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HIGHWAY SAFETY
RESEARCH CENTER

RURAL COMMUNITY SEAT BELT PROJECT

FINAL REPORT

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for

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TABLE OF CONTENTS

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I. Introduction

National Fatal Accident Reporting System data show that 58% of fatalities occur on rural roads (National Highway Traffic Safety Administration, 1988). Road characteristics such as narrow lane widths or unsafe shoulders create a more hazardous rural driving environment. Travel speeds are higher on these lower volume roads, and response time for emergency medical services is greater in areas where larger territories are served from one location. The National Highway Traffic Safety Administration (NHTSA) has identified rural populations as a high risk target group because of their overrepresentation in serious and fatal crashes and their low safety belt use.

Rural North Carolina residents consistently have registered significantly lower belt use than their more urban counterparts in the observational surveys conducted by the UNC Highway Safety Research Center at 72 sites across North Carolina. In particular, drivers of pickup trucks (a more common vehicle in rural areas) have consistently had usage rates about 20 percent lower than for passenger cars (Reinfurt, Campbell, Stewart and Stutts, 1987; Reinfurt, Campbell, Stewart and Stutts, 1988; Reinfurt, Weaver, Hall, Hunter and Marchetti, 1990). These low usage figures combined with the overrepresentation of rural drivers in serious/fatal crashes cause rural North Carolina drivers to be one of the groups most at risk of injury or death in crashes.

Belt effectiveness in reducing deaths is in the range of 40 to 50 percent, and research indicates that with full compliance, belts are capable of producing a much greater casualty reduction than what is currently being observed (Hedlund, 1985). Clearly, from the standpoint of risk of injury in automobile accidents and low usage rates, rural areas can benefit substantially from programs that are effective in increasing belt use.

In order to construct safety belt programs that specifically target rural populations, it is necessary to identify characteristics that contribute to low belt use in rural areas. This project attempted to gain such information through a series of written questionnaires administered to rural populations. In addition, the project provided a rural community with a grant to assist with the implementation of a community safety belt program developed based on the information gained through the surveys.

This project was done in conjunction with the Rural Demonstration Project being conducted by HSRC and the Governor's Highway Safety Program (GHSP) for NHTSA. The Rural Demonstration Project includes 1) selecting a rural area with low belt use; 2) determining attitudes and physical impediments (such as fewer restraint systems than vehicle occupants) causing low belt use; and then 3) forming a community coalition to launch a program using that knowledge to increase belt

use. The demonstration project provided for research into non-use or misuse characteristics through the use of focus groups and an audit of the resources within the experimental area, but provided no funding for surveys.

Bertie County, in northeastern NC, was selected as the experimental site for this program. That area was chosen primarily for three reasons: seat belt usage was low, there is a disproportionate incidence of fatal crashes in the county, and there is a very good base of support for conducting an effective community/county seat belt program. In the fall of 1989, belt usage in the county was about 30 percent, which was about half of the statewide usage rate of 60 percent. In 1988 Bertie County's ratio of fatal accidents to overall crashes was double that of the state county average. County leaders enthusiastic about conducting a seat belt program represented the health department, the high school, the rural health center, the police and sheriff departments, and the emergency medical services agency. In other words, the area was in great need and had the leadership for a program potentially to show significant improvement.

Bertie is one of the largest counties in NC, covering 721 square miles but with a total population of only 21,357. As in many rural areas, Bertie County had few resources from which to draw financial support for this program. Because of the large area this community program was trying to reach, the variety of agencies that were going to be conducting components of the program, and the low economic status of the area, a community grant was critical to constructing a program that could be evaluated as a potential model for other rural areas.

II. Rural Seat Belt Attitudinal Surveys

Background

In order to design a public information and education campaign to increase belt use among rural residents, it was necessary to understand the attitudes and beliefs behind the decisions of rural motorists to buckle up or not to buckle up. As a means of obtaining this information, surveys were designed for administration to the general public and to the specific target group of young drivers. High school students were singled out because they constitute an age group that is overrepresented in crashes and fatal and serious injuries (Stutts, Campbell and Martell, 1990), and they were to be the focus of one of the core components of the community program.

The surveys served both as an independent look at rural residents' attitudes and demographics and as an aid to the demonstration project by: 1) providing additional information that the focus groups and area audits could not provide; 2) serving as a check for consistency with the information gathered through the focus groups; and 3) providing a means of evaluating pre- and post-program responses to determine changes as a result of the program. (Follow-up surveys are planned for the summer of 1991 after the program has completed.)

Two similar surveys were designed: one was aimed at canvasing the general public and was administered to applicants at driver licensing stations; the other survey was designed for high school students and was administered at the high schools by teachers. The surveys asked questions about current belt use, attitudes and knowledge about belts and NC's belt laws, and who would be most likely to influence their belt-wearing behavior.

The surveys were administered at three locations: Bertie County, the experimental site for the program; Hertford and Northampton Counties, the comparison sites; and Moore County, a rural county with exceptionally high belt use. The Bertie County data was used for the construction of the demonstration program, and as a before measure that could be compared to survey responses taken after completion of the program. The Hertford/Northampton Counties data served as additional data about residents in low-belt-use rural areas, and as a comparison site against which to evaluate changes observed in the Bertie site during the course of the program. The data from Moore County enabled the project to examine any variation in responses that might be reasons for higher belt use. For instance, if Moore County residents believed that it was safer to be belted in a crash and Bertie County residents did not, then the value of belts in preventing deaths and injuries may be a good theme for inclusion in the overall demonstration program.

High School Surveys

The high school survey, shown as Figure 1, was pilot-tested at Bertie High School with a group of students selected as representative of the student body by the principal. After the high school students filled out the questionnaires, they participated in a focus group discussion about the survey form and general seat belt issues. The survey instrument was also reviewed by the committee of community leaders who were going to conduct the seat belt program.

After refinements were made to the questionnaire, the survey was administered to the tenth and eleventh graders at Bertie County High School in May, 1990. It was important to get the survey into Bertie High School prior to the school term ending in the spring, because the information about high school students was needed for the county campaign that was to be developed over the summer. The same survey was given to the eleventh and twelfth graders at Hertford County High School and at Union Pines High School located in Moore County in September, 1990. By administering the survey to sophomores and juniors in the spring and to juniors and seniors in the fall, the same population was being surveyed in all three areas.

Driver License Station Surveys

A survey similar to the high school instrument was developed for use at driver license stations (Figure 2). This survey included family questions such as *What vehicle is driven when your whole family goes somewhere?* and *How many people are in your family?* The high school survey asked *What are your plans after high school,* whereas the driver license survey asked respondents to *circle the last grade completed in school.*

Through the assistance of the NC Division of Motor Vehicles Driver License Section, driver license examiners in Bertie, Hertford, Northampton and Moore Counties were trained to administer the survey to driver license applicants after they had completed the licensing process and were waiting for their photographs to be developed. The reason for giving the survey at that point was so that the applicants would not be anxious about getting their licenses or think that how they fill out the survey would affect whether or not they got their licenses. The data were collected for a period of one month in Hertford/Northampton and Moore Counties. Because of the low number of driver applicants in Bertie County, the data were collected for two months at that site in order to get comparable volume.

Many Bertie County residents actually lived or worked closer to the Hertford County driver license station that the one in Bertie County, and this was taken into account in the design of the survey. Question one asked for *county where you live* and *county where you work,* and if Bertie County appeared as the answer to either, the responses were counted in the Bertie County group. The rationale behind this is that anyone that either works or lives in Bertie County has a good likelihood of

The University of North Carolina Highway Safety Research Center requests your help in finding out information about how people feel about seat belts. Your participation is voluntary. We do not need to know who you are, just how you really feel or think. Thank you for your help.
If you have any questions, call 800 672-4527 (toll free in NC) between 8 am and 5 pm Mondays - Fridays.

1. Out of the last 5 times you drove or rode with someone else, how many times did you buckle up?

Circle your answer: 0 1 2 3 4 5

2. When you wear a seat belt, what is the most important reason? You may check two.

- ☐ Because it's the law
- ☐ To avoid the $25 fine
- ☐ To be safe in an accident
- ☐ Because friends/family want me to
- ☐ It's a habit, I don't think about it
- ☐ My own experience in an accident
- ☐ Someone else's accident experience
- ☐ Other _____

☐ *Check here if you never wear a seat belt.*

3. When you do not wear a seat belt, what is the most important reason? You may check two.

- ☐ Belts do more harm than good
- ☐ Riding in car or truck that has no belts
- ☐ Belts are uncomfortable
- ☐ Belts can trap you in the car
- ☐ Riding in the back seat
- ☐ Not going very far
- ☐ In a hurry
- ☐ I forget, I'm not in the habit
- ☐ Other _____

☐ *Check here if you always wear a seat belt.*

4. Out of the last 5 times you drove with children under age 6 in the car, how many times did you make them buckle up?

Circle your answer: 0 1 2 3 4 5

☐ *Check here if you never drive with children under age 6 in the car.*

5. Out of the last 5 times you drove with your friends in the car, how many times did you make them buckle up?

Circle your answer: 0 1 2 3 4 5

☐ *Check here if you never drive with your friends in the car.*

6. Who would most likely influence you to wear your seat belt? You may check two.

- ☐ Police officer
- ☐ Race car driver
- ☐ Doctor/Nurse
- ☐ Rescue squad member
- ☐ TV/radio personality
- ☐ Teacher you respect
- ☐ Accident survivor/family member of victim
- ☐ Local minister/other religious leader
- ☐ Other _____

7. What vehicle do you drive most of the time?

Year: ____ Type: ☐ Car ☐ Station Wagon
☐ Jeep, Bronco, etc. ☐ Van ☐ Pickup truck
☐ Other _____

8. Check the answer that describes how you feel:

Agree	Disagree	
☐	☐	Seat belts can keep you from getting hurt in a car wreck.
☐	☐	In an accident, it's better to be thrown clear of the car.
☐	☐	Belts are not needed in the back seat.
☐	☐	Belts will trap you in a burning car.
☐	☐	Seat belts are a hassle to use.
☐	☐	Adults can protect children in a wreck by holding them in their arms.
☐	☐	Belts hurt you more than help you.
☐	☐	Belts are needed most on long trips.
☐	☐	Where I live, if you don't buckle up children, you are likely to get a ticket.
☐	☐	The law for children should be kept.
☐	☐	Where I live, if adults ride without a belt on, they are likely to get a ticket.
☐	☐	The law for adults should be kept.

9. Check whether the following statements about the NC Child Passenger Law are true or false:

True	False	
☐	☐	Children under age 6 must be buckled up when riding in the front or back seat.
☐	☐	Children under age 3 must ride in safety seats; older children can use seat belts.
☐	☐	Children have to be buckled up only when their parents are driving.

10. Check whether the following statements about the NC Seat Belt Law are true or false:

True	False	
☐	☐	Only the driver and passengers in the front seat have to wear seat belts.
☐	☐	Pickup trucks are exempt.
☐	☐	Police can stop you if they see you without your seat belt, even if you aren't breaking any other traffic law.

11. Your age: ___ **12. Sex:** ☐Male ☐Female

13. Your race or ethnic origin: _____

14. Circle your current grade: 9 10 11 12

15. What are your plans after high school:

☐ 4-year college ☐ Junior or community college
☐ Military ☐ Go to work
☐ Other _____

Thank you !

Figure 1. High School Seat Belt Survey Instrument.

The University of North Carolina Highway Safety Research Center requests your help in finding out information about how people feel about seat belts. Your participation is voluntary. We do not need to know who you are, just how you really feel or think. Thank you for your help.
If you have any questions, call 800 672-4527 (toll free in NC) between 8 am and 5 pm Mondays - Fridays.

1. **County where you live:** _____
   County where you work: _____

2. **Out of the last 5 times you drove or rode with someone else, how many times did you buckle up?**
   Circle your answer: 0 1 2 3 4 5

3. **When you wear a seat belt, what is the most important reason? You may check two.**

   ☐ Because it's the law
   ☐ To avoid the $25 fine
   ☐ To be safe in an accident
   ☐ Because friends/family want me to
   ☐ It's a habit, I don't think about it
   ☐ My own experience in an accident
   ☐ Someone else's accident experience
   ☐ Other _____

   ☐ *Check here if you never wear a seat belt.*

4. **When you do not wear a seat belt, what is the most important reason? You may check two.**

   ☐ Belts do more harm than good
   ☐ Riding in car or truck that has no belts
   ☐ Belts are uncomfortable
   ☐ Belts can trap you in the car
   ☐ Riding in the back seat
   ☐ Not going very far
   ☐ In a hurry
   ☐ I forget, I'm not in the habit
   ☐ Other _____

   ☐ *Check here if you always wear a seat belt.*

5. **Out of the last 5 times you drove with children under age 6 in the car, how many times did you make them buckle up?**

   Circle your answer: 0 1 2 3 4 5

   ☐ *Check here if you never drive with children under age 6 in the car.*

6. **Out of the last 5 times you drove with someone age 6 to 15 in the car, how many times did you make them buckle up?**

   Circle your answer: 0 1 2 3 4 5

   ☐ *Check here if you never drive with anyone age 6 to 15 in the car.*

7. **Who would most likely influence you to wear your seat belt? You may check two.**

   ☐ Police officer
   ☐ Race car driver
   ☐ Doctor/Nurse
   ☐ Rescue squad member
   ☐ TV/radio personality
   ☐ Teacher you respect
   ☐ Accident survivor/family member of victim
   ☐ Local minister/other religious leader
   ☐ Other _____

8. **What vehicle do you drive most of the time?**
   Year: ____ Type: ☐ Car ☐ Station Wagon
   ☐ Jeep, Bronco, etc. ☐ Van ☐ Pickup truck
   ☐ Other _____

9. **What vehicle is driven when your whole family goes somewhere ?**
   ☐ *Check here if same vehicle as Question 8.*
   Year: ____ Type: ☐ Car ☐ Station Wagon
   ☐ Jeep, Bronco, etc. ☐ Van ☐ Pickup truck
   ☐ Other _____

10. **How many people are in your family?**
    _____ Adults _____ Children under 16

11. **Check the answer that describes how you feel:**

Agree	Disagree	
☐	☐	Seat belts can keep you from getting hurt in a car wreck.
☐	☐	In an accident, it's better to be thrown clear of the car.
☐	☐	Belts are not needed in the back seat.
☐	☐	Belts will trap you in a burning car.
☐	☐	Seat belts are a hassle to use.
☐	☐	Adults can protect children in a wreck by holding them in their arms.
☐	☐	Belts hurt you more than help you.
☐	☐	Belts are needed most on long trips.
☐	☐	Where I live, if you don't buckle up children, you are likely to get a ticket.
☐	☐	The law for children should be kept.
☐	☐	Where I live, if adults ride without a belt on, they are likely to get a ticket.
☐	☐	The law for adults should be kept.

12. **Check whether the following statements about the NC Child Passenger Law are true or false:**

True	False	
☐	☐	Children under age 3 must ride in safety seats; older children can use seat belts.
☐	☐	Children have to be buckled up only when their parents are driving.

13. **Check whether the following statements about the NC Seat Belt Law are true or false:**

True	False	
☐	☐	Pickup trucks are exempt.
☐	☐	Police can stop you if they see you without your seat belt, even if you aren't breaking any other traffic law.

14. **Your age:** _____ 15. **Sex:** ☐ Male ☐ Female

16. **Your race or ethnic origin:** _____

17. **Circle last grade completed in school:**
    1 2 3 4 5 6 7 8 9 10 11 12
    13 14 15 16 16+

18. **Your occupation:** _____

Thank you !

Figure 2. Driver License Seat Belt Survey Instrument.

being exposed to the program and should be in the experimental group and not the comparison group.

The driver license examiners were asked to tally the number of licenses and ID cards issued and the number of surveys completed each day in order to provide an indication of the number of refusals. This did not provide an accurate count because the examiners indicated that sometimes they were either too busy or forgot to ask an applicant to fill out the survey. The examiners who were contacted did note that there were very few outright refusals, and that the majority of those were people in a hurry, not persons opposed to filling out a safety belt survey. Although it would have been preferable to get an accurate counting of refusals, we do feel that the sample we obtained was representative of residents of the counties.

Overview of Responses

As previously noted, the questionnaires were administered for two reasons. The primary reason was to attempt to determine if there were any particular characteristics or attitudes of the target population that seemed to lead to lower belt use than other parts of the state. If certain attitudes or lack of knowledge were detected, than we felt that it might be possible to structure community programs and PI&E programs to include messages addressing these issues. This is the main reason that Moore County was selected for inclusion in the surveys. It was felt that information from this rural county with relatively high observed belt-wearing rates could serve as a useful comparison. Secondly, these questionnaires were a measure of reported belt-wearing rates and attitudes and beliefs relating to safety belts that could be replicated in a follow-up survey at the end of the project to determine if attitudes and knowledge had changed as well as belt wearing rates. Hertford and Northampton Counties were included in the surveys as controls for this aspect.

For the above reasons, the questionnaire was structured to include information about self-reported belt-wearing rates, reasons the respondents did and did not wear their seat belts, who would be most likely to influence them to wear their belts, knowledge of safety-belt-related facts, attitudes and knowledge of North Carolina's restraint laws, and certain pertinent demographics.

The responses for Hertford and Northampton Counties generally fell between the other two counties, but are more similar to Bertie than Moore. The following comparison will be between the Bertie and Moore County respondents since we are looking for high-belt-use characteristics that can benefit the Bertie program. The responses of the Hertford/Northampton County respondents will be used in the statistical analysis that follows and as a control when follow-up surveys are conducted at the end of the project.

Appendix A provides a complete listing of the responses to the questions administered through these questionnaires. Responses are given for both the high school and the driver license examiner sites for all counties so that comparisons can

be made. Some of the more pertinent information will be discussed below and a statistical analysis of the responses will be presented in a later section.

Driver License Stations

The number of completed questionnaires obtained through the driver license offices, after assignments to groups based on county of residence or work, were 172 for Bertie, 225 for Hertford/Northampton, and 660 for Moore. The respondents were asked to indicate how many times they had buckled up out of the last five times they drove or rode with someone else. The responses indicate that there are differences in the reported belt-wearing rates between the two counties. More of the Moore County residents reported that they wear their safety belts routinely. Of the Bertie residents, 10.6 percent said that they had worn their belts 0-1 times out of the last five and 66.5 percent said they had done so 4-5 times. A smaller proportion (6.4%) of the Moore County residents said that they had worn their belts only 0-1 times and a higher proportion (86.4%) said that they had worn their belts 4-5 times out of the last five. This seems to carry over to when they are driving with children or youth in the car. About three-fourths of the Bertie respondents indicated that they drive with children less than six in the car and two-thirds of the Moore respondents do so. More of the Bertie respondents who do drive with young children indicated that they buckled them up only 0-1 times (8.0% vs. 2.8%) and fewer of the Bertie respondents said that they buckled these children 4-5 times (83.2% vs. 92.8%). The same differences, but more pronounced, were seen for when 6-15 year olds were in the car. About 17 percent of the Bertie and 26 percent of the Moore respondents said that they never drove with children of this age in the car, but of those who did, 14.3 percent of the Bertie and 5.6 percent of the Moore respondents buckled the children 0-1 times out of the last five. On the other end of the scale 58.6 percent of the Bertie respondents compared to 88.0 in Moore said that they had buckled the children 4-5 times.

When asked to indicate the reasons that they <u>do</u> wear their belts, more of the Bertie respondents said that they did so because it's the law or to avoid the $25 fine (59.9% and 27.9% vs. 51.8% and 14.4%). More of the Moore respondents indicated reasons of safety (69.5% vs. 58.1%) and because it is a habit (26.5% vs. 16.9%). This seems to indicate that the Moore County residents do not really respond to the threats of sanctions to induce their belt wearing, but instead have been wearing their belts and thus developed this behavior as a habit. Whereas it is possible that they first started wearing their belts for law-related reasons, these responses would seem to suggest that the appropriate approach to take in Bertie County would be to provide positive reinforcements, such as incentives, to encourage starting the belt-wearing behavior rather than relying on negative sanctions. If this is not found to be effective, stronger enforcement actions could be instituted.

For the question that asked for reasons that they did not wear seat belts, the Bertie respondents were more likely to provide reasons that denote negative feelings about seat belts or lack of accurate information on how belts work. For the

Bertie respondents, 22.1 percent indicated that they are uncomfortable, 12.2 percent said belts can trap you, and 22.1 percent said they do not wear belts if not going very far. This contrasts to the 9.7 percent of the Moore respondents who indicated that they are uncomfortable, 5.5 percent who said belts can trap you, and 16.7 percent who said they do not wear belts if not going very far.

These reasons for not wearing belts seem to be reflected in the responses to Question 11 for the Driver License questionnaire that asked the respondents to agree or disagree with certain statements about belts. Again, the responses of the Bertie respondents indicate that they have more negative feelings toward seat belts. More of the Bertie responses agreed with the statements that it's better to be thrown clear of the car (14.4% vs. 10.3%), belts are not needed in the back seat (29.0% vs. 16.5%), belts will trap you (60.8% vs. 48.8%), belts are a hassle to use (32.7% vs. 24.2%), and that belts hurt you more than help (12.9% vs. 4.1%).

The respondents at the driver license offices were also asked to indicate who would be most likely to influence them to wear their seat belts. The two responses given most often were a police officer (66.9 percent for Bertie and 55.2 percent for Moore) and an accident survivor or family member of a victim (39.0 percent for Bertie and 42.9 percent for Moore).

High Schools

The relationships between the responses of the 502 Bertie students, 421 Hertford students, and 307 Moore students were very much similar to those found through the samples of county residents gathered though the questionnaires administered through the Driver License Offices. Twenty four percent of the Bertie students said that they had worn their belts none or one time out of the last five times they drove or rode with someone else, and 49 percent said that they had done so four or five times. This compares to the much smaller 14 percent of the Moore County students who responded none or one time and much larger 70 percent said that they had done so four or five times.

The Moore County students were only slightly less likely than Bertie students to wear their belts because its the law (34% vs. 36%) or to avoid the $25 fine (41% vs. 45%). This is in contrast to the sample of residents where the differences were greater. However, as with the residents, the Moore County students were almost twice as likely as Bertie students to wear their belts out of habit (32% vs. 17%).

It appears that the belt wearing behavior of the students also transfers to situations where they are driving and have young children in the car or if they are driving their friends. Over a third of both student groups said that they never drove with children less than six in the car, but of the Bertie County students who said that they did drive with children in the car, only 30.5 percent indicated that they made the children buckle up 0-1 times out of the last five and 50.6 percent said that they did so 4-5 times out of the last five. In contrast, a much smaller proportion (9.7%) of

the Moore students who drove with children in the car responded that they had made children buckle up 0-1 times and a much higher proportion (81.6%) said they had done so 4-5 times. The same trends are present for when the students drive with their friends in the car, which about 9 out of 10 of them indicate they do. A third (33.3%) of the Moore County students but over half (55.9%) of the Bertie students made their friends buckle up 0-1 times, whereas 47.7 percent of the Moore students and only 28.9 percent of the Bertie students made their friends buckle up 4-5 times.

The students were asked to indicate the most important reasons that they did not wear safety belts. Again mirroring the sample of residents, the Bertie students tended to have more negative feelings about safety belts. More Bertie students felt that belts do more harm than good (6.4% vs. 3.9%), that belts are uncomfortable (24.9% vs. 20.9%), and an even more disproportionate number felt that belts can trap you in the car (19.1% vs. 9.1%). A higher proportion of the Moore students said that they do not wear belts when they are in a vehicle without belts (17.9% vs. 12.0%), which is about the only reason not to wear a seat belt that was based on physical barriers instead of choice. Similar proportions of the Bertie and Moore County students also said that they do not wear their belts when they are in the back seat (32.3% and 34.9%) or when they are in a hurry (10.8% and 12.1%). These reasons do not necessarily represent negative feelings about seat belts but indicate the need for more education and the development of better belt-wearing habits.

Question 8 of the high school questionnaire asked the students to agree or disagree with certain safety-belt-related questions. The responses again indicate that the Bertie students had much more negative feelings or lack of knowledge as to the effectiveness of seat belts. Larger proportions of Bertie students said that it is better to be thrown clear of the car in a crash (24.7% vs. 15.4%), belts will trap you (83.3% vs. 69.5%), belts are a hassle (36.4% vs. 31.9%), seat belt hurt you more than they help (15.2% vs. 10.0%), and that belts are needed only on long trips (61.3% vs. 52.7%).

Interestingly, considering the more negative feelings about belts themselves for the Bertie students, they were very similar to the Moore County students in their positive feelings about North Carolina's safety seat and seat belt laws. More than nine out of ten (92.6% and 95.7%) of both Bertie and Moore students feel that the law for children should be kept while smaller, but still similar, proportions (74.0% and 73.9%) felt that the law for adults should be kept.

Question 6 on the high school questionnaire asked the students to indicate who would be most likely to influence them to wear their seat belts and produced results much like the sample of residents. Both groups of students were similar in their responses in that the item checked most often (63% for Bertie and 56.4% for Moore) was "police officer." A large proportion of both groups (44.4% for Bertie and 42.7% for Moore) also checked "accident survivor/family member of victim." There was no other response that was checked by a large proportion of either group.

Analysis of Community Surveys

Driver License Station Surveys

Survey data were obtained from four counties, Bertie, Hertford, Northampton, and Moore, which represent the program site, a two-county comparison site, and a high seat-belt-use site, respectively. The survey questionnaires requested information on demographic characteristics, attitudes toward seat belts, and knowledge of seat belt laws.

As seen in Figure 3, respondents from the three areas differed significantly with respect to each of the demographic variables: age, sex, race, and educational level. The respondents from Moore County were generally more highly educated, older, and contained a higher proportion of males and whites than the other two areas. Bertie County respondents represented the opposite extreme on each of these characteristics, while Hertford/Northampton County respondents fell in between, though usually more similar to Bertie respondents than to Moore respondents.

The questionnaires contained three seat belt use questions which asked: *Of the last five times you drove or rode with someone, how many times did you buckle up? Make children under age six riding with you buckle up? Make passengers age 6 to 15 buckle up?* In each case the responses differed significantly, on average between counties. Table 1 shows the average values by county.

Table 1. Average values for last 5 trips.

County	Respondent Buckled Up	Made Under 6 Buckle Up	Made 6-15 Buckle Up
Bertie	* [3.82	[4.30	[3.59]
Hertford/Northampton	3.99]	4.30]	[3.96]
Moore	[4.47]	[4.74]	[4.56]

*Mean values included in a bracket did not differ significantly at a 5% level of significance.

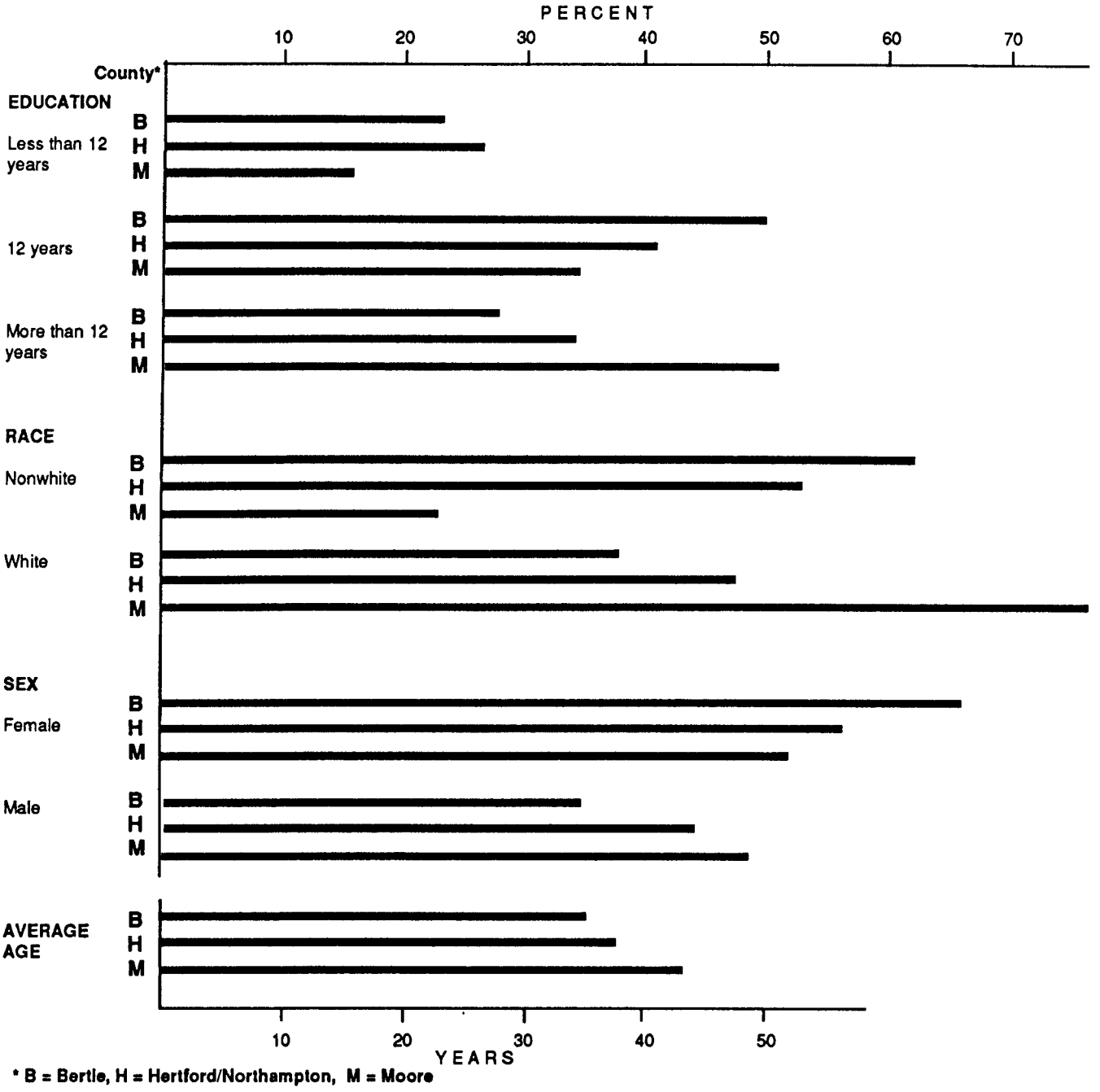

Figure 3. Distribution of Education (Highest Grade Completed), Race, Sex and Age of Respondents by County

The questionnaire also contained 18 questions on attitudes toward seat belts or knowledge of restraint laws. On eight of these questions the responses did not differ significantly by county. These are listed below along with the overall response.

1. In an accident, it is better to be thrown clear of the car.
   89% Disagreed

2. Seat belts are a hassle to use.
   74% Disagreed

3. Adults can protect children in a wreck by holding them in their arms.
   96% Disagreed

4. Belts are needed most on long trips.
   55% Disagreed

5. The law for children should be kept.
   96% Agreed

6. Children under age 3 must ride in safety seats; older children can use seat belts.
   95% Marked True

7. Children have to be buckled up only when their parents are driving.
   95% Marked False

8. Pickup trucks are exempt from NC Seat Belt Law.
   95% False

On the other 10 questions, the responses did differ significantly by county. Figure 4 shows these responses for eight of these questions. For example, to question 1, 17% of the Bertie County respondents disagreed with the statement that seat belts keep you from getting hurt in a wreck. In Hertford/Northampton and Moore counties, the disagree responses were 13% and 5%, respectively. The differences in these responses was statistically significant based on a chi-square test with 2 degrees of freedom and a p-value of $p < .001$.

In general, Moore County responses were most favorable toward seat belts, Bertie County least favorable, with Hertford/Northampton Counties in between. On several questions the responses from Bertie and Hertford/Northampton Counties were fairly similar and quite different from those of Moore County.

The two additional attitude questions that were analyzed asked for reasons why seat belts were used and not used. Respondents were asked to select as many as two reasons from a candidate list. For analysis, the one or two reasons selected were classified into three groups for each question. Reasons for wearing seat belts were

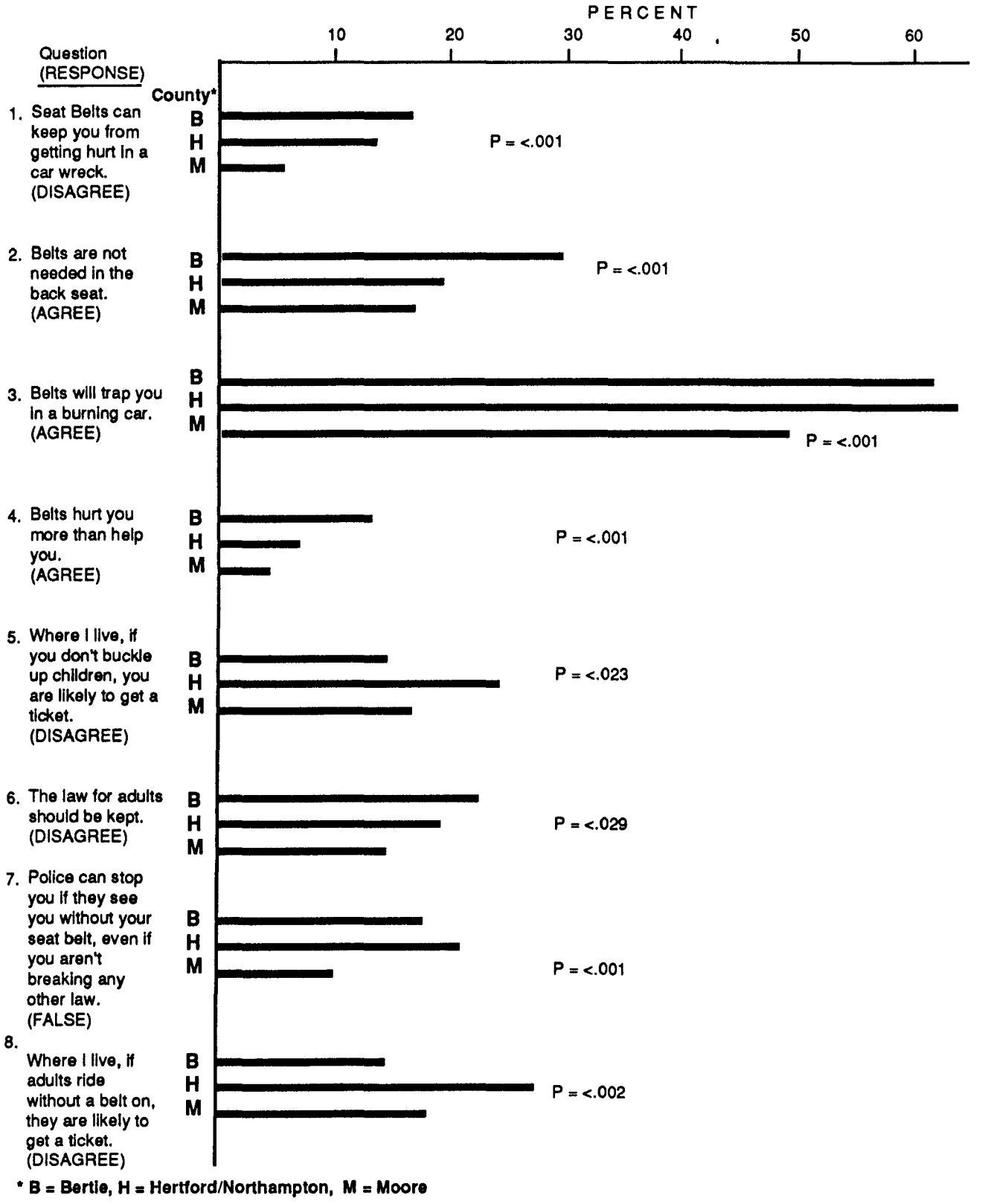

Figure 4. Responses to Seat Belt Questions by County

classified into groups that represent attitudes toward belts:

Class 1: Habit was listed. (Most positive belt response.)

Class 3: Never wear seat belts, to avoid fine, or because it's the law were the only reasons listed. (Responses that indicate negative attitude toward belts or belt use because of external pressure.)

Class 2: All other combinations. (Neither positive nor negative responses.)

Reasons for not wearing seat belts were classified as:

Class 1: Always wear belts or vehicle has no belts was listed. (Most positive belt response or nonuse response caused by external factors.)

Class 3: Belts do more harm than good or belts trap you in the car were only reasons listed. (Resonses that indicate negative attitude toward belts.)

Class 2: All other combinations. (Neither positive nor negative responses.)

The responses on both of these questions differed significantly across the counties. With respect to reasons for wearing belts, 17.6%, 17.7% and 25.8% included habit as reason in Bertie, Hertford/Northampton, and Moore Counties, respectively. Those responding that they never wore seat belts or only did so because of the law constituted 24.2%, 21.3%, and 14.1%, respectively. Those responding to the reasons for not wearing seat belts by saying they always wear belts or their vehicle had no belts were 42.5%, 34.7%, and 51.9% across the three counties, while 4.2%, 4.1%, and 2.2% responded that belts do more harm than good and/or trap you in the car.

In view of the differing demographics of the respondents from the three counties, the question naturally arises as to whether or not the differences in attitudes toward seat belts is simply a reflection of differences in demographics. The answer seems to be no.

This question was investigated by first combining the data from Bertie and Hertford/Northampton Counties, then running a series of 3 and 4-way contingency tables. Bertie and Hertford/Northampton data were combined since the samples from these counties were relatively small and the responses on many of the survey questions were similar for the respondents from these counties. (It should also be noted that Bertie, Hertford and Northampton Counties form a geographic area with similar characteristics and observed belt wearing rates in those counties were similar.) Three-way tables were then run of each demographic variable by each attitude question by county (Bertie and Hertford vs Moore). Then 4-way tables of education level by race by attitude questions by county were run. In only one instance was an attitude which differed significantly over the three areas found to not differ significantly over the two county groups after adjusting for one or two

demographic characteristics. In that instance the attitude toward keeping the seat belt law for adults did not differ significantly, ($p = .068$), after adjusting for differences in respondent age. In all other instances the differences in attitude remained after adjusting for demographic differences. Results from one of the 4-way analyses are shown in Figure 5.

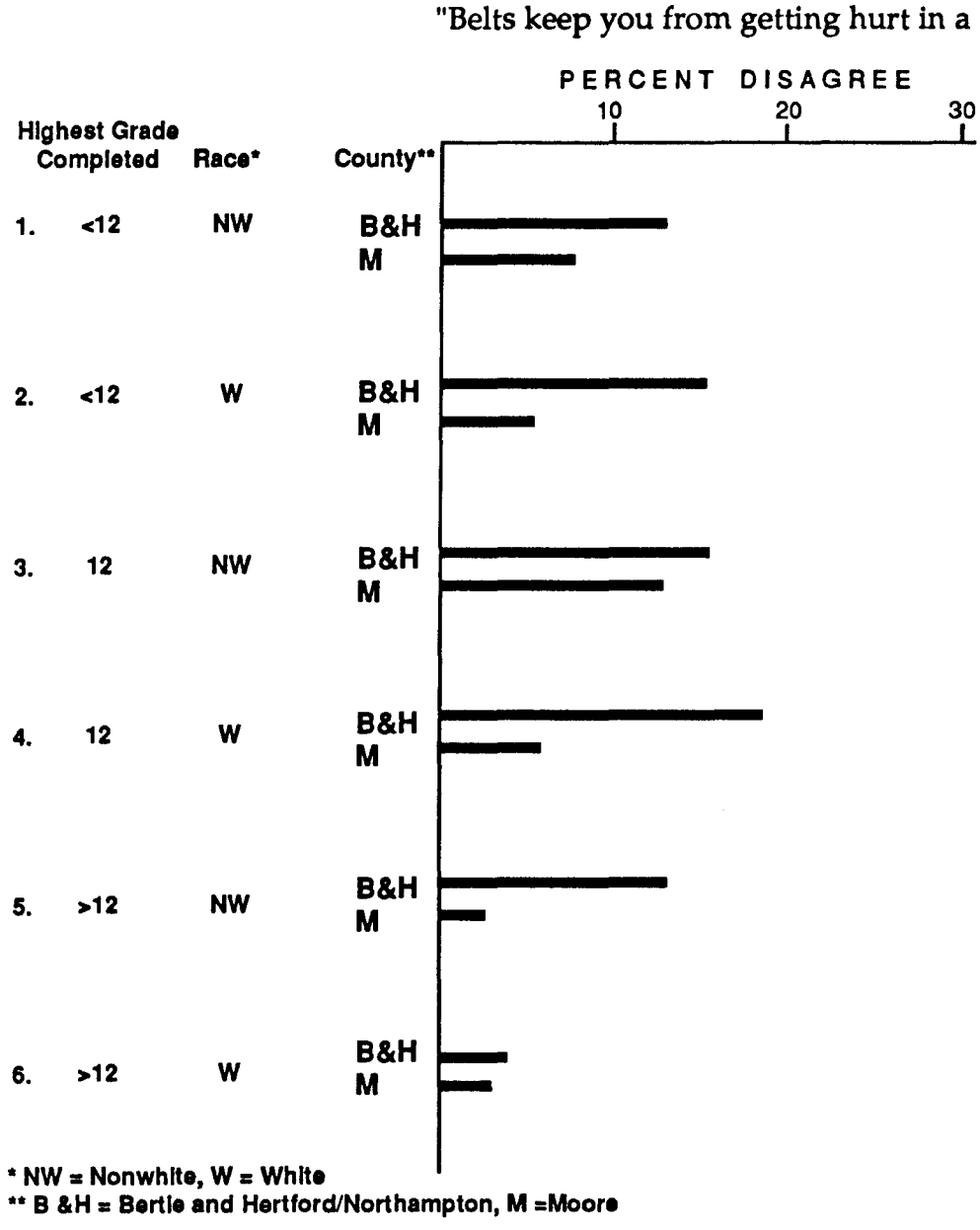

Figure 5. Example of Four-Way Breakdown

There it can be seen that within each combination of educational level and race, a higher percentage of respondents from Bertie and Hertford/Northampton Counties disagreed that seat belts protect you than did those from Moore County. Overall, these analyses indicate that respondents from Bertie and Hertford/Northampton Counties have somewhat less favorable attitudes toward seat belts than do respondents from Moore county, and that these attitudes are not simply due to differences in the age, sex, race, and educational level of the respondents.

High School Surveys

A similar questionnaire was given to students at three high schools: Bertie, Hertford, and Union Pines in Bertie County, Hertford County, and Moore County, respectively. Since the questionnaires were given to all eligible students, (rather than a sample), no statistical tests were applied to these results. While, overall, the high school responses were correlated with the community responses in terms of variation across questions, the high school responses were consistently less favorable toward seat belts than were the community responses, as can be seen in Table 2.

Table 2. Selected overall responses (percent agree) to questionnaire items.

Item	High School	Community
1. Adult law should be kept	73.5%	83.6%
2. Seat belts are a hassle	37.5%	25.9%
3. Belts needed most on long trips	60.9%	45.1%
4. Belts hurt more than help	17.1%	6.2%
5. Belts keep you from hurt	81.1%	91.2%
6. Belts not needed in back seat	34.7%	19.1%
7. Better to be thrown clear	25.8%	12.0%
8. Belts will trap you	80.7%	54.2%

As with the community responses, the high school students from Moore County usually responded more favorably toward seat belts than those from the other counties. Students from Hertford County, however, often responded less favorably than those from Bertie County which was unlike the community responses.

Since safety belt observations in Bertie and Hertford counties showed belt use to be considerably lower in pickup trucks than in cars, another objective of the analysis was to see if pickup truck drivers had different attitudes towards seat belts than did car drivers. From the community surveys the average number out of the last five trips, of reported belt use was significantly lower for pickup trucks than for cars (3.36 vs 4.06, $p = .0012$). The only attitude type question on which the responses differed significantly, however, was the statement that seat belts are a hassle to use. The percentages in agreement with that statement were 27.7% for car drivers and 46.3% for pickup truck drivers ($p = .007$). High school students who drove pickup trucks also reported buckling up less often than car drivers (1.93 out of last 5 trips vs 3.02 out of last 5 trips), and thought that seat belts were more of a hassle (55.6% vs 37.1%). Another major difference among the high school drivers was that 75.8% of the car drivers agreed that the adult seat belt law should be kept, while only 49.3% of the pickup truck drivers did so. The responses of the two groups were very similar on most other questions.

Conclusions

The responses to these surveys have given a good overview of the belt-wearing habits of students and adults in a low belt-use rural area, and have allowed this to be contrasted to a high belt-use rural county. Several observations can be made from the responses:

- The high-belt use population listed safety and the fact that buckling up is a habit as the main reason for using seat belts, while the low-belt-use area was more likely to cite the possibility of getting a ticket as the reason for buckling.

- Respondents from low-belt-use areas were more likely to say that belts do more harm than good and believe myths about belts such as belts will trap you in the car or that it is better to be thrown clear.

- Low-belt-use area high school students expressed that belts do more harm than good and belief in myths more frequently that the general population and were the group with the lowest approval rate for the adult seat belt law.

- High-belt use area respondents indicated that they buckle up children more often than low-belt use area respondents.

- Pickup truck drivers reported lower belt use than car drivers in all areas and high school students who drive pickup trucks in the low-belt-use areas reporting the lowest use. Pickup truck drivers were more likely to indicate that belts were a hassle and to be opposed to the adult seat belt law. Again, high school students were the pickup drivers who expressed these feelings the most often.

- Both high- and low-use-area respondents indicated police officers and accident survivors or the family member of a victim as someone most likely to influence them to wear belts.

- Although demographics such as higher economic status or education are often associated with higher belt use, the differences listed above were still significant after the data were analyzed by demographic variables such as age, sex, race and education.

This information can be used to help plan for a county-wide program that is designed to increase seat belt use in a rural community such as Bertie County. For the most part, the higher belt use in Moore County seems to be associated with more positive feelings about seat belts themselves and with a more accurate understanding of how seat belts work and their effectiveness. The residents of Moore County do not seem to depend on the presence of laws or the threat of enforcement of these laws to keep them wearing their seat belts. We do know that over the past several years, there has been a continuing educational, program with associated promotional activities, conducted through the Moore County Health Department and this appears to have had an effect on the attitudes of the residents of the county.

There are two basic implications for planning a program for a rural community, such as Bertie County, that arise out of this information. The first is that methods need to be devised to get residents to begin wearing their seat belts in the first place. Both positive (e.g. incentives), and negative (e.g. active enforcement programs), should be implemented to get residents in the belt-wearing habit. Secondly, an educational program should be implemented to provide accurate information on the effectiveness and functions of restraint systems in order to help maintain belt-wearing after it has been initiated. Part of this educational program should include testimony from survivors of bad crashes who were wearing their seat belts and, if possible, testimony from unbelted victims (or their family members) who can relate the trauma that can be inflicted on those who do not wear their seat belts and on their families.

An essential element in a program to increase overall belt use is messages and incentive programs focused on pickup truck drivers, high school students and other young adults. Incentive programs need be of sufficient duration to create belt-wearing habits. Public information programs and materials should include messages to dispel myths about belts and foster confidence that buckling up is a lifesaving, injury-preventing habit and not something one does merely to avoid problems with the law.

III. Community Grant

The second component of this project was to provide the local community program with funds to help conduct their seat belt program. One of the difficulties in launching such a demonstration program is that rural communities tend to have less resources available than more urban settings. Most rural sites share low belt use and low economic profiles and need financial assistance in putting together a program that could have a measurable impact. This method of funding is consistent with the replicative intent of the rural demonstration project in that a potential source of funds for rural seat belt community programs in most states would be that state's Governor's Highway Safety Program.

Development of Community Coalition

The primary candidate sites for the community program were the Ahoskie area (Hertford County), Northampton, Halifax, Gates, Duplin and Bertie counties. Data collectors were sent to each of these areas to collect belt usage at various sites such as in towns, at rural crossroads, at entrances and exits to major businesses, industries and high schools. Demographic information and potential community resources were also included in the area audits. All of these sites were very rural in nature and had belt use rates significantly below the state average of around 60 percent.

Telephone interviews were conducted with agencies in the potential experimental sites of Gates, Northampton, Bertie, Halifax, and Hertford Counties. Interviews were not conducted in Duplin County, included on the original list of candidate sites, because usage rates turned out to be considerably higher (around 50 percent) in Duplin County as compared to the other potential sites (around 30 percent). Through these surveys, Hertford and Bertie Counties were identified as the two sites with the most appropriate mix of support for this project and visits to those sites were conducted.

The level of enthusiasm and commitment shown from many groups and organizations in the county made Bertie the first choice for the conduct of the program. Representatives from the county at the site visit included the sheriff; the police chief from Windsor, the county seat and largest community; the high school principal and several of his staff; the director of emergency medical services; and the county health director. The high school principal volunteered the services of himself and his staff to head a community coalition.

Development of Safety Belt Program

HSRC assisted Bertie County in putting together a proposed program and then served as the monitoring agency for the conduct of the grant. The community grant was used by the lead agencies to purchase printed materials, promotional items, and

other products such as displays, signs, etc. The amount of the grant was $20,000 ($6,000 in FY 1990; $14,000 in FY 1991). Each agency was required to specify a plan for using their share of the funds. For example, the high school requested funds for the purchase of modest incentives to be given out by high school students to children in the elementary schools across the county and the police department requested funds for signs and materials to use to conduct checkpoints.

The health department applied for and won a grant from the NC Department of Human Resources to conduct a companion seat belt project in which they would work with major employers in the area to increase belt use among employees. The health department project purchased the Vince and Larry costumes and is sharing their use with this project.

The educational program's kickoff was scheduled for November 2, 1990 and will continue through May 1991 to coincide with the school year. The 1990 funds were used for the preparation and production of materials that will need to be in place for the November kickoff, and the 1991 funds will be used to sustain the public awareness activities over the life of the program. It is the intent of the project that the materials and promotional items would encourage and enable the community program to continue after the research effort has been completed.

Core Programs

The initial coalition of local leaders included the Sheriff's Department, Windsor Police Department, Bertie County High School, the Search Team of the Bertie County Rescue Squad, the Bertie County Rural Health Association, and the County Health Department. During the planning stage of the project the Aulander and Lewiston-Woodville Police Departments and *The Bertie Ledger* joined the coalition, which decided to call itself the Bertie Committee for Seat Belt Safety. The inclusion of these two police departments means that every department in the county in now involved in the program, and *The Bertie Ledger*, published on a weekly basis, is the only paper in the county and is read by most county residents.

Through the community grant awarded by the GHSP, ($6,000 for Fiscal Year 1990; $14,000 for FY 1991), the committee purchased items for use in the program kickoff. The items included bumper stickers with attached decals (see Appendix B), small incentives such as key chains, personal calendars, and travel mirrors, handout cards and seat belt check road signs. The theme "Bertie Buckles Up" is being used on all project materials. The high school decided to purchase incentive items (frisbees, pencils and cups) for each elementary school in the county imprinted with the safety belt theme and the name of the particular school. The following is a brief description of the activities planned by the core program leaders through which these materials will be distributed:

Law Enforcement. The Windsor, Aulander, and Lewiston-Woodville Police Departments, along with the Bertie County Sheriff's Department and the North Carolina Highway Patrol, will be conducting seat belt road checks in which belted

motorists will be given small prizes. They also will be giving out information, making presentations, using the Vince and Larry costumes, and working with high school clubs in promotions all around the county.

Newspaper. *The Bertie Ledger* is running small filler ads (Appendix B) which alert people to buckle up because "Starting November 2nd, good things will happen to people who wear seat belts in Bertie County." The paper has also agreed to give extensive coverage to the kickoff and to run at least one major article a month on some aspect of the program, such as what high school students are doing, how the Search Team is collecting use data, how pickup truck drivers need to increase their belt use, etc. They will also give regular updates on the current belt use rates.

Health Department and Office of Emergency Management. These two organizations have teamed up to work with the major employers in the area. The EMS coordinator will work with many of the safety officers and employers in the county to get industry personnel to conduct their own programs. As part of the kickoff, educational programs will be given at major employers such as the local poultry processing plant (largest employer in the county), a textile plant, and a lumber yard. These businesses will have belt use recorded on a regular basis and a barometer set up at the plants to monitor each site's progress. They also plan to work with the local agri-business stores (suppliers of seed, fertilizer, equipment for the farming industry). This is probably the best approach for reaching farmers and pickup truck drivers. During the off-season, these agri-business centers invite farmers in for coffee and to hear about the latest products. This is an excellent opportunity to conduct incentive programs in the parking lots (incentive recommended -inexpensive rain gauges) and educational programs inside the stores.

High School. The principal of Bertie High School, the only high school in the county, is the head of the community coalition. The school will participate from several standpoints: 1) students and faculty will conduct programs to encourage belt use among the high school students; 2) the students will conduct programs in the elementary schools across the county; and, 3) the students, through clubs and special classes, will provide manpower and resources to the various community programs. The principal and select students have met with representatives from all the county schools to inform them about the program and get ideas on the types of activities to conduct at the schools. Special activities are being planned for high school athletic events (which have a tremendous draw from the county), and an assembly program is being planned to coincide with the kickoff. The shop class has made seat belt check signs for the police departments, and the art department is painting banners. The *Smart Moves* packages, developed by HSRC for high school programs, has been distributed to student groups and the elementary schools and will serve as a framework for developing programs. Students will use the pencils, cups and frisbees imprinted with the school's names in the programs at the schools. Using driver education teachers and students, the high school will collect its own belt use data.

The following is a breakdown of the materials that were purchased as part of this project:

General Program Items

1,000 pencils
1,000 key chains
1,000 card cases
500 cups
500 mirrors
300 caps
100 personal calendars
5,000 bumper stickers

Elementary School Items (7 Schools)

1,250 "Southwestern" pencils
1,250 "Southwestern" cups

500 "C.G. White" pencils
250 "C.G. White" frisbees

250 "Askewville" frisbees
250 "Askewville" cups

250 "J.P. Law" frisbees
250 "J.P. Law" cups

250 "West Bertie" frisbees
250 "West Bertie" cups

250 "Aulander" frisbees
250 "Aulander" cups

250 "Colerain" frisbees
250 "Colerain" cups

Long Range Goals and Project Objectives

The goal of this project is to determine characteristics of rural residents that make them less likely to use safety belts and interventions that have the greatest potential for increasing belt use among this population. The long range goal of this project is to document successful program ideas for use in other rural areas so that the benefits of increased belt use can be extended beyond the scope of this project. At

the end of the community campaign, the program will be evaluated and successful strategies, messages and networks will be identified and documented.

Evaluation

The evaluation of the effect of this project will include the analysis of 1) behavioral change documented through observational belt use surveys conducted as part of the rural demonstration grant; and 2) attitudinal data gained from the surveys of rural residents in the experimental and comparison sites before and after implementation of the program. Process evaluation will include documentation of events, programs and materials distributed as part of the activities conducted through the community grant.

Project Continuation Plans

This project provided the community program the startup money to get initial materials and promotional items in place and set in motion the program that will continue through May, 1991. The grant for FY 1990-91 will support the efforts to take place during the course of the program. Emphasis will continue to be placed in conducting programs in the work place, the schools, at special events, and through mechanisms designed to reach low-belt-use groups such as youths and drivers of pickup trucks.

It is anticipated that the activities started through this project will continue beyond the life of the project. Most of the materials and promotional items would require only continued duplication, so many of the start-up costs of the program will be eliminated. Most of the programs will be developed so that a reasonable amount of effort from a large pool of manpower can maintain the programs. Also, the expected benefits of demonstration program in terms of injuries and deaths prevented would increase the likelihood the effort would be sustained at the local level.

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APPENDIX A:

Survey Responses by Question

RESPONSES TO RURAL SURVEY QUESTIONNAIRES ADMINISTERED THROUGH DRIVER LICENSE EXAMINERS' OFFICES AND HIGH SCHOOLS

Question #
DL HS
1a NA* COUNTY WHERE YOU LIVE:

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	172	224	660	na	na	na
RESPONSES:						
Bertie	92.4	0.0	0.0	na	na	na
Edgecombe	0.0	0.5	0.0	na	na	na
Gates	0.6	1.3	0.0	na	na	na
Hertford	5.8	71.0	0.0	na	na	na
Moore	0.0	0.0	100.0	na	na	na
Northampton	1.2	27.2	0.0	na	na	na

*NA/na denotes that the question was not applicable to this group of respondents.

Q #
DL HS
1b NA COUNTY WHERE YOU WORK:

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	119	143	444	na	na	na
RESPONSES:						
Other	10.9	4.9	9.5	na	na	na
Bertie	77.3	0.0	0.0	na	na	na
Hertford	11.8	74.1	0.0	na	na	na
Moore	0.0	0.0	90.5	na	na	na
Northampton	0.0	21.0	0.0	na	na	na

Q # DL	Q # HS	
2	1	**OUT OF THE LAST 5 TIMES YOU DROVE OR RODE WITH SOMEONE ELSE, HOW MANY TIMES DID YOU BUCKLE UP? (CIRCLE YOUR ANSWER.)**

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	170	221	654	493	410	305
RESPONSES:						
0	7.7	5.0	3.5	15.8	20.5	10.5
1	2.9	3.2	2.9	8.5	9.3	3.3
2	6.5	7.7	2.5	14.4	15.6	5.3
3	16.5	13.1	4.7	12.0	16.3	11.2
4	15.9	14.0	6.9	11.8	10.0	14.8
5	50.6	57.0	79.5	37.5	28.3	55.1

Q #
DL HS

3 2 WHEN YOU WEAR A SEAT BELT, WHAT IS THE MOST IMPORTANT REASON? YOU MAY CHECK TWO.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	172	225	660	502	419	307
RESPONSES:						
Because it's the law	59.9*	58.7	51.8	36.1	39.1	34.0
To avoid the $25 fine	27.9	17.3	14.4	45.0	41.1	41.0
To be safe in an accident...	58.1	69.3	69.5	48.4	53.9	46.3
Because friends/family want me to	6.4	2.7	3.8	13.0	7.6	7.2
It's a habit, I don't think about it	16.9	17.3	26.5	17.1	11.5	31.6
My own experience in an accident	6.4	4.9	5.3	5.6	2.9	9.5
Someone else's accident experience	5.2	5.3	5.0	5.6	8.4	5.5
Other.....	1.2	0.4	0.6	2.6	1.4	2.6
You never wear a seat belt	2.9	0.9	2.1	4.0	6.7	2.3

*Percentages indicate the proportion of respondents among the corresponding groups that checked this answer as one of the two reasons.

Q #
DL HS

4 3 **WHEN YOU DO NOT WEAR A SEAT BELT, WHAT IS THE MOST IMPORTANT REASON? YOU MAY CHECK TWO.**

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	172	225	660	502	419	307
RESPONSES:						
Belts do more harm than good	1.7*	2.2	1.4	6.4	8.8	3.9
Riding in car or truck that has no belts	30.2	20.0	22.7	12.0	12.4	17.9
Belts are uncomfortable	22.1	16.4	9.7	24.9	33.5	20.9
Belts can trap you in the car	12.2	10.2	5.5	19.1	23.2	9.1
Riding in the back seat	36.6	35.6	31.4	32.3	25.8	34.9
Not going very far	22.1	18.7	16.7	26.1	19.1	24.1
In a hurry	7.6	14.7	8.9	10.8	7.9	12.1
I forget, I'm not in the habit	13.4	17.8	8.5	23.1	23.9	14.3
Other	0.6	3.6	4.9	3.4	2.9	3.9
You always wear a seat belt	16.9	17.8	34.2	9.6	7.2	18.2

*Percentages indicate the proportion of respondents among the corresponding groups that checked this answer as one of the two reasons.

Q #
DL HS

5 4 OUT OF THE LAST 5 TIMES YOU DROVE WITH CHILDREN UNDER AGE 6 IN THE CAR, HOW MANY TIMES DID YOU MAKE THEM BUCKLE UP? (CIRCLE YOUR ANSWER.)

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	168	222	654	497	407	306
RESPONSES:						
0	5.4	3.6	1.8	15.1	15.0	4.3
1	0.6	1.8	0.0	5.0	3.4	1.6
2	3.6	2.3	0.2	6.0	5.2	2.0
3	3.0	5.9	2.8	6.4	3.7	3.3
4	6.0	5.9	1.7	5.0	5.9	4.3
5	56.0	51.8	59.2	28.4	34.6	45.1
You never drive with children under age 6 in the car	25.6	28.8	34.4	34.0	32.2	39.5

Q #
DL HS

6 5 OUT OF THE LAST 5 TIMES YOU DROVE WITH SOMEONE AGE 6 TO 15/FRIENDS IN THE CAR, HOW MANY TIMES DID YOU MAKE THEM BUCKLE UP?

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	170	224	653	496	403	303
RESPONSES:						
0	11.8	5.4	3.2	43.2	45.7	28.7
1	0.0	2.2	1.1	6.5	7.0	2.6
2	7.1	4.5	1.1	7.5	8.7	5.3
3	15.3	13.4	3.5	6.1	8.7	12.5
4	5.3	10.3	2.3	6.7	4.2	7.9
5	42.9	46.9	62.8	19.0	12.7	37.0
Never drive with anyone age 6 to 15/ friends in the car	17.7	17.4	26.0	11.3	13.2	5.9

Q #
DL HS

7 6 **WHO WOULD MOST LIKELY INFLUENCE YOU TO WEAR YOUR SEAT BELT? YOU MAY CHECK TWO.**

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	172	225	660	502	411	307
RESPONSES:						
Police officer	66.9 *	63.6	55.2	63.0	65.0	56.4
Race car driver	4.7	4.0	6.1	5.0	6.6	8.5
Doctor/Nurse	3.5	8.0	8.2	2.2	2.7	2.9
Rescue squad member	9.9	11.6	15.3	5.4	6.3	9.8
TV/radio personality	9.9	4.0	3.5	7.0	4.6	4.9
Teacher you respect	2.9	3.1	2.7	4.0	3.2	1.6
Accident survivor/ family member of victim	39.0	44.4	42.9	44.4	41.1	42.7
Local minister/ other religious leader	1.7	1.3	2.3	3.6	3.7	1.0
Other	15.1	18.2	16.1	9.4	7.5	11.4
Parents	na	na	na	12.4	10.5	16.0

*Percentages indicate the proportion of respondents among the corresponding groups that checked this answer as one of the two reasons.

Q #
DL HS

8 7 WHAT VEHICLE DO YOU DRIVE MOST OF THE TIME? YEAR

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	127	159	485	351	238	241
RESPONSES:						
<1967	0.8	1.3	0.8	0.0	0.4	0.8
1967-1969	0.8	0.0	0.8	0.3	0.0	0.4
1970-1979	22.1	15.1	13.4	8.3	9.7	21.6
1980-1989	74.0	79.9	75.7	83.5	79.0	68.9
1990+	2.4	3.8	9.3	8.0	10.9	8.3

WHAT VEHICLE DO YOU DRIVE MOST OF THE TIME? TYPE

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	169	218	650	482	384	295
RESPONSES:						
None	0.0	0.0	1.1	0.0	1.8	1.0
Car, S.W	75.8	75.7	77.1	82.2	77.3	76.6
Jeep, Bronco, etc.	3.0	3.7	3.4	3.9	4.4	5.0
Other	2.4	1.8	1.7	3.1	1.3	2.0
Pickup truck	14.2	15.1	12.8	8.3	8.6	13.9
Van	4.7	3.7	4.0	2.5	6.0	2.0

Q #
DL HS

9 na WHAT VEHICLE IS DRIVEN WHEN YOUR WHOLE FAMILY GOES SOMEWHERE? YEAR

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	112	143	450	na	na	na
RESPONSES:						
<1967	0.0	0.0	0.2	na	na	na
1970-1979	13.4	13.3	9.8	na	na	na
1980-1989	83.9	81.8	79.8	na	na	na
1990+	2.7	4.9	10.2	na	na	na

WHAT VEHICLE IS DRIVEN WHEN YOUR WHOLE FAMILY GOES SOMEWHERE? TYPE

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	165	219	637	na	na	na
RESPONSES:						
None	0.0	0.0	0.6	na	na	na
Car	80.0	74.9	79.3	na	na	na
Jeep, etc.	1.8	4.1	2.7	na	na	na
Other	1.2	0.5	0.9	na	na	na
Pickup truck	5.5	4.1	3.9			
Station Wagon	4.9	8.2	6.1	na	na	na
Van	6.7	8.2	6.4	na	na	na

Q #
DL HS

10 na HOW MANY PEOPLE ARE IN YOUR FAMILY? ADULTS

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	165	215	650	na	na	na
RESPONSES:						
1	10.9	14.4	16.8	na	na	na
2	57.6	55.4	62.2	na	na	na
3	13.3	10.7	7.2	na	na	na
4	7.9	9.3	7.9	na	na	na
5	4.2	3.7	3.2	na	na	na
6+	6.1	6.5	2.8	na	na	na

HOW MANY PEOPLE ARE IN YOUR FAMILY? CHILDREN UNDER 16:

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	154	187	547	na	na	na
RESPONSES:						
0	40.9	39.6	55.6	na	na	na
1	26.6	21.9	22.5	na	na	na
2	19.5	25.7	14.6	na	na	na
3	5.8	9.1	5.9	na	na	na
4	5.2	2.1	0.9	na	na	na
5	0.7	1.6	0.6	na	na	na
6+	1.3	0.0	0.0	na	na	na

Q #
DL HS

11 8 CHECK THE ANSWER THAT DESCRIBES HOW YOU FEEL: AGREE, DISAGREE.

Seat belts can keep you from getting hurt in a car wreck.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	170	218	647	499	401	303
RESPONSES:						
Agree	82.4	86.7	94.3	79.6	76.6	82.8
Both Checked	1.2	0.0	.05	1.4	3.0	2.3
Disagree	16.5	13.3	5.3	19.0	20.5	14.9

In an accident, it's better to be thrown clear of the car.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	160	209	614	489	380	299
RESPONSES:						
Agree	14.4	14.8	10.3	24.7	34.7	15.4
Both Checked	1.3	0.0	0.3	0.8	0.3	1.7
Disagree	84.4	85.2	89.4	74.4	65.0	82.9

Belts are not needed in the back seat.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	162	215	629	498	391	302
RESPONSES:						
Agree	29.0	19.1	16.5	32.7	38.1	33.1
Both Checked	1.2	0.0	0.0	0.2	0.5	0.7
Disagree	69.8	80.9	83.5	67.1	61.4	66.2

Belts will trap you in a burning car.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	153	205	592	495	381	298
RESPONSES:						
Agree	60.8	63.9	48.8	83.0	83.2	69.5
Both Checked	1.3	0.0	0.2	1.4	0.8	1.7
Disagree	37.9	36.1	51.0	15.6	16.0	28.9

Seat belts are a hassle to use.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	159	213	633	495	384	304
RESPONSES:						
Agree	32.7	25.8	24.2	36.4	42.7	31.9
Both Checked	0.0	0.0	0.2	0.8	0.3	0.3
Disagree	67.3	74.2	75.7	62.8	57.0	67.8

Adults can protect children in a wreck by holding them in their arms.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	166	215	636	494	385	305
RESPONSES:						
Agree	6.0	4.2	3.8	3.4	11.2	3.6
Both Checked	na	na	na	0.8	0.5	0.0
Disagree	94.0	95.8	96.2	95.8	88.3	96.4

Belts hurt you more than help you.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	163	210	629	495	379	300
RESPONSES:						
Agree	12.9	7.1	4.1	15.2	24.0	10.0
Both Checked	1.2	0.0	0.3	1.6	4.0	2.0
Disagree	85.9	92.9	95.6	83.2	72.0	88.0

Belts are needed most on long trips.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	165	215	361	496	381	302
RESPONSES:						
Agree	44.2	46.1	45.0	61.3	65.6	52.7
Both Checked	na	na	na	0.6	0.8	0.7
Disagree	55.8	54.0	55.0	38.1	33.6	46.7

Where I live, if you don't buckle up children, you are likely to get a ticket.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	163	213	623	497	374	303
RESPONSES:						
Agree	85.9	76.1	83.3	66.2	69.3	68.0
Both Checked	na	na	na	0.4	0.3	0.0
Disagree	14.1	23.9	16.7	33.4	30.5	32.0

The law for children should be kept.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	166	217	637	500	378	305
RESPONSES:						
Agree	94.6	96.8	96.4	92.6	86.2	95.7
Both Checked	na	na	na	0.2	0.8	0.0
Disagree	5.4	3.2	3.6	7.2	13.0	4.3

Where I live, if adults ride without a belt on, they are likely to get a ticket.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	163	212	623	497	371	305
RESPONSES:						
Agree	85.9	72.6	82.0	64.2	63.3	72.1
Both Checked	na	na	na	0.0	0.0	0.7
Disagree	14.1	27.4	18.0	35.8	36.7	27.2

The law for adults should be kept.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	164	215	643	497	374	303
RESPONSES:						
Agree	78.1	80.9	85.7	74.0	71.4	73.9
Both Checked	0.0	0.0	0.2	0.2	0.8	0.7
Disagree	22.0	19.1	14.2	25.8	27.8	25.4

Q #
DL HS

12 9 CHECK WHETHER THE FOLLOWING STATEMENTS ABOUT THE NC CHILD PASSENGER LAW ARE TRUE OR FALSE:

Children under age 6 must be buckled up when riding in the front or back seat.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	na	na	na	499	363	305
RESPONSES:						
Both checked	na	na	na	0.0	0.3	0.0
False	na	na	na	5.2	9.6	5.6
True	na	na	na	94.8	90.1	94.4

Children under age 3 must ride in safety seats; older children can use seat belts.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	171	222	650	500	360	306
RESPONSES:						
Both checked	0.0	0.0	0.2	0.0	0.3	0.0
False	5.3	5.4	4.6	4.2	8.6	4.3
True	94.7	94.6	95.2	95.8	91.1	95.8

Children have to be buckled up only when their parents are driving.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	166	216	636	497	358	306
RESPONSES:						
Both checked	na	na	na	na	na	na
False	94.6	96.8	94.7	97.4	88.0	95.8
True	5.4	3.2	5.4	2.6	12.0	4.3

Q #
DL HS

13 10 CHECK WHETHER THE FOLLOWING STATEMENTS ABOUT THE NC SEAT BELT LAW ARE TRUE OR FALSE:

Only the driver and passengers in the front seat have to wear seat belts.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	na	na	na	499	352	304
RESPONSES:						
Both checked	na	na	na	0.0	0.3	0.0
False	na	na	na	42.7	36.1	29.0
True	na	na	na	57.3	63.6	71.1

Pickup trucks are exempt.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	161	210	614	493	348	303
RESPONSES:						
Both checked	na	na	na	na	na	na
False	93.8	91.4	94.0	85.4	86.2	93.4
True	6.2	8.6	6.0	14.6	13.8	6.6

Police can stop you if they see you without your seat belt, even if you aren't breaking any other traffic law.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	170	219	643	497	344	304
RESPONSES:						
Both checked	na	na	na	0.0	0.6	0.0
False	17.1	21.9	10.0	17.7	33.1	13.5
True	82.9	78.1	90.1	82.3	66.3	86.5

Q #
DL HS
14 11 YOUR AGE:

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	166	220	645	495	344	298
RESPONSES:						
12				0.2	0.0	0.0
14				3.4	0.3	0.0
15				23.8	28.2	3.4
16				39.4	48.0	43.6
17				25.3	17.7	45.0
18				6.9	4.7	6.7
19				0.8	0.9	1.0
20+				0.2	0.3	0.3
<20	14.5	15.0	10.2			
20-29	28.3	20.0	20.2			
30-39	23.5	25.0	19.2			
40-49	18.1	16.8	14.1			
50-59	5.4	12.3	10.5			
60-69	6.6	5.9	16.3			
70+	3.6	5.0	9.5			

Q #
DL HS
15 12 **YOUR SEX:**

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	170	222	653	498	353	302
RESPONSES:						
Female	65.9	56.3	51.8	50.4	58.4	48.0
Male	34.1	43.7	48.2	49.6	41.6	52.0

Q #
DL HS
16 13 **YOUR RACE OR ETHNIC ORIGIN:**

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	161	208	638	496	351	301
RESPONSES:						
White	39.1	49.5	76.7	26.4	30.5	79.1
Black	53.4	46.2	16.6	71.2	61.0	17.6
Amer. Indian	3.7	1.0	0.6	0.6	2.3	1.0
Hispanic	0.0	0.0	0.2	0.0	0.3	0.0
Other	0.0	0.0	1.3	0.4	1.7	0.7
Unknown	3.7	3.4	4.7	1.4	4.3	1.7

Q #
DL HS

17 14 CIRCLE LAST GRADE COMPLETED IN SCHOOL/CURRENT GRADE.

	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	168	219	643	484	344	299
RESPONSES:						
9				28.1	0.0	0.0
10				38.6	41.9	0.7
11				31.6	49.7	53.5
12				1.7	8.4	45.8
<12	23.2	26.0	15.7			
12	49.4	40.2	33.9			
13-16	23.8	28.3	32.8			
17+	3.6	5.5	17.6			

Q #
DL HS

18 NA YOUR OCCUPATION

Not Coded

Q #
DL HS

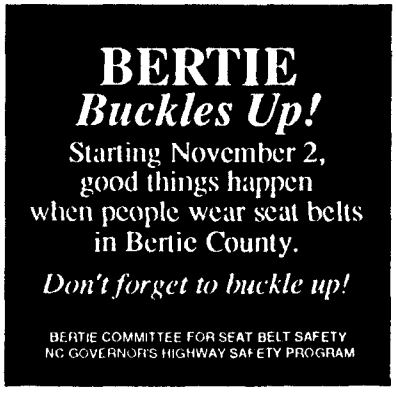
NA 15 WHAT ARE YOUR PLANS AFTER HIGH SCHOOL?

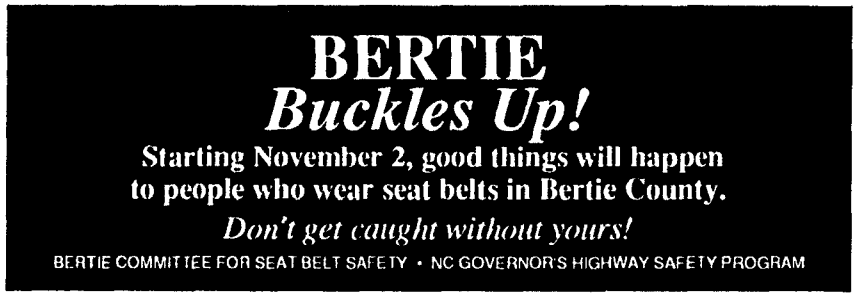
	DL STATIONS			HIGH SCHOOLS		
	Bertie	Hert/NH	Moore	Bertie	Hertford	Moore
N =	na	na	na	499	352	300
RESPONSES:						
College	na	na	na	45.9	55.4	40.0
Jr./Com. College	na	na	na	19.6	19.9	39.0
Military	na	na	na	17.8	12.5	8.7
Other	na	na	na	2.6	3.7	4.3
Work	na	na	na	14.0	8.5	8.0

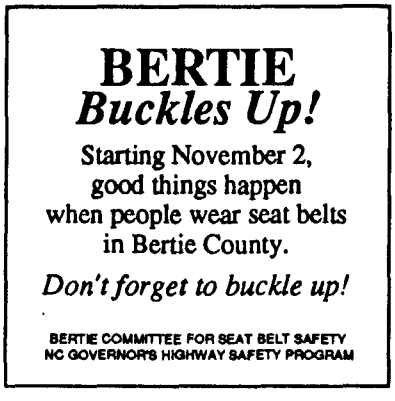
APPENDIX B:

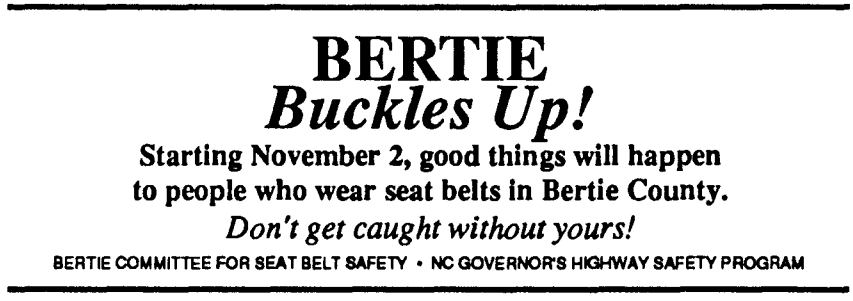
Community Program Sample Materials

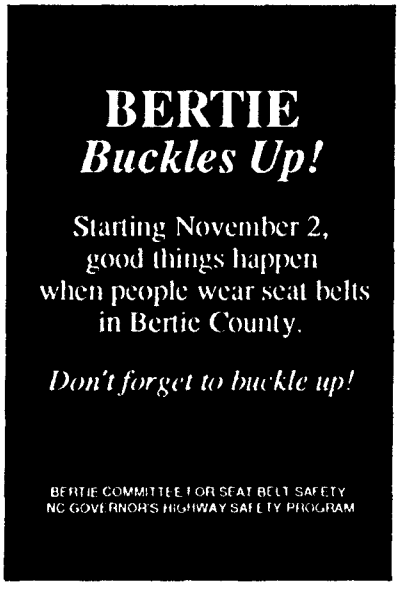
Sample of Bumper Sticker

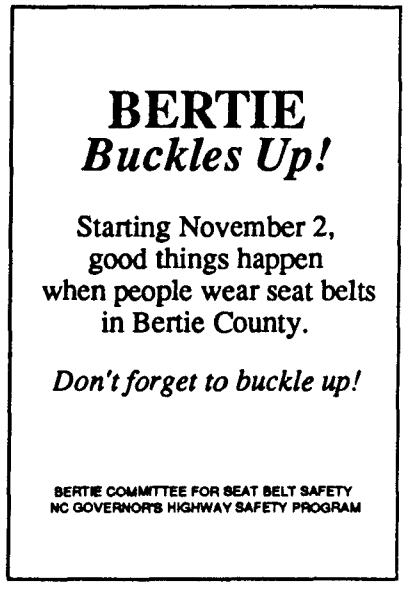












Promotional Ads for *The Bertie Ledger*.