and health. Figure F-1 presents a list of potential sponsors.

The most effective strategy for recruiting a sponsor is to identify how sponsorship would benefit the organization. Many groups are very interested in participating in campaigns that fall within their mandate as long as they do not have to devote much time or money to the effort. Participation provides them with an opportunity to further the goals they have been established to achieve and to publicize themselves. Organizations often find it useful to describe such sponsorship when they report to their board of directors or try to raise funds. The key is not to ask the group for money.

Recruiting a sponsor requires sharing immediately and fully what the group will be expected to do: Sign a cover letter? Sponsor a drawing? Mail 5,000 reminder postcards? Pay for the postage? A group may take issue with a statement in the brochure but be willing to put aside its disagreement if the text is not "sprung" on it later on.

Care should be taken in talking with potential sponsors if a cash prize drawing or nonmonetary prizes that must be purchased will be part of the campaign. Many groups are concerned that by sponsoring such strategies their members may wonder where the organizations found so much money to "give away." Special steps may be required to meet this concern, such as noting in the cover letter or as part of the instructions for the prize drawing that the prize money was not provided by the sponsoring organization.

Consider Implementing a Prize

A number of attempts to motivate drivers to wear safety belts have rewarded people who were observed buckled up. A campaign that uses the part-time user brochure can more

Figure F-1

Partial List of Organizations
That Might Sponsor the Campaign*

Educators

National Education Association
American Driver and Traffic Safety Education Association
Association of State Supervisors of Driver Education
Driving School Association of America
Local Parent-Teacher Association (PTA) chapters
National Science Teachers Association

National Association of Secondary School Principals
National Association of Student Councils

Civic, Service, and Safety

Boy Scouts of American chapters
Girl Scouts of the U.S.A. chapters
American Association of Retired Persons (AARP) chapters
General Federation of Women's Clubs
American Automobile Association chapters
American Red Cross
Local Consumer Affairs Associations
Veterans of Foreign Wars lodges
Future Farmers of America

Law Enforcement

Local police and sheriffs departments
State Highway Patrol

Medical, Physician, and Child Protection

State Child Passenger Safety Association
American Academy of Pediatrics
American Association of Oral and Maxillofacial Surgeons
American Association of Automotive Medicine
American Academy of Orthopedic Surgeons
American Hospital Association
American Medical Association
Society for Public Health Education
American Academy of Family Physicians
American Trauma Society
American Spinal Cord Injury Association
American Public Health Association
American College of Preventive Medicine
Association for the Advancement of Health Education
National Head Injury Foundation

* Adapted from U.S. Department of Transportation, National Safety Belt Program, National Highway Traffic Safety Administration: Washington, D.C.: 1983.

appropriately make use of a prize to motivate drivers to read the brochure--or re-read it. One such prize is to include quiz questions based on the brochure. The quiz can be used independently as a motivating device or in conjunction with a cash prize drawing for drivers who mail back the correct answers. A reproduction of the quiz used in the study reported in this publication may be found in Figure 6 in Chapter 2. A reproducible copy of the quiz without the sponsor's return address may be obtained from the National Highway Traffic Safety Administration at the address provided earlier in this appendix.

Providing the quiz alone, without the offer of a cash prize drawing, may stimulate many people to read the brochure carefully just for the fun of testing their knowledge. By stimulating people to re-read the brochure, the quiz encourages multiple exposure to the information in the document. If the quiz is used by itself, the correct answers to the questions should be printed somewhere on the quiz so readers can see how well they did.

If cash prizes are offered, it is essential to seek the advice of the attorney general and city attorney before considering the use of a monetary incentive, because states and localities have special regulations governing cash prize drawings and lotteries. Campaign planners will then need to revise the description of the terms of the drawing listed on the quiz used for the present study to reflect these local legal conditions. Thought should also be given to whether to offer several small prizes (e.g., forty $25.00 prizes), one large prize (e.g., $1,000) or, as was done in the present study, a combination of small and large prizes (ten $50.00 prizes and one $500.00 prize). There is no empirical evidence to suggest which option is best. Campaign planners need to guess which approach will be most effective with their particular target audience. The expense of paying the return postage on the quiz must also be estimated in considering the total costs involved in using a quiz with a cash prize drawing to motivate people to read the brochure.

In deciding whether to use a monetary prize, campaign planners needs to consider whether money is likely to influence the specific audience for their campaign to read the brochure. For example, people with large incomes may not feel it is worth participating in a drawing, while individuals with less income may be more motivated to respond.

Non-monetary prizes may also be effective in motivating people to read the brochure, for example, gift certificates, meal coupons, or discount coupons at local retail and fast food stores, or inexpensive prizes like pens and flashlights that local businesses may be willing to donate. One way to determine the most effective potential motivators is to conduct one or more focus groups with the target audience and ask what kinds of prizes would stimulate them to read the brochure.

Choose Supplementary Materials

Campaign planners can include a cover letter with the brochure and use several types of reminders after the brochure has been distributed.[2] Reminders can be in the form of postcards, signs, posters, and public service announcements.

When a prize is part of the campaign, supplementary materials may create a sense of anticipation among readers about the opportunity to win if they are willing to read the brochure carefully. For example, a cover letter can draw readers' attention to the prize, while the reminders can help people recall that they are missing a chance to win something for free if they ignore the brochure.

Another reason to use a cover letter is to lend credibility to the brochure by highlighting who is sponsoring the campaign and why. In addition, some organizations may be willing to sponsor the campaign only if they have an opportunity to describe themselves in a cover letter.

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[2] Focus group discussions held at the beginning of the study suggested that sending an advance letter informing people that they would be receiving a brochure and an opportunity to participate in a cash prize drawing would not increase the number of people who would read the brochure.

Another supplementary material to consider is a map of the local community that indicates where injury-producing crashes have taken place recently in the neighborhood. Some drivers may be convinced about the dangers of driving on local roads if they recognize street names in their community where people have been injured in automobile crashes--and realize how close the streets are to their own home. Preparing a map requires going to the police department to identify where crashes occurred during the previous six months or year and drawing arrows on the map to identify the locations. Figure F-2 is a map of a local community that suggests what such a map might look like; Figure F-3 suggests text that might be printed on the back of the map. (The arrows on the map in Figure F-2 are for illustrative purpose only; they do not indicate where crashes actually occurred.) The map can be inserted into the brochure.

Cost and labor are important considerations in deciding whether to use supplementary materials. Newspapers and radio and television stations have to be persuaded to run PSAs, and in most cases they require the artwork and tapes to be provided. (However, radio stations often prefer that only text be provided, which their own announcers read.) If postcard reminders are used, they must be printed and postage has to be paid. While they can be hand delivered, postcards (or other written reminders) that are slipped under people's doors may have less credibility than reminders that are received by first class mail.[3] By contrast, it can be inexpensive and simple to print and place reminder signs or posters on bulletin boards, in lobbies, or in parking lots.

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[3] The same considerations about whether to distribute the postcards by mail or by hand also apply to the decision of how to disseminate the brochure. Campaign planners also need to decide whether to use a mailing service to provide names and addresses--and address labels--or to type up the address labels themselves. Using a mailing service may be less expensive, but it creates the impression that the mailing is a sales promotion or solicitation for funds. While it may require more labor to type the address labels, comments from the focus group members who reviewed a draft of the brochure suggested that people who receive a letter with a hand-typed label are much more likely to open it.

Figure F-2

Community Map with Indications of Injury-Causing Accidents during Past Six Months

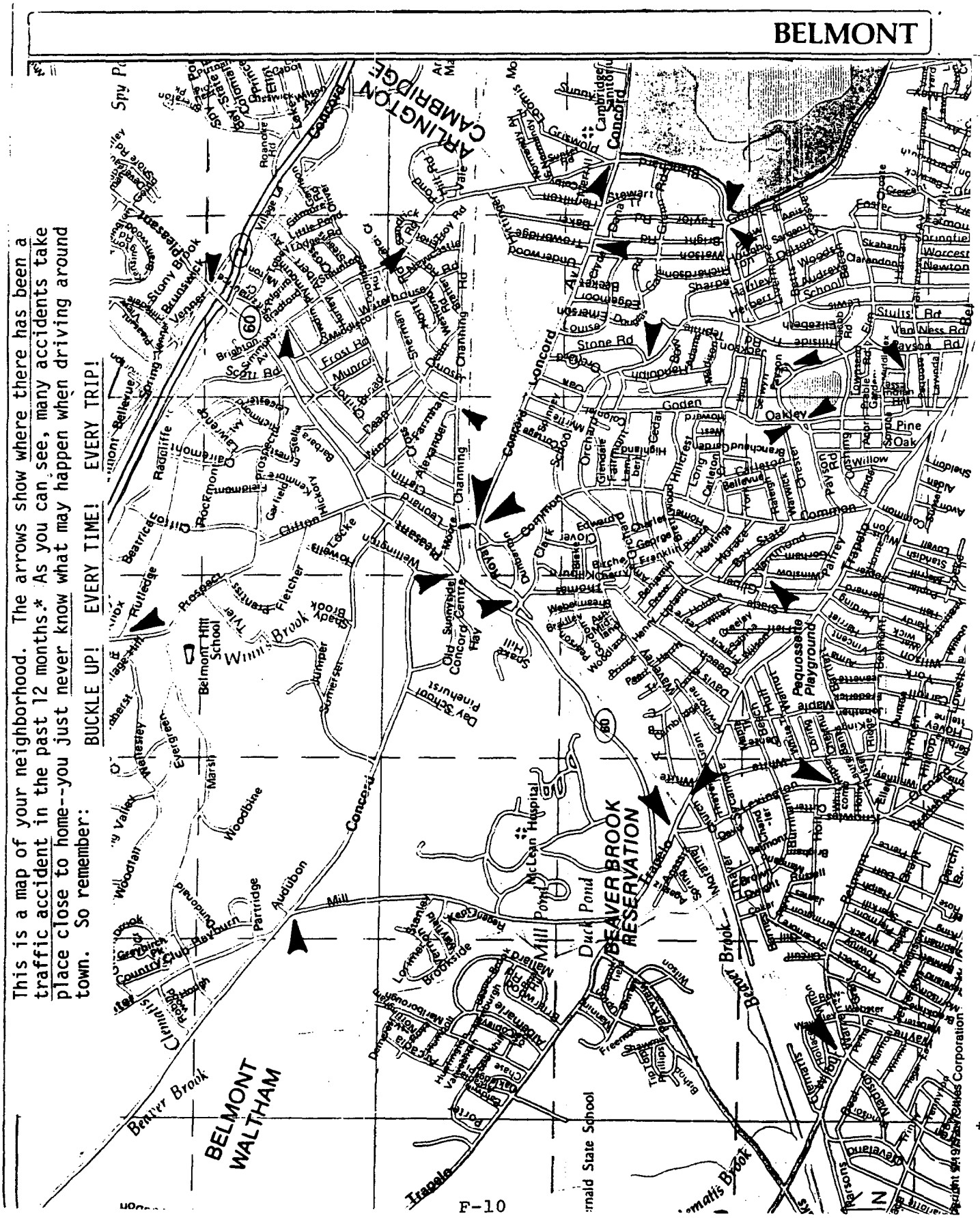

Figure F-3

Suggested Text to Accompany a
Map Highlighting Local Automobile Accidents

On the other side of this insert is a map of your neighborhood. You will find a number of arrows on the map. Each arrow indicates where a vehicle occupant was injured in a traffic crash in your neighborhood in the past 12 months. As you can see, there have been a number of crashes near where you live. So crashes don't just happen on the highways--they also take place when you go visiting friends, drive to the grocery store, or commute a short distance to work.

This means you can't assume you don't need to wear your seat belts on a short trip. In fact, as the map shows, you never know when you might get into an crash. So:

BUCKLE UP!

EVERY TIME!

EVERY TRIP!

For more information about why you need to buckle up all the time, please read the attached flier.

The most cost-effective means of reminding drivers to read the brochure and buckle up is to link the campaign with other safety belt programs. This approach requires finding out who else is--or will be--conducting seat belt campaigns at the local and state level, and to integrate efforts so that other programs highlight the brochure or include messages targeted to the part-time seat belt user. It may be possible for several campaigns to work together in complementary fashion to promote increased use by emphasizing different safety belt themes; at the same time, it may be possible to pool funds and staff to maximize the impact of all the individual efforts.

Evaluate Results

Many campaign planners do not have the time or resources to evaluate the results of their safety campaign. In addition, a valid assessment is not always easy to undertake; specialized skills in evaluation design and statistics are typically required. However, evaluation results can help show a board of directors how effective program staff have been; results also make good copy for media exposure. Positive results can also be used during fund raising drives to document the organization's effectiveness. Most of all, evaluation results make it possible to make an informed decision to discontinue--or revamp--a campaign that is not achieving its goal.

Campaign planners have several options for conducting an evaluation, including observations of seat belt use, telephone surveys, mail surveys, and focus groups. One way to keep costs down is to secure the assistance of volunteers, such as people willing to observe seat belt use and statisticians willing to help design the evaluation and interpret the results.

Information on how to evaluate a safety campaign may be found in two publications. How to Plan a Comprehensive Community Occupant Protection Program provides guidelines for planning a campaign in a manner that makes it possible to evaluate whether the program had any effect. The publication also includes a bibliography of other evaluation materials that can be

easily obtained. A second publication, Guidelines for Conducting a Survey of the Use of Safety Belts and Child Safety Seats, provides guidelines for conducting observations of seat belt use. A single free copy of each publication may be obtained by writing to:

National Highway Traffic Safety Administration
Transportation Safety Programs
NTS-13
400 Seventh Street, S.W.
Washington, D.C. 20590