SEAT BELT INCENTIVE PROGRAMS:

AN EXTENSION TO THREE NORTH CAROLINA HIGH SCHOOLS

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ACKNOWLEDGMENTS

A project such as this, in three diverse locations and high schools, requires the talents, energy and coordination of a number of people. We have benefited greatly from their contributions and wish to thank:

At Ben L. Smith High School, Greensboro: Principal Bennie Higgins who sought out HSRC with his interests in safety for his students. Grace Jeffers and other volunteer members of the PTA worked to raise incentives, distribute prizes and collect on-site data.

At Lumberton Senior High School, Lumberton: The tireless efforts of Gaylen Hayes, Robeson County Public Health Educator, gave the project its results. She contacted the principal and Board of Health members to support the project, persuaded merchants to donate incentives, distributed the prizes and collected data. A big supporter at the high school was the principal, Dr. Charles Gainey.

At Laney High School, Wilmington: New Hanover County Public Health Educator, Sharon Mault was able to pull together diverse parts and implement a successful project in her county. As with Gaylen, enthusiasm and perseverence were key elements in Sharon's approach. Key supporters at the high school were the principal, Mr. Kenneth McLaurin, and assistant principals, Mr. Mike Sabrinsky and Mrs. Martha Taylor.

At Highway Safety Research Center: Lauren Marchetti developed the bumper stickers and school fact sheet. Jane Stutts and Dick Stewart contributed editorial and statistical review of this report. Mei-Mei Hewitt, Tamara Fishell and Elizabeth Hamilton performed a variety of computer program needs. Teresa Parks, Donna Suttles and Peggy James did their usual excellent typing jobs throughout this project.

Finally, sincere thanks to the high school students who were our willing "guinea pigs". They showed that behavior change can and does take place and they did it with politeness and enthusiasm. We wish them safe driving in the years to come.

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CHAPTER 1. INTRODUCTION

This report describes seat belt incentive programs with three North Carolina high schools and thus represents an extension of earlier incentive activity by the Highway Safety Research Center (HSRC). In 1982, HSRC's first projects of this type were conducted at Chapel Hill High School and the state headquarters of North Carolina Blue Cross and Blue Shield (Campbell, Hunter, Stewart and Stutts, 1982). These projects were followed by a more ambitious campaign in 1983 for the Chapel Hill-Carrboro community, a university setting with approximately 50,000 people (Campbell, Hunter, Gemming and Stewart, 1984).

A similar method was utilized in all of the efforts, whereby participants first received educational information concerning the need to wear seat belts, followed by the awarding of prizes to occupants correctly "buckled up" whose vehicles were randomly selected from the traffic stream. All of these projects were quite successful in achieving follow-up seat belt use rates far in excess of baseline rates. At Chapel Hill High School, the baseline belt use rate (driver shoulder belt only) was 20 percent. During the incentive phase, the overall rate increased to 53 percent. After the prize-giving had ended, an overall rate of 36 percent was achieved. In other words, there was only a modest decrease in the belt use rate that was attained during the incentive phase. The community campaign, entitled "Seat Belts Pay Off," is notable in that follow-up use rates above 40 percent were maintained some two years after the onset of the program. The mean baseline for the community was 24 percent (Figure 1.1).

The three high school projects described in this report represent a departure from the other HSRC activities in that control of project events resided with local personnel, either school staff or health educators aided by parents or other volunteers. HSRC's role was to train the local personnel in all aspects of project requirements (e.g., data collection, gathering of prizes for rewards, distribution of rewards, publicity, scheduling, etc.) and then monitor the results so that advising, problem solving, etc. could take place as needed. Such a project structure allowed spreading this approach to three different areas of North Carolina.

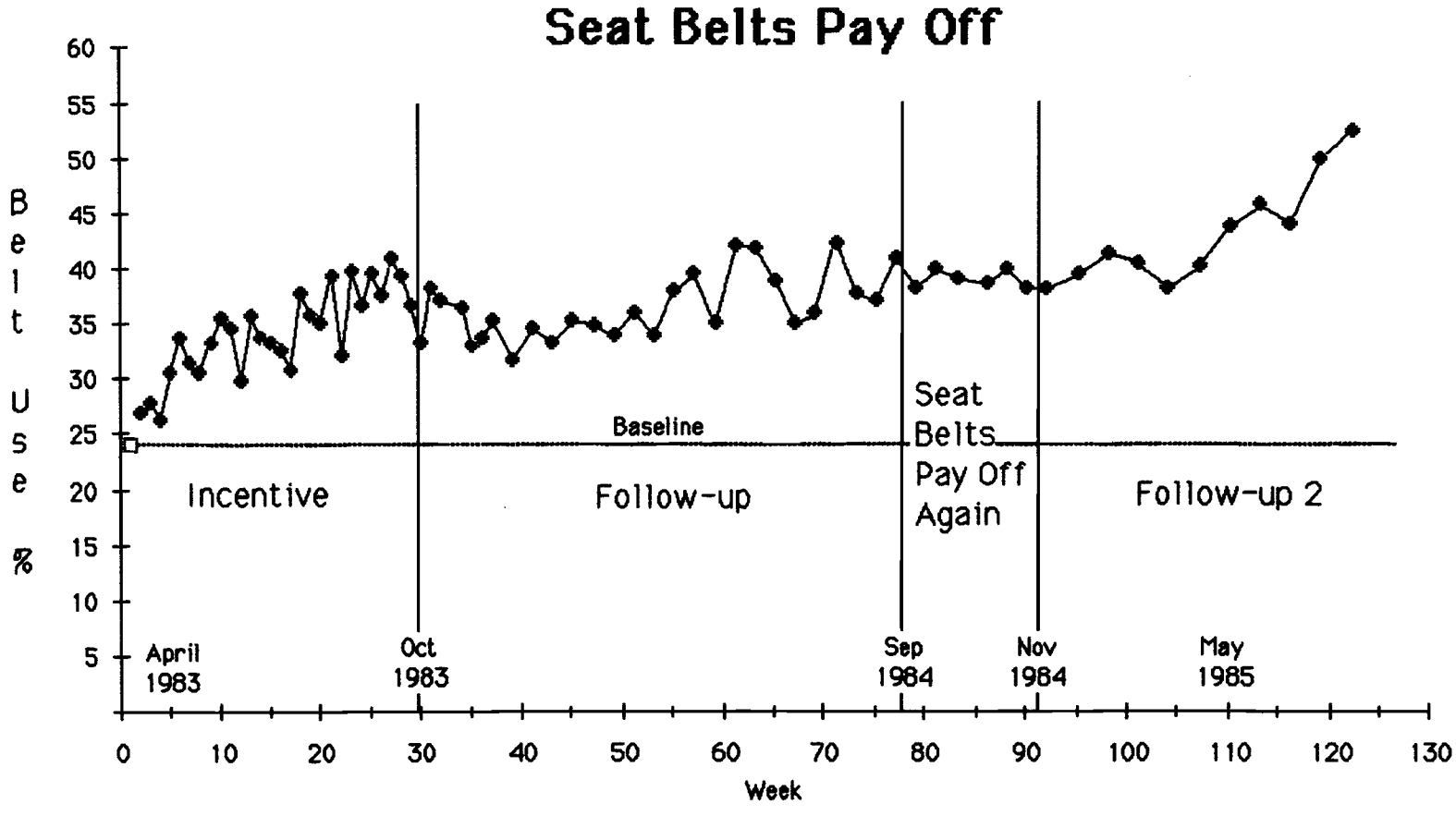

Figure 1.1. Community belt use rate by phase for the Seat Belts Pay Off campaign.

CHAPTER 2. METHODOLOGY

Overall Approach

In planning for these three high school projects, the decision was made to model the programs after the Chapel Hill High School approach used a few years earlier. Thus, several phases were emphasized:

1. Planning.
2. Education.
3. Incentives.
4. Follow-up.

Following initial planning and training of data collectors, educational presentations concerning the need to wear seat belts were made to all students and faculty shortly before the beginning of the incentive phase. We asked that the incentive and follow-up phases last at least four weeks, and all schools complied.

Prizes for seat belt wearing were obtained by local project personnel, as no grant monies were available to purchase such items. Again, following the Chapel Hill High School model, modest rewards were given "on the spot" to seat belt wearers, with individual winners being eligible for later drawings for additional prizes. The follow-up phase was conducted without further rewards, so that the persistence of any belt-wearing effects could be identified.

As data were collected in the phases, forms and data sheets were mailed to HSRC for processing and analysis. In this way, periodic feedback about the success of the program could be given to the local coordinator, as well as suggestions about scheduling, additional promotion, etc. All schools were encouraged to let the students know how the belt use rates were progressing over time, and this was accomplished through intercom announcements and interactions between the local project staff and passing vehicles.

Identification of Sites and Training

The HSRC staff sent out a letter of inquiry describing the incentive project to 25 high schools across North Carolina (Appendix A). The response to this letter was not overwhelming, and many of the schools appeared to be busily involved in other projects. Thus, in two of the three schools selected (Laney

High School, Wilmington, and Lumberton Senior High School), the director for the county health department had already shown high interest in the concept. The third school, Ben L. Smith in Greensboro, had also shown prior interest through the efforts of the local parent-teacher association chairperson. Enthusiasm was necessarily a prime requisite for any potential participant, because seat belt incentive projects are quite labor-intensive.

Early visits were made during October and November of 1984 to each site to determine project feasibility based on local enthusiasm, staffing, parking lot traffic patterns, number of daily drivers, etc. The project was explained to school officials and parent groups, as well as the health director and health board, when appropriate. In Lumberton the Board of Education received a memo, written by the health educator in charge of the project, describing the project (Appendix B). Near the end of November, 1984, personnel in Greensboro, Lumberton, and Wilmington, North Carolina, were notified of their selection. Scheduling of phases for the remainder of the school year was then completed.

HSRC staff trained all local coordinators to collect driver shoulder belt data. In addition, other school staff and parents/volunteers were involved in the training at Greensboro. A data collection form was developed for each school to facilitate the data editing and entry by HSRC staff.

The Educational Presentation

Once data collectors were trained and had completed baseline data collection (roughly five to six times over a four to six week period), HSRC staff presented educational sessions at each school in February and March. Three simultaneous presentations were made to the sophomore, junior, and senior classes in Greensboro, while a single presentation to all students was the mode in Lumberton and Wilmington. The presentations lasted for 30 minutes and included a short film clip focusing on both belted and unbelted dummies in staged crashes. In addition, take-home material was distributed to each student. This material, developed by HSRC, included a bumper sticker, seat belt fact sheet individualized for each school, contest rules, and a pamphlet, "Get It On" from the Motor Vehicle Manufacturers Association. Examples of some of the items can be found in Appendices C and D.

Specifics for Each Site

Ben L. Smith High School - Greensboro

Ben L. Smith is one of several high schools in Greensboro, which is a major city in North Carolina. Smith High School had approximately 400 registered student vehicles and a campus setting with two entrances that would facilitate data collection and awarding of incentives. There was an active SADD group (Students Against Drunk Driving), as well as parents who were involved in volunteer projects at the school. The recent death of a former student (who was unbelted) in an automobile accident added particular emphasis to a seat belt project. Student enrollment was approximately 1,150, distributed racially as about 60 percent white and 40 percent black. The principal, Mr. Bennie Higgins, described the student body as reflecting "typical middle America."

The responsibility for raising prizes in the community fell to a group of parents active in the Smith PTA, although the school principal was in charge of overall project coordination. The reward given each belted occupant in the selected vehicles was a voucher, redeemable at the school office, for free food at the McDonald's chain. The voucher is shown in Appendix E. Prizes that were to be given at daily and weekly drawings (using the vouchers) were collected from area merchants and included hair dryers, basketballs, sneakers, T-shirts and socks, radios, movie tickets, free dry cleaning, car wash coupons, pizza dinners and other miscellaneous donations. Grand prizes awarded at the end of the incentive phase were a box radio, a class ring, a leather basketball, and a free visit to a hair stylist.

Awarding of prizes was the responsibility of a team of parents, while data collection was shared between school staff and parents. The month of March, 1985, was designated as the incentive phase, and data collection and prizes were varied by site and time of day throughout the month. On the average, student prizes were distributed and data collected three times per week each. Faculty were also eligible for the rewards but were only stopped and checked for belt use about once per week. All data collection and prize-giving was accomplished using only three sites on the school grounds. Prize giving and data collection were never conducted simultaneously to avoid contamination of the data, as was the case at all schools. The incentive phase ended on March 29, 1985, and follow-up data were then collected two to three times per week until mid-May.

Lumberton Senior High School

Lumberton is a small agricultural town in the south central portion of North Carolina. Lumberton Senior is one of two large high schools in the county

and has a student enrollment of about 1000. The distribution by race is 57 percent white, 37 percent black, and 6 percent American Indian. Slightly less than one-third of the students ride buses to school. This project was coordinated by Ms. Gaylen Hayes, a health educator in the Robeson County Health Department, who had good cooperation from both Health Department staff and school officials. After an early contact with the principal and student council advisor, a planning meeting was held that involved the health educator, the health department director, the student council advisor, and eight student council members. The students were quite supportive and volunteered to provide helpers, if needed. Official endorsement came from the principal and the county board of health. Strategically, it was important to delineate the responsibilities and involvement of the health department and school.

A local group, the Life Underwriters' Association of Robeson County, was contacted for financial support, and their organization was able to provide slightly more than $1000. This was used to provide 145 coupons redeemable for $5 in cash at the school office, five $25 weekly lotteries, and three grand prizes of $100 each (awarded at the conclusion of the incentive phase). In addition, fast food coupons from McDonald's, Burger King, Pizza Hut, and Western Sizzlin' were received.

After an educational presentation to the entire student body on February 27, 1985, the incentive phase was initiated on March 12 and lasted until May 9, 1985. The prize-giving was interrupted for one week in April for spring break.

As is the protocol, data collection and awarding of prizes varied throughout the incentive phase. Three locations in or near the school parking lots were needed to handle the data collection and prize-giving. Prizes tended to be awarded two to four times each week and data collected two to three times per week of the eight-week incentive phase. The follow-up phase lasted one month.

Laney High School - Wilmington

Wilmington is located near the Atlantic Coast and is a major port for the state of North Carolina; tourism is also a major producer of revenue. Laney is one of three large high schools in the city and was chosen because the traffic patterns and site layout were conducive to our basic approach. The student enrollment is around 1200, distributed racially as 73 percent white, 27 percent black.

The project organization was similar to Lumberton in that the New Hanover County Health Department was the focus organization. Ms. Sharon Mault, a health

educator for the department, was the project coordinator. She had been active in the child passenger safety program and had been encouraged to participate in local community projects of this nature by the health director and board of health.

Concerning prizes, the Worsley Corporation, owners of the local Scotchman convenience stores, donated 300 coupons redeemable for $5 worth of merchandise at a recently opened store. In addition, two weekly drawings were held for a free pizza, using as entries the names of students who had claimed one of the daily prizes. Some $330 was used for grand prize drawings, distributed as one $80 grand prize, two $25 prizes, five $20 prizes, and ten $10 prizes.

April was designated as the incentive month following a mid-March educational presentation. As happened in Lumberton, the one-week spring break occurred during the incentive phase. Rewards were generally given three times per week to students only at the different sites. Follow-up data were then collected during May. Near the end of May, about one hundred individual coupons had not been claimed. The decision was made to redistribute these to students during the first week in June. In addition, three dinners-for-two were given to faculty members during this same period. Thus, Laney had two separate incentive phases. The grand prize drawings followed the second incentive phase, near the end of school.

To reiterate, HSRC staff stayed in close contact with all site coordinators as the project unfolded. HSRC received belt use data every week or so from each school, checked for errors, and then entered onto a dataset for storage and analysis. In addition to keeping a close check on the use rates, HSRC personnel were available for telephone consultation and problem-solving as issues arose.

Student Wrap-Up Discussion

At the end of the incentive phase, HSRC staff visited each school to discuss the overall project with small groups (two groups of 10-15 persons each) of students. The meetings lasted from 30 minutes to one hour per group, depending on local scheduling. The students were selected by the principal or health educator, and HSRC asked that the groups be representative of the entire student body. The students were asked their opinions and recommendations for the project. Because we wanted them to speak freely, only HSRC staff were involved in the meeting. The feedback from this exchange is contained in the discussion section of this report.

CHAPTER 3. RESULTS

Data Characteristics

Since numerous people (e.g., health educators, parents, etc.) were collecting data, data were limited to the driver position only. Observers noted student shoulder belt use by race and sex for each passenger car equipped with shoulder belts (i.e., non-convertibles of recent enough vintage to have a head restraint) passing the designated checkpoints. Trucks, vans, utility vehicles, and other "special" vehicles were omitted from the data because shoulder belts are not always available, and including such vehicles would result in consistency problems. All vehicles, however, were eligible for prizes during the incentive phase.

The data collection scheme was dependent on the available staff resources at each location. While each school chose a slightly different means of operation, all were consistent in maintaining their chosen pattern across all phases. In addition, the most frequent times for data collection were the 8 a.m. and 3 p.m. periods.

To cite some examples, Greensboro utilized both school staff and parents to collect data, and the preferred mode was to work the two main data collection spots simultaneously, so that observations tended to focus on all incoming or outbound traffic on any given day. In contrast, the bulk of the data at both Lumberton and Wilmington was recorded by the health educators in charge of the project, and thus tended to focus on one particular site/time-of-day combination (e.g., Monday, 8 a.m., Site 1, inbound traffic). Tuesday might yield data for outbound traffic at 3 p.m. for Site 2. In other words, the sites and time of day varied across the week and were somewhat dependent on other daily activities. The point is that a rigorous data collection schedule is difficult to maintain with limited staff resources.

The data that follow primarily focus on overall results by phases. Mean values for a particular phase are derived by averaging the daily use rates. While this approach does not facilitate statistical testing, it was chosen to make appropriate use of the data that can reasonably be collected in a project like this.

Overall Findings

Mean driver shoulder belt use rates by phase (students only) are shown for each school in Table 3.1. While all schools showed sizable increases in the use rate between baseline and follow-up, the pattern of development for each was variable.

Table 3.1. Mean driver shoulder belt use rates in percent.

	School		
	Greensboro	Lumberton	Wilmington
Baseline	5.0	2.1	6.8
Education	24.4	29.1	60.1
Incentive	32.5	29.2	54.5
Follow-up	14.6	23.5	50.3
Incentive 2	-	-	41.2

Greensboro tended to follow the "expected" model whereby the baseline belt use rate increased during the education phase, increased again during the incentive phase, and then dropped off during follow-up. The daily variation across phases is shown in Figure 3.1.a. While all baseline measurements hovered around 5 percent, there was variability within the other phases, especially the incentive phase. The range of belt use was from about 20 to 60 percent during the prize-giving. The overall follow-up rate of 15 percent was about three times the baseline rate.

Lumberton followed a pattern of low baseline belt use, a sizable increase during the education phase, virtually no overall growth during the incentive phase, and a slight decrease during follow-up. The daily plot (Figure 3.1.b) again shows quite a bit of variation across all phases other than baseline. The peak belt use was around 57 percent and occurred in the early portion of the incentive phase. Belt use also exceeded 50 percent immediately following the education presentation. The overall follow-up rate of 24 percent represented an appreciable increase over the baseline value of 2 percent.

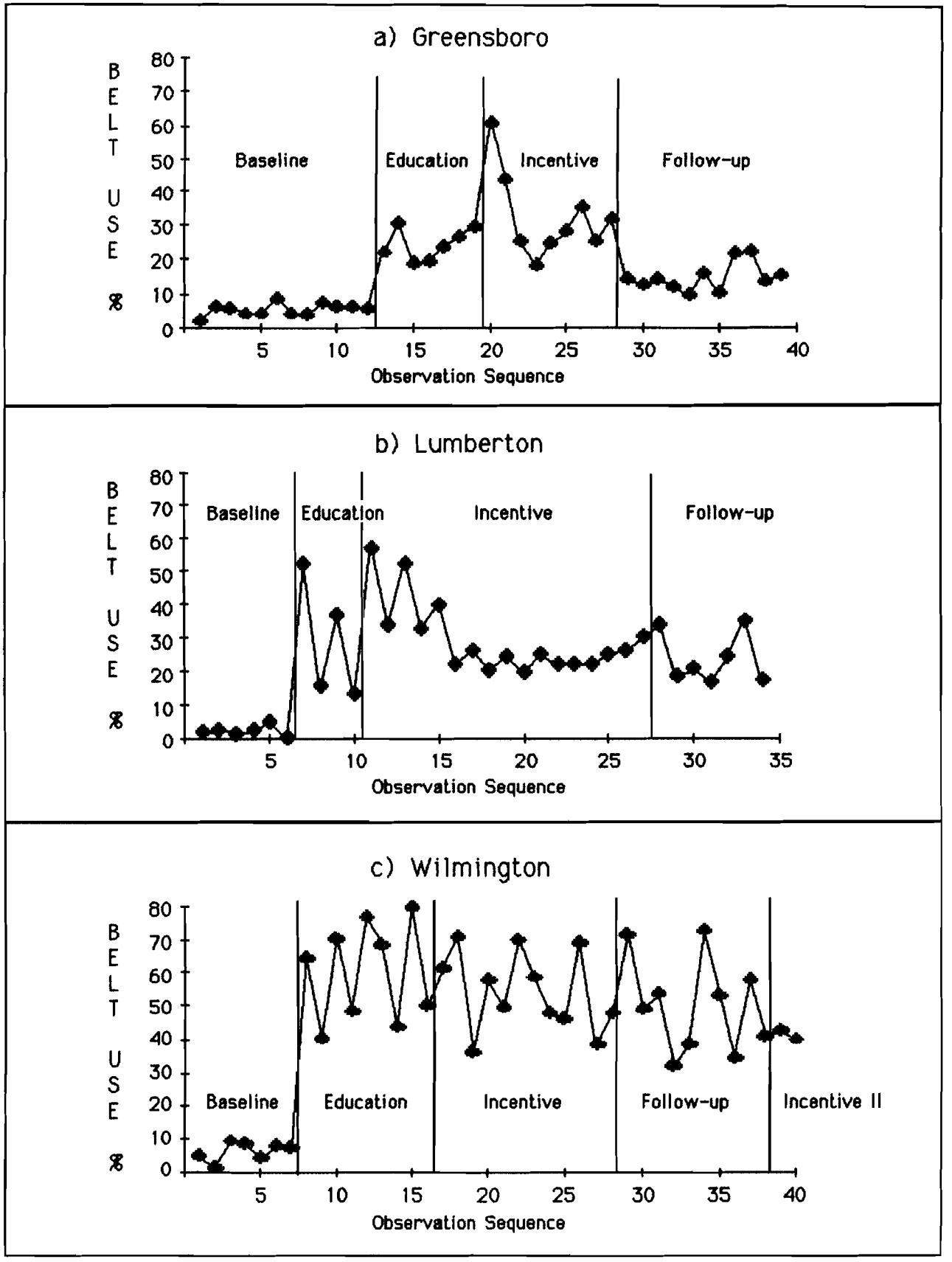

Figure 3.1. Driver shoulder belt use rates by project phase for the three high schools.

The Wilmington pattern was not unlike that for Lumberton, except that the belt use percentage values were much greater. Starting from a baseline rate of 7 percent, belt use averaged 60 percent during the education phase, and then leveled off to around 55 percent for the incentive phase and 50 percent for the follow-up phase. A second incentive phase (Incentive 2), which lasted only a week and involved the redistribution of unclaimed prizes, showed a further dropoff to 41 percent, perhaps the level the data were settling to at the end of school. The average belt use for the follow-up and Incentive 2 phases combined was 49 percent, still a tremendous increase over baseline. Daily variation was again apparent (Figure 3.1.c), with the peak belt use rate of 79 percent reached during the education phase, although values almost this large were reached during both the first incentive and follow-up phases.

Belt Use by Sex and Race

Ben L. Smith High School - Greensboro

Figure 3.2.a portrays the average driver belt use by sex and race across the four phases. Females tended to have slightly higher use rates across all phases except incentive, where the difference was substantial (about 40 percent for females versus 25 percent for males). Race comparisons were made on a black and non-black basis, with Asians, Native Americans, Middle Easterners, etc. grouped in the non-black (hereafter referred to as white) category. Differences by race were quite apparent, in that black use rates in both the education and incentive phases were substantially higher. It should be noted that the number of black drivers was small, typically ranging from 13 to 40 at any given data collection point, with the corresponding range values of 73 to 166 for the white drivers. However, there is no reason to think that these black drivers were not representative of those who drove to school. During the incentive phase, the maximum number of drivers observed by race category on any given day were:

White	136
Black	39

Figure 3.2.b combines sex and race for further comparisons. The white male - white female comparison is very similar to the overall male - female graph (Figure 3.2.a), but this should be expected since the large majority of drivers are white. The black male use rate was roughly equivalent to that for black females during the education phase (46 versus 55 percent, respectively).

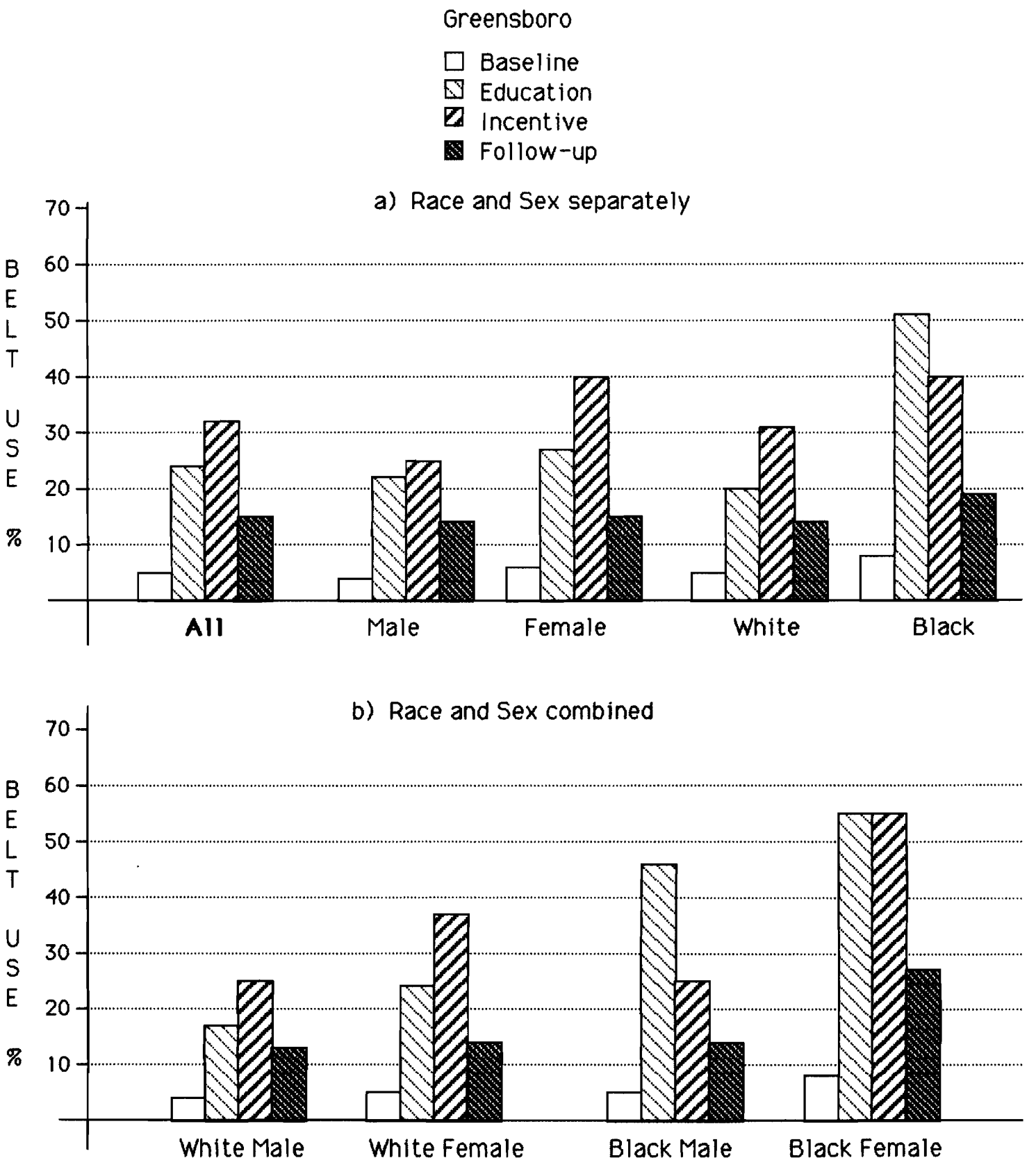

Figure 3.2. Shoulder belt use rate averaged for each project phase by driver race and sex for Greensboro .

During the incentive and follow-up phases, the black female belt use rate was about double the black male use rate.

Lumberton Senior High School

At Lumberton Senior High School, female drivers again had a higher belt use rate than male drivers (Figure 3.3.a) across all phases. The follow-up phase percentages were: females - 26 percent; males - 20 percent. Of interest was the lack of change between the education and incentive phases, followed by only a slight decrease during follow-up.

Concerning race, the white drivers showed the same pattern mentioned above for males and females, while the black drivers showed the "expected" pattern of an increase during the education phase, a further increase during the incentive phase, and a modest drop-off during follow-up. The black driver incentive and follow-up belt use rates were substantially higher than those for the white drivers (e.g., 34 versus 23 percent average during follow-up). In this school, it was also possible to identify Indian drivers. The Indian drivers had lower belt use rates than either white or black drivers in all phases. During the incentive phase, the maximum number of drivers observed by race category on any given day were:

White	220
Black	22
Indian	15

Thus, white drivers again dominated the data.

Figure 3.3.b plots the race-sex combinations of average belt use by phase. Except for Indians during follow-up, female belt use rates were higher than those for their male counterparts across all phases. In addition, black males had a higher use rate (34 percent) during the incentive phase than white males (22 percent), but the pattern was substantially reversed during the follow-up phase (white males - 21 percent; black males - 7 percent). The black female belt use rate exceeded the white female use rate in all phases. Average use rates during follow-up were:

Black females	47 percent
White females	26 percent

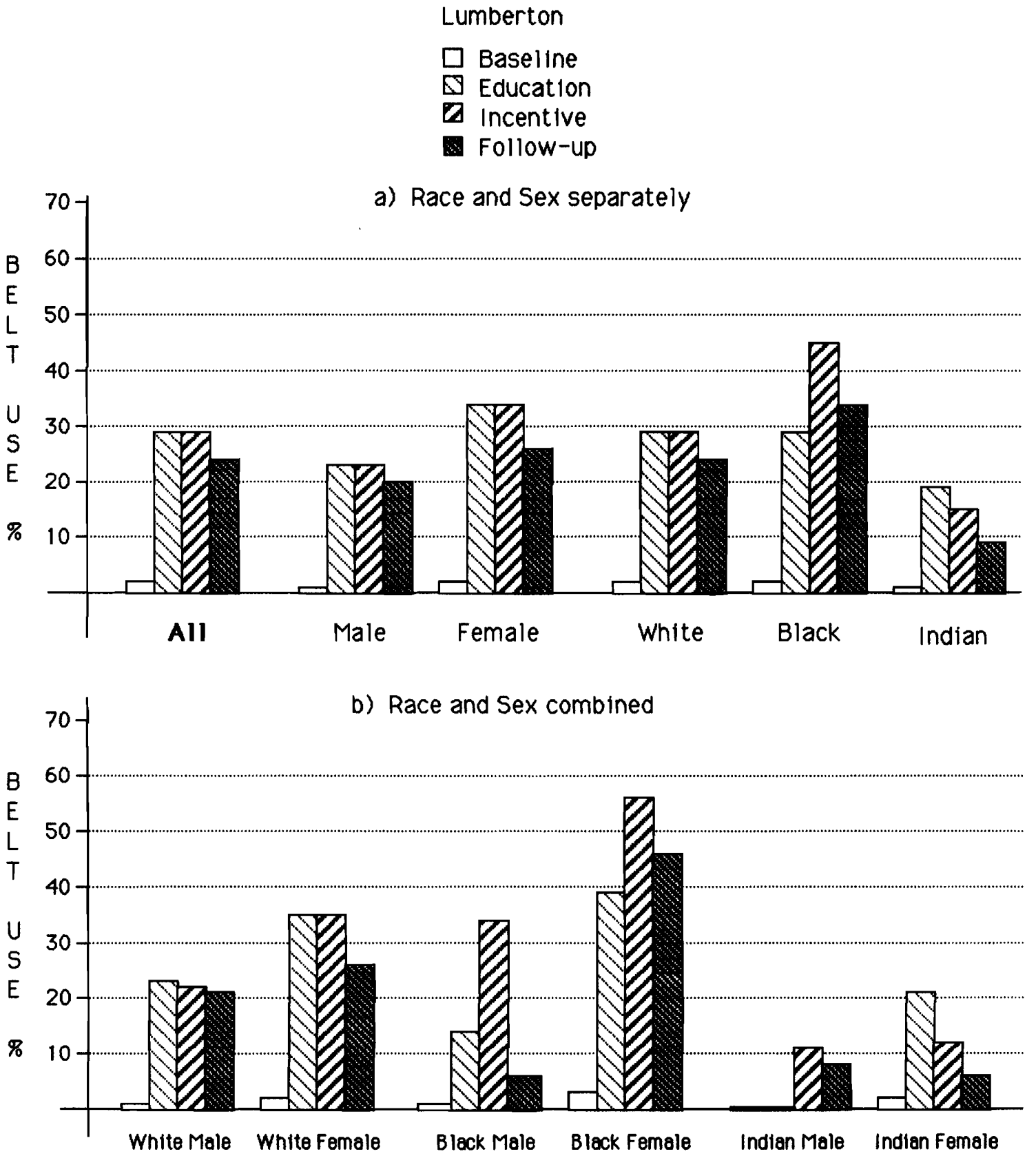

Figure 3.3. Shoulder belt use rate averaged for each project phase by driver race and sex for Lumberton .

Wilmington Laney High School

The striking feature of the sex and race plots for Laney High School (Figure 3.4.a) is the magnitude of the phase percentages achieved after baseline. The separate belt use plots of male, female, and white drivers are all quite similar and reflect overall a large increase in belt use from baseline to the education phase (all at 60 percent use rate), a slight decrease during the incentive phase (all between 52 and 57 percent), and a modest decrease during follow-up. The plot for black drivers shows 67-68 percent use rates during education, incentive, and follow-up. This pattern is unusual in that extremely high use rates were achieved during the education phase that seemed to carry over throughout the remainder of the project (refer to Figure 3.1.c). Once again, the maximum number of drivers observed by race category on any given day during the incentive phase was dominated by white drivers:

White	198
Black	22

Wilmington Laney had enough unclaimed prize coupons so that it was decided to redistribute these during the last week of school. The resumption of incentive activity at this point had no overall effect, and the use rates for this week-long phase (Incentive II) reflect a continuation of the belt use witnessed during the latter part of the follow-up phase. The average belt use rate during follow-up was 50 percent, and the combined average of follow-up and Incentive II was 49 percent.

Examination of the race-sex combinations (Figure 3.4.b) shows a fairly similar pattern for the white males and white females. The plot for black males reveals average education and Incentive II phase rates in excess of 70 percent, along with a follow-up phase rate of 59 percent. The black female graph yields average incentive and follow-up rates of almost 70 percent.

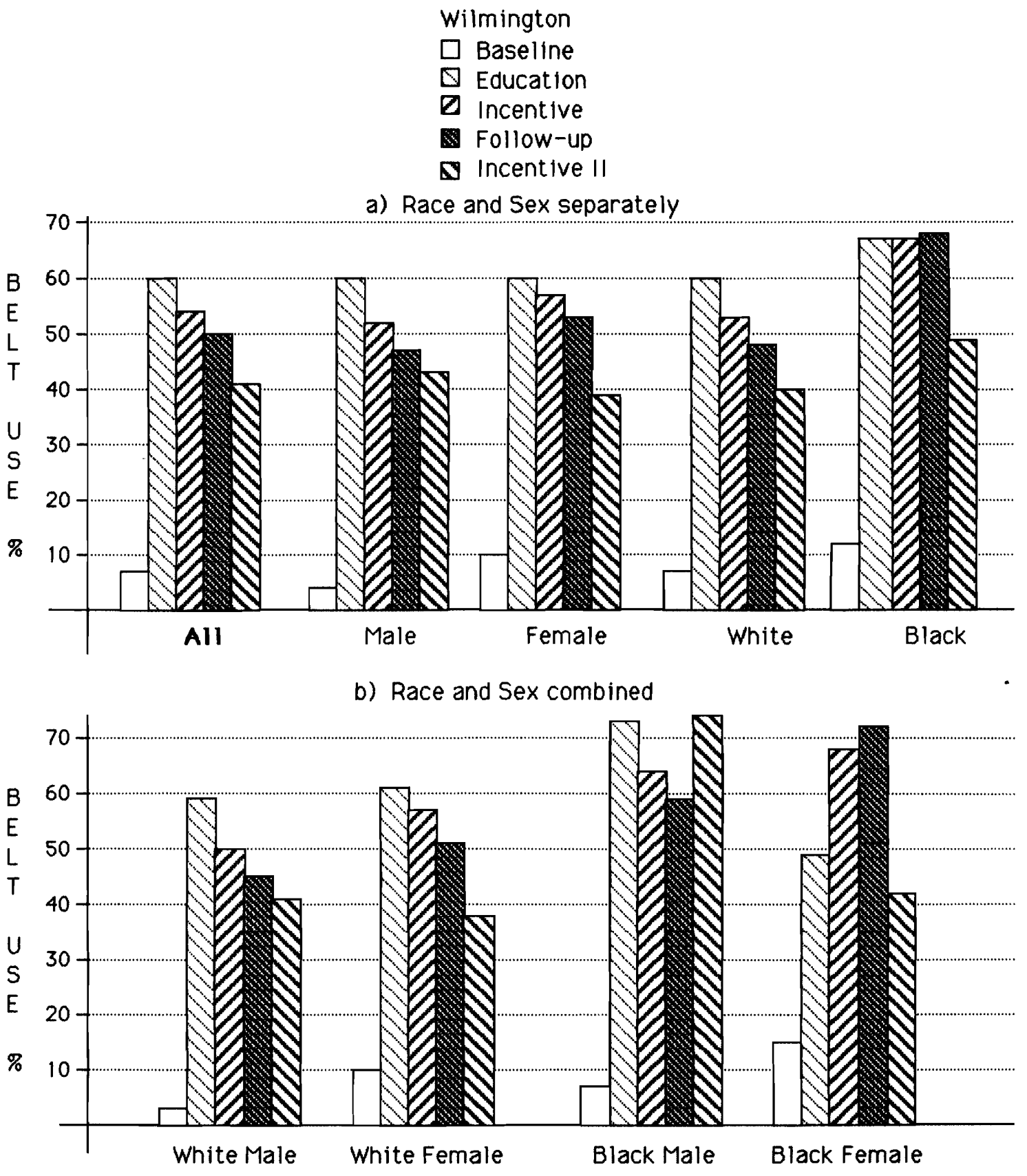

Figure 3.4. Shoulder belt use rate averaged for each project phase by driver race and sex for Wilmington.

CHAPTER 4. DISCUSSION

What the Project Accomplished

The presentation of results in the previous chapter indicates that all three high schools had a sizable increase in belt wearing when follow-up use rates are compared with baseline rates. This is the primary measure of program success. Information on reduced injuries in accidents as a result of belt use tended to be very difficult to obtain and anecdotal when available.

The patterns of success certainly varied across schools. For example, from a baseline belt use rate of 5 percent, drivers at Ben L. Smith High School in Greensboro achieved a 15 percent use rate averaged across the follow-up phase. For the same comparison, Lumberton increased from 2 percent to 24 percent and Wilmington Laney increased from 7 percent to 50 percent. It is difficult to pinpoint reasons for these differences.

The project at Greensboro was coordinated by school staff and parent volunteers. While fast-food coupons were given to individual winners in vehicles selected from the traffic stream, a rather extensive list of prizes was awarded in drawings. Given this, HSRC staff were somewhat surprised that belt use rates were not higher. In the wrap-up discussion with students held during the follow-up phase, the comment was made that students might have felt more challenged and motivated if there had been more variation in the times and places that prizes were given. These students seemed to like the idea of a longer incentive phase, perhaps lasting several months, in which prizes would be given much more infrequently.

The projects at Lumberton and Wilmington were coordinated by county health educators. Even though these health educators were continually involved with other projects, they were able to devote an extensive amount of time to the needs of the high school incentive project. HSRC staff were delighted at the interest and enthusiasm they displayed. Perhaps this carried over to the incentive transactions with students and enabled higher belt use rates to be obtained.

The case study in Wilmington is particularly intriguing. Here students consistently showed high belt use rates as early as the education phase. These belt wearing tendencies then persisted through the incentive and follow-up phases with only modest decreases. For whatever complex of reasons, these students quickly and lastingly "bought into" the incentive approach.

Another intriguing result concerns the belt use differences by race of driver at all schools. HSRC prior efforts have shown a fairly large disparity between black and white driver belt use patterns, with white drivers consistently having higher use rates. This was not the case at any of these three high schools, and the result was surprising. Little is known about the socioeconomic differences by race at these schools, and this could be an important factor. In addition, the proportion of black drivers was quite small in comparison to the number of white drivers, although there is no reason to think that the data were not representative of the respective race groups. For whatever reasons, these projects do not reflect the large black/white disparity witnessed in earlier efforts.

One other point should be made when considering project accomplishments, and this relates to the cost of implementing the program. By and large, these efforts are not expensive, in that the prizes used in the incentive phase are donated by outside organizations. The greatest cost is in staff time, averaging perhaps four to six hours each week for prize-giving and data collection in the incentive phase, and perhaps half that much time for data collection in the other phases. The process of organizing and collecting the donated prizes is also a labor-intensive effort. Nevertheless, the likely benefits of lives saved and serious injuries averted because of wearing seat belts at the time of an accident no doubt far outweigh the costs.

Student Reaction to the Program

Wrap-up discussions were held with two separate groups of students at each school just prior to the end of the school year. Although HSRC did not control who attended, we asked for a mix of students that would be representative of the student body. During the meetings, only HSRC staff were present, in the hope that students would openly discuss the incentive programs, and this seemed to be the case. In reviewing the notes from each meeting, some common themes emerged:

1. Competition would enhance the program. This could be competition between schools or groups within the school.

2. Teachers should be included in the program. As one student stated, "The teachers who win can really beef up the message of wearing seat belts. They can offer encouragement and set an example."

3. Feedback to the students on the progress of the campaign (usage rates, winners, prizes, etc.) is important. This can be included in daily bulletins, the school paper, hall displays, etc.

4. Prizes used as incentives should be appealing to students. Cash is always welcomed, as are movie or rock concert tickets, anything connected with the car such as tires or gas, and items from a surf or teen shop.

The students generally liked winning prizes for wearing their seat belt and did not view the program as an intrusion or imposition. At Lumberton and Wilmington, the students indicated a strong interest in having the program continued in the future. The Greensboro students had a mixed reaction.

Continuation of programs can be achieved with considerably less effort than the initiation. For example, students at Chapel Hill High School are now entering their fifth consecutive year of incentive programs. The program is funded by donations from parents and the student-parent-teacher association. At the start of each new school year, a letter which describes the program and results and asks for a modest donation is sent to parents (Appendix F). Funding in the range of $1300-$1500 has been available each year. Several HSRC staff members have donated time to randomly appear at the school over the course of the year to award incentives. Some emphasis is placed on giving prizes near the beginning and end of the year, as well as near holidays and breaks, where considerable travel would be expected. Data are also collected on a planned schedule. The result has been a student belt use rate in the 50 percent range over the last four years. There is an indication that both Lumberton and Wilmington will try this approach in the coming school year.

The Future of Incentive Programs

North Carolina's mandatory adult restraint law takes effect October 1, 1985, and some have wondered about the future of seat belt incentive efforts. Our thinking is that incentive programs will continue to be an important strategy in maintaining high public awareness of belt laws and aiding the process of getting more of the population to use available restraints. For example, the North Carolina law covers only front seat occupants and cannot be expected to result in full compliance by all of these persons. Many vehicles in the traffic stream around high schools have both front and rear seat occupants, and all of these persons would be eligible for prizes in an incentive program. Thus, we think incentive programs can indeed augment the effect of a law and will continue to occupy a place of importance whenever seat belt strategies are discussed.

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APPENDIX A

Letter of Inquiry Sent to High School Principals

THE UNIVERSITY OF NORTH CAROLINA
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CTP - 197A
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JOHN H. LACEY
Program Manager
Alcohol Studies
BEVERLY T. ORR
Program Manager
Public Service Programs

TELEPHONE
(919) 962-2202

October 30, 1984

Dear Principal,

The University of North Carolina Highway Safety Research Center (HSRC) is seeking high schools who would be interested in a seat belt incentive program for its students. An incentive program was pilot tested at Chapel Hill High by HSRC during the 1981-1982 school year. In this multi-phased project, belt use was observed before a series of educational programs were offered. Next, incentives consisting of cash coupons were offered to those students who were wearing seat belts when randomly stopped while entering or exiting the school grounds. The result was an increase in belt usage from 21 percent prior to the program to an average of 56 percent during the incentive (peaking at around 80 percent) and 36 percent in the post incentive phase.

Belt use is especially critical for high school drivers because of their very high crash risk. High school students have five to six times the average crash rate considering the miles they drive. Indeed, motor vehicle crashes constitute by far the leading cause of death for this age group.

HSRC currently has a Governor's Highway Safety Program grant that will support the establishment of three programs similar to that at Chapel Hill High. HSRC's role will be to train school staff and/or volunteers in three settings to operate their own program. Training will be offered in regard to (1) data collection, (2) establishing incentives, (3) actual incentive distribution, etc. Our staff will aid in developing the phase-in plan, monitor the progress, offer an educational program about seat belts to the students, analyze the belt use data and disseminate the results.

Given this background will you please take a few minutes to fill out the enclosed survey of interest for your school and return it as soon as possible. We hope your school will want a seat belt incentive program and will be one of the candidates for selection in this project.

If you have any further questions or comments, please contact HSRC project personnel Ann Woodward (919-962-8703) or Bill Hunter (919-962-8716) for more detail.

Sincerely,

Ann R. Woodward

Ann R. Woodward, MPH
Research Associate

William W. Hunter
Program Manager for
Engineering Studies

APPENDIX B

Description of Lumberton Project to Board of Education

To: Board of Education

From: Gaylen Hayes, Health Educator at the Robeson County Health Dept.

RE: Seat Belt Incentive Program at Lumberton Senior High School

In a nutshell, the High School Seat Belt Incentive Program is a program that is SMART! Instead of merely preaching to kids, "Wear your seat belt!", we will be introducing a program that will provide the opportunity for kids to make a habit of wearing seat belts. HABIT is the key to wearing seat belts and it is the goal of this program to uniquely combine the use of education and incentives in order to create a seat belt wearing habit.

Dr. Wester and I have already met with the Student Council and their advisor, Jean Corbet, in order to hear their feelings and ideas about the program. The students displayed a high degree of enthusiasm and have expressed their desire to do the Seat Belt Program as a project for the Student Council.

The program itself will operate in four distinct phases: Baseline, Education, Incentive and Follow-up. The most unique is the Incentive Phase. During the one to two month period of this phase the students' belt usage will be monitored. Before and after school, on school grounds, the students will be randomly stopped to check seat belt usage. Should the student be wearing his/her belt then a reward/incentive will be given. The Premise: a high probability of winning coupled with immediate reinforcement (incentive prizes!) will create a belt use habit that will carry over even after incentives cease.

Listed below is the time frame and a brief description that identifies teacher/student involvement during each phase.

I. Baseline - (Oct. - Nov. '84) Without students' knowledge they will periodically be monitored while driving to and from School. I will collect data to establish the belt usage rate prior to the initiation of the program. NO STUDENT INVOLVEMENT.

II. Education - (Feb. '85) A special program prepared specifically for high school students will be presented during a 30 min. period. The intention of the program is to distinguish the facts from myths about seat belt usage. NO scare tactics are used. At this point the students are made aware of the program and the "rules" are explained to them. STUDENT INVOLVEMENT IS ENCOURAGED DURING THIS PHASE. SUGGESTIONS: SMALL TALKS ABOUT SEAT BELTS DURING MORNING ANNOUNCEMENTS: MESSAGES/POSTERS AROUND SCHOOL OR IN LOBBY, ETC.

III. Incentive - During this phase student interaction is greatest. Seat belt usage should be very high during this phase because it is during this phase alone when students will be rewarded if they wear their seat belts. The students have already contributed their suggestions for incentives with which they would like to be rewarded. HOWEVER, IT WILL BE THE RESPONSIBILITY OF THE HEALTH DEPT. TO COLLECT INCENTIVE REWARDS TO BE GIVEN TO STUDENTS. Students will be monitored before and after school and during these times will be rewarded for wearing their seat belts. (To be done during the months of March and April, 1985).

IV. Follow-up - (May - June, '85) The Incentive phase ceases Cold Turkey! The students are in no way exposed to any further education or incentive rewards. This is the critical phase where seat belt usage is monitored to see if it is higher than the rate of usage before the program began. NO STUDENT INVOLVEMENT.

The Seat Belt Incentive Program being proposed for Lumberton Senior High School has been piloted at Chapel Hill High School. Their program is well documented, has met great success and continues to be successful even when the distribution of incentives has ceased.

I was able to observe the safety belt usage myselt at Chapel Hill High School and was surprised to see that the usage rate remained close to 50% after the program. The usage rate before the program was around 18 - 20%.

I am convinced that this program will have an impact on incresing seat belt usage at Lumberton Senior High School. Of course, the ultimate reward for seat belt users is having a life saved!

APPENDIX C

Fact Sheet Distributed at High School

"Why should I wear a safety belt?"

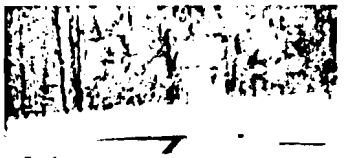
Q's & A's

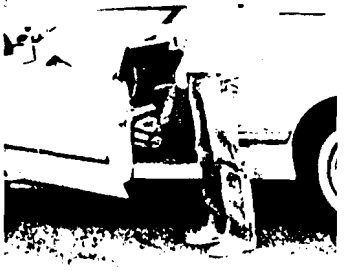
Here are a few questions people ask about safety belts and some straight answers.

Q Are injuries from car accidents really a problem I need to worry about? I drive or ride every day without having an accident.

A That's right. All of us drive or ride somewhere almost every day. We expect to arrive and return safely and we almost always do. But, for people of high school age, automobile accidents cause more deaths than anything else.

During the first years of driving, inexperience and other factors cause a high percent of young adults to be involved in accidents. High school students have five to six times the average crash rate. It's a lot riskier than the level of safety you may feel when driving.





Q What do belts actually do to help?

A When the car crashes to a stop, the people in the car keep on moving—same speed, same direction as the car was going. A split second later the second crash happens, when the rider smashes into the windshield, steering wheel, or whatever is in the way. What's worse, the car has already crunched to a complete stop, so when the rider hits the interior part of the car, this second crash (body against car) is just as bad as the first crash (car against other object).

The belt helps two ways. First, it keeps you back in your seat so your face doesn't go through the windshield, and so you don't smash chest and legs into the steering wheel and dashboard.

Second, the belts start slowing you down while the car is still slowing down, making the force of impact less severe than if unbelted. While the crash itself may be an "accident," the resulting injury is no accident—it's because of not fastening the belt.

In addition, safety belts keep you in control of the car in non-crash situations such as a sudden stop or turn. By keeping the driver in place behind the wheel and in control, safety belts can prevent accidents from happening or minor accidents from becoming major ones.

Q How much good can belts do in saving lives?

A Suppose enough crashes happened to result in 100 deaths with no one wearing belts. If these fatal accidents could be repeated, this time with driver and passengers wearing safety belts, as many as 65 out of 100 deaths could be prevented. No other action saves lives at such a low cost.

Q Don't belts cause injuries? What about the car catching on fire and the need to escape quickly?

A Let's take them one at a time. Belts make things better, not worse. However, sometimes the crash is so severe that even the belt may not be able to prevent the broken rib, etc. But that's a lot better than the same crash without a belt. Sadly, sometimes the crash is so bad even belts can't help. Belts can't save all lives, but they would save 65 percent of those who now die needlessly.

If you are involved in an accident, the odds are 3000 to 1 against a fire occurring. Safety belts help to keep you conscious and uninjured so you can get free of the car. It takes only a split second to release the safety belt.

Q Isn't it better to prevent accidents in the first place? In other words, isn't it better to be careful, not speed, not drink and drive?

A Yes, by all means. Those and many other accident prevention measures are of great importance. But you still need belts on top of the other. Even if you do everything right you still can't always count on the other drivers to be as careful as you.

Belts make sense.
They save your life.

APPENDIX D

Example of Contest Rules

Belt 'em Pirates

Wear Your Seat Belt -- and Win Prizes

Contest Rules

Wearing seat belts is the best way you can protect yourself in a car crash. Yet, most of us have still not developed the habit of buckling up every time we get into a car. This contest is intended to help you get the seat belt habit. It can win you prizes now -- and may save your life, too!

The rules are simple. All you have to do is **wear your seat belt** -- a lap and shoulder belt if you have one, or just the lap belt if that's all you have. If you are belted, there are several ways you can win.

HOW TO WIN

On certain school days observers will be stationed on or near the school grounds. They will be easily recognizable.

On a random basis, some arriving and departing vehicles will be waved to a stop and checked for belt usage.

Belt wearers in the vehicle (driver or passenger) will each be given a coupon redeemable for a **free meal** at McDonald's, Wendy's, Pizza Hut, Burger King or Western Sizzlin **or** a coupon redeemable for **$5** in cash.

HOW TO WIN

Everyone receiving prize coupons is eligible for **prize drawings**. Names will be drawn **every week** for cash prizes.

A final **grand prize drawing** will be held near the end of May. Look for an announcement soon of what the grand prize will be.

Contest Dates: March 12 - May 3, 1985

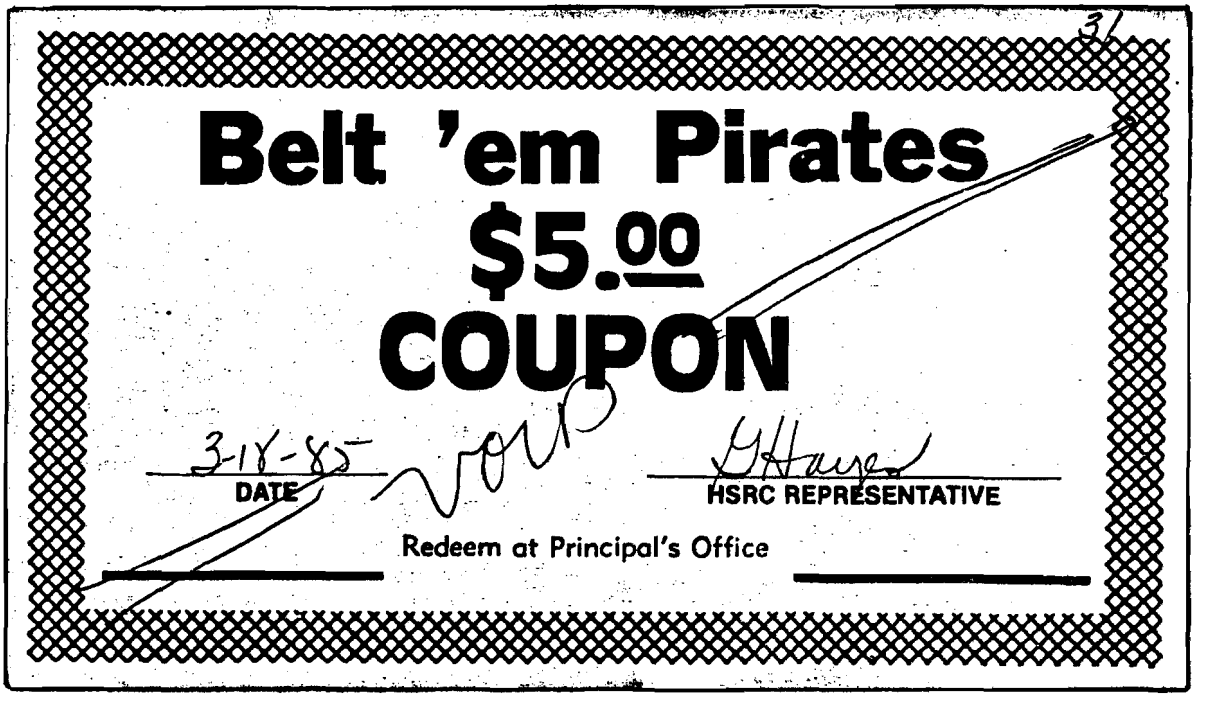
Eligible Participants:
All students of **Lumberton Senior High School**

Awards: Prizes totaling **$2500** will be awarded

REMEMBER! You don't know when or where you will be observed.
So **always buckle up** -- and **WIN!**

APPENDIX E

Example of School Vouchers


Belt 'em Pirates
$5.00
COUPON
3-18-85
DATE
VOID
G Hayes
HSRC REPRESENTATIVE
Redeem at Principal's Office

NAME _____

GRADE _____

HOMEROOM _____

_____ _____

DATE SEAT BELT INCENTIVE REPRESENTATIVE

Bennie W. Higgins
Principal

BEN L. SMITH SENIOR HIGH SCHOOL

2407 South Holden Road

Greensboro, North Carolina 27407

SEATBELTS SAVE LIVES

You are a winner! This coupon can be redeemed in the main office for a voucher for McDonald's. You are also eligible for additional prizes to be given daily and weekly. A grand prize will also be given at the end of March.

Congratulations!

Name _____

Homeroom Teacher _____

Date _____

APPENDIX F

Chapel Hill High School Letter

CHAPEL HILL SENIOR HIGH SCHOOL

High School Road
Chapel Hill, North Carolina 27514-9403

Marvin O. Koenig
Principal

Gwendella G. Clemons
Lorraine R. Moriarty
Lawrence F. Wakeford
Assistant Principals

MEMORANDUM

TO: Parents of CHHS Students DATE: October 1, 1985

FROM: Marvin O. Koenig, Principal

B. J. Campbell, Director, UNC Highway Safety Research Center
Bill Hunter, Staff Associate, UNC Highway Safety Research Center
Ann Woodward, Research Associate, UNC Highway Safety Research Center

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This memo requests a modest financial contribution to be used to maintain the outstanding seat belt use habits that have existed at CHHS for three years now.

In contrast to national belt use of about 11-13%, use at CHHS is over 50% these days. This is attributable to the "Belt 'Em Tigers" seat belt campaign of the last three years.

In this effort, campaign staff come to the high school at irregular intervals, randomly flag cars, and give small awards to seat belted occupants.

Last year parents, through contributions of $5-25, provided enough funds to cover the school year.

Again, we are asking for your contribution direct to the school (mark your check "Belt"). Every cent will go to the students to encourage belt use. Your contribution of $10 each will fund the effort for the whole school year.

Even though a mandatory seat belt law has taken effect October 1, 1985, this will not translate into 100% compliance. In addition, the law covers only front seat drivers and passengers. We think Belt 'Em Tigers can improve upon the effects of the law.

This highly successful effort is already underway for the 1985-86 school year, using the small amount of leftover funds from last year. To keep it up, we need your help.

Your contribution can translate directly into protection for your children. Thank you for your help.

MOK/BJC/BH/AW/ms