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16. Abstract <p>Two objectives of the survey are summarized in this report. One was to establish 1985 safety belt and child safety seat usage rates in Kentucky and compare those to 1982, 1983, and 1984 rates. The other was to evaluate the effectiveness of public information campaigns as a means of increasing safety belt and safety seat usage rates.</p> <p>Statewide usage rates in the 19 cities previously surveyed in 1982, 1983, and 1984 indicated that driver safety belt usage had increased to 9.2 percent in 1985 while the child safety seat and belt usage rate of 29.1 percent remained at the 1984 level. The increase in driver safety belt usage rates in cities having public information campaigns was higher than the increase in control cities, and the difference was statistically significant. While the increase in child safety seat and belt usage was slightly higher in target cities compared to control cities, the difference was not statistically significant.</p> <p>While driver safety belt usage has been increasing in the past few years, usage has remained very low with a statewide rate under ten percent. The only method that may be expected to result in a dramatic increase in safety belt usage is enactment of a mandatory safety belt law. The slight decrease in the use of child safety seats and safety belts in 1985 shows the need to modify and strengthen Kentucky's current child restraint law.</p>					
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Research Report
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1985 SAFETY BELT AND CHILD SAFETY SEAT USAGE RATES IN KENTUCKY
AND
EVALUATION OF A PUBLIC INFORMATION CAMPAIGN

by

Kenneth R. Agent
Senior Transportation Research Engineer

Kentucky Transportation Research Program
College of Engineering
University of Kentucky
Lexington, Kentucky

in cooperation with
Kentucky State Police
Commonwealth of Kentucky

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INTRODUCTION

The use of safety belts and child safety seats is an effective means of reducing injuries to motor-vehicle occupants involved in a traffic accident. However, usage of these restraint systems has remained low. In an attempt to increase usage of child safety seats, a law was enacted by the 1982 Kentucky General Assembly requiring use of a "child restraint system" for children 40 inches or less in height. Surveys were conducted before and after the law became effective (1, 2). These surveys revealed that the statewide usage of child safety seats increased from 14.4 percent in 1982 to 22.7 percent in 1983. Those same surveys indicated a statewide driver safety belt usage rate of 5.8 percent in 1983 compared to 4.2 percent in 1982. A survey conducted in 1984 indicated that the statewide usage of child safety seats had increased to 30.3 percent while driver safety belt usage had increased to 6.9 percent (3). The increase in usage of child safety seats may be attributed to both enactment of the mandatory usage law and to increased public information, which also may have contributed to the increase in safety belt usage.

In an effort to further increase the use of safety belts and seats, the Kentucky State Police has included an Occupant Protection Public Information segment into the 1984 and 1985 Highway Safety Plan. One county from each of the 16 state police posts was selected for trial public information campaigns. The counties were selected considering both their past usage rates as well as their accident and fatality rates.

The public information campaign was centered around a "Make It Click" program. First, students in kindergarten through the sixth grade in selected schools in each county participated in a student/parent pledge contest. In that contest, the children were given pledge cards for their parents to sign and forms to record safety belt usage for a 4-week period. In each school, children in the homeroom having the highest percent usage were awarded prizes (coupons to use at McDonalds' or Druther's restaurants). The object of the contest was to reach the adult population with a safety belt message, while also educating the young about the benefits of occupant restraints. Many parents place their children in safety seats but do not use safety belts themselves. The contest provided a reverse situation where children asked their parents to buckle-up so their homeroom could win. The contest lasted 4 weeks in order to provide parents and children an opportunity to form a habit of wearing safety belts. The second phase of the program involved organization of a "Click Club" in each county. A steering committee of community leaders was organized in each county to coordinate the campaign. An information kit containing ideas and examples of activities related to the public information campaign was furnished to each committee. This phase was designed to form a basis for continuing community education in which community leaders and motivators could work together. It also established a network through which service organizations could provide publicity through various events and projects.

The past study revealed a larger increase in driver safety belt usage rates in cities having public information campaigns than in control cities (3). It also was observed that, while the increase in child safety seat

and belt usage was higher in target compared to control cities, the difference was not statistically significant.

There are two objectives of the survey summarized in this report. One is to establish 1985 safety belt and child safety seat usage rates in Kentucky to compare to 1982, 1983, and 1984 rates. The other is to evaluate the effectiveness of public information campaigns as a means of increasing safety belt and seat usage rates.

PROCEDURE

DATA COLLECTION PLAN

The basic data collection plan used in the three previous surveys (1, 2, and 3) was used in this study. However, the data collection form, as shown in Figure 1, was revised so belt usage for passengers could be recorded. In previous surveys, usage was recorded for children under 4 years old and for drivers. The data collection form was organized to allow usage to be tabulated for both front- and rear-seat passengers. However, it became evident that accurate data could not be easily obtained for rear-seat passengers since only a lap belt was available in the large majority of automobiles. Usage could easily be determined for the front-seat passengers since, as for the driver, belt usage involves both the lap belt and shoulder harness. As shown in Figure 1, the passengers were classified by age into four categories. The age categories used in previous surveys for the driver were not used in this survey. The procedure involved collecting data by observations only. This allowed data to be collected by one person.

An explanation of information collected is given in Figure 2. The data sheet was divided into three sections. General information (Section 1) described when and where data were collected. The section pertaining to cars containing children under 4 years of age (Section 2) included basic information concerning type of safety seat used and, when used, the brand and whether it was used properly. Information also was obtained for the driver of any vehicle containing a child under 4 years of age. That information consisted of the driver's age category, sex, and safety belt usage. Section 3 of the data sheet contained safety belt usage information for drivers of other vehicles (those without a child under 4 years of age) and for other vehicle passengers, classified by age.

Child safety seat usage was obtained only for children under 4 years of age. Kentucky's law requires the use of child safety seats for children 40 inches in height or less. Since no interviews were conducted, a judgment concerning age or height had to be made, and the decision was made to use 4 years of age as the cutoff. Using this procedure, it also would be possible to relate survey results to traffic accident data, which report age of occupant. Children were further classified as being less than 1 year old or from 1 through 3 years old. In this report, children less than 1 year of age will be referred to as "infants", and children from 1 through 3 years of age will be termed "toddlers".

This was the fourth year of data collection for most cities, and each year's data has been collected at the same sites in each city. Sites were located either at traffic signals or four-way stops. Some general instructions were followed during data collection. Manuals providing suggestions for data collection procedures were reviewed when developing the data collection plan. A summary of some of the major instructions follows:

1. Data will be collected by observation.
2. Data will be taken at intersections having either a traffic signal or four-way stop control. Observers will stand on the curb or at the edge of the roadway and observe stopped cars. Data also may be included for cars as they begin moving through a signalized intersection if the car is moving slowly enough to allow accurate observations. Only passenger cars and station wagons are to be included. Kentucky's law only addresses passenger vehicles, and specifically excludes recreational vehicles and trucks of more than one ton.
3. All data should be collected during daylight hours at various times throughout the day.
4. Priority will be given to any car containing a child under 4 years old. Driver and front-seat passenger safety belt information for other cars will be collected when time permits.
5. Observers shall use their best judgment in estimating age. However, they shall not guess on child safety seat usage. When the type of safety seat cannot be determined, it should be left blank.
6. Proper or improper usage, along with the reason for improper usage, should be determined whenever possible, even when the type of child safety seat cannot be determined. (Note: The reasons for improper usage were those that could be identified quickly by observation. Such errors as improper routing of the belt through the seat could not be identified).

DATA COLLECTION LOCATIONS

Data were collected in 34 cities. This included the 19 cities used to estimate "statewide" usage in the three previous surveys. The "statewide" survey cities and the child safety seat survey size in each city are given in Table 1. The sample had to be distributed across the state and be representative of a range of populations to account for social and economic factors. The sample distribution was based on county population categories. From the 1980 census, the number of children under 5 years of age in each county was used to distribute the sample. This was the youngest age category available in census data. The sample size was determined so that the relative error of the observed proportion (percent using child safety seats) would be within acceptable bounds for a given probability (4). This resulted in a statewide sample size of 5,000 for child safety seats. The sample of drivers' safety belt usage was much higher as was the sample of front-seat passengers.

In addition to the cities listed in Table 1, data were collected in other cities included in the public information campaign. Data were collected in one city in each of the 14 counties having a campaign. Two counties originally selected for a campaign did not participate. Of the 19 cities included in the statewide survey analysis, four were in counties

receiving a public information campaign. Cities also were selected to act as "control" cities in the evaluation. Ten cities were used for this purpose; five were cities included in the statewide survey and analyses. In addition to the 19 cities for which data had to be collected to establish statewide usage rates, data were collected in 15 other cities, giving a total of 34 cities. Surveys were conducted in those 15 cities in 1984 to establish "before" rates.

IDENTIFICATION OF CHILD SAFETY SEATS

A list of various child safety seats examined while preparing for the survey is presented in Table 2. The manufacturer and seat name are shown as well as a description of the type of protection afforded and the age range for which the restraint is to be used. Usage requirements for each safety seat had to be known in order to determine whether the seat was used properly. For example, when a tether was required but not used, the safety seat would be classified as improperly used. As part of the training process, a notebook containing photographs and literature describing the various seats was prepared. That notebook was used for review before and during the data collection process.

DATA ANALYSIS

The child safety seat data were entered into a computer file. That allowed summaries and cross-tabulations to be performed rapidly for any of the recorded data. Safety belt usage data for drivers of vehicles not containing children under four years of age and for front-seat passengers were summarized manually.

Statewide usage rates for drivers and front-seat passengers wearing safety belts and for children under four in either a safety seat or belt were determined. To calculate these statewide rates, the percentages of the state population in various population categories were used. Data were obtained in cities having a wide range in population; this procedure allowed the effect of population on usage rates to be taken into account.

The effectiveness of the public information campaigns was evaluated by comparing changes in safety belt and child safety seat usage in cities having campaigns to changes in "control" cities. Two sets of comparisons were made with stratifications based on city population.

The 1985 usage rates for each city were tabulated as well as the change in usage compared to that determined in the 1982, 1983, and 1984 surveys. The usage determined for the various types of child safety seats was summarized along with the reasons for and extent of improper usage for the various seats. Also, various factors affecting child safety seat and driver safety belt usage were analyzed.

RESULTS

STATEWIDE USAGE RATES

Statewide usage rates determined for the 1985 survey for child safety seats and driver safety belt usage are given in Tables 3 and 4, respectively. The rates were calculated using data from the 19 cities previously surveyed in 1982, 1983, and 1984. The statewide percentage was derived using the percentages of the state population in the respective population categories.

Statewide, the 1985 survey indicated that 22.7 percent of children under 4 years of age were in child safety seats. That percentage was 14.4 percent in 1982 before implementation of the child restraint law and increased to 22.7 percent in 1983 and to 27.3 percent in 1984. The percentage of children in either a safety seat or belt was 29.1 percent in 1985 compared to 30.3 percent in 1984, 24.2 percent in 1983, and 15.4 percent in 1982. These data show that, while the 1982 law resulted in an increase in usage, the usage rate has stabilized. There was no statistical difference in the 30.3 percent usage in 1984 and the 29.1 percent usage in 1985.

For a sample size of 5,000, a probability of 0.99, and a proportion of 22.7 percent, a bound on the relative error of the proportion was calculated to be 6.7 percent (3). This means there is an absolute error of 1.5 percent; therefore, the confidence limits of statewide child safety seat usage in 1985 were 21.2 to 24.2 percent. Using the same procedure, the confidence limits of the usage of either a safety seat or belt were 27.4 to 30.8 percent.

The percentage of child safety seats properly used was 76 percent. This compares to 44 percent in 1982, 50 percent in 1983, and 56 percent in 1984.

Statewide, the 1985 survey indicated that 9.2 percent of drivers were using a safety belt. The percentage has increased steadily from 4.2 percent in 1982, 5.8 percent in 1983, and 6.9 percent in 1984. For a sample size of 61,951, a probability of 0.99, and a proportion of 9.2 percent, the bound on relative error of the proportion is 3.3 percent (3). This yields an absolute error of 0.3 percent; therefore, the confidence limits of statewide driver safety belt usage were 8.9 to 9.5 percent.

As noted previously, the 1985 data collection procedure included obtaining safety belt usage data for front seat passengers (in addition to the children under 4 years of age who were included in the other surveys). These data are summarized in Table 5 for the 19 cities used to determine statewide rates. It may be seen that there is a large reduction in usage for children in the 4 to 5 years of age category (13.2 percent) compared to the under 4 years of age category, which is affected by the usage law (29.1 percent). Usage remained about the same for the 6 to 12 years category (11.7 percent) compared to the 4 and 5 years category. Usage dropped substantially to 4.6 percent for teenage passengers but increased to 8.5 percent for passengers over 19 years of age.

EFFECTIVENESS OF PUBLIC INFORMATION CAMPAIGNS

As previously noted, public information campaigns were implemented in one county in each of 14 state police posts. Data were obtained in a city in each of those counties as shown in Tables 6 and 7. These tables include driver safety belt usage rates and child safety seat and safety belt usage, respectively, for 1984 and 1985. The percentage change in usage for each city along with the statistical significance of the changes also are tabulated (5). It should be noted that safety belt usage increased in all 14 cities and the majority of cities (10 out of 14) had a statistically significant increase in driver safety belt usage. When child safety seat and safety belt usage is considered, four of the 14 cities had a decrease in usage and only one had a statistically significant increase in usage.

To assess the effectiveness of the public information campaign on safety seat and safety belt usage, it is necessary to compare the increase in usage for the targeted cities to the increase for a group of control cities. Results of the statistical comparison are summarized in Tables 8 and 9. For the analysis, the cities were divided into two population categories. For each city, the percentage change in usage from 1984 to 1985 is tabulated. Also, the percentage change in usage by population category is included. Using data given in Tables 8 and 9, the statistical significance of the changes in usage for targeted cities versus control cities were determined (5).

Driver safety belt usage rates increased in both county population categories from 1984 to 1985 for both the target and control cities (Table 8). However, the increase was higher in the targeted cities. The difference in the increase in usage in the target cities as compared to control cities was statistically significant for both population categories. The data show that the public information campaigns were most effective in lesser populated areas where the usage rates were lower initially and the public campaign may have impacted a greater percentage of the population. When data from all the target cities in the two population categories were combined, usage increased from 5.3 to 7.8 percent in the "over 10,000" category and increased from 2.9 to 5.8 percent in the "under 10,000" category. For the control cities, usage increased from 5.5 to 6.8 percent in the "over 10,000" population category and increased from 2.7 to 4.0 percent in the "under 10,000" population category. Usage did not decrease in any target or control city.

As shown in Table 9, there was an overall increase in child safety seat and belt usage in both target and control cities. As with driver usage, there was a larger increase in the lower population category. For both population categories, the increase was higher in target cities compared to control cities, but the percentage difference was not statistically significant. When data from all the target cities in the two population categories were combined, usage increased from 28.0 to 30.1 percent in the "over 10,000" category and increased from 12.4 to 16.0 percent in the "under 10,000" category. For the control cities, usage increased from 21.4 to 22.1 percent in the "over 10,000" population category and increased from 14.0 to 16.6 percent in the "under 10,000"

population category. Usage actually decreased in four of the 14 target cities and three of the ten control cities.

GENERAL SUMMARY OF SURVEY

Following is a summary of data by city and by type of safety seat as well as an analysis of factors affecting usage.

1985 Usage Rates

Safety belt usage rates of drivers, by city, as determined from the 1985 survey are given in Table 10. The total sample size for 34 cities was 94,723. As noted in previous surveys, usage was greater in the larger cities. Usage rates varied from 17.3 percent in Lexington to 1.3 percent in Barbourville. Other cities having rates over ten percent were Covington (16.2 percent), Louisville (13.5 percent), Frankfort (11.4 percent), and Florence (10.5 percent). Other cities having usage rates under five percent were Leitchfield (2.8 percent), Princeton (3.1 percent), Williamsburg (3.3 percent), and Harlan (3.7 percent).

Usage of child safety seats and safety belts (children under 4 years of age), by city, as determined from the 1985 survey is given in Table 11. There were a total of 7,510 children included in the survey of the 34 cities. As with driver safety belt usage rates, these rates were higher in the larger cities. The "percent using any restraint" varied from 46.0 percent in Covington to 6.3 percent in Barbourville. The other two cities having high usage rates were Lexington (44.4 percent) and Louisville (41.6 percent). The only other city with a usage rate under ten percent was Jackson (6.8 percent).

Another 219 children (2.1 percent) were in a vehicle having a child safety seat that was not in use. Many children who were not in a safety seat or belt were in especially dangerous positions. About 25 percent of the children were observed to be standing in the seat while approximately 14 percent were observed sitting on adults' laps.

A summary of usage rates (from the 1985 survey) of safety belts by front-seat passengers by city is shown in Table 12. While the sample sizes for some categories in some cities are low, the data generally confirm the statewide statistics given previously. The largest sample sizes were for the "over 19 years of age" category and usage rates for this category varied from 13.6 percent in Lexington to 1.6 percent in Barbourville.

Trends in Usage Rates by City

The change in the usage of safety belts by drivers in the 19 statewide survey cities is summarized in Table 13. The usage rate was higher in 1985 than in 1984 in all 19 cities. Usage rates are given for the 4-year period of 1982 through 1985. In 14 of the 19 cities, the rate has increased each year. From 1982 to 1985, the usage rate had more than doubled in 13 of the 19 cities.

The change in usage of child safety seats or belts by children under 4 years of age in the survey cities is shown in Table 14. The usage rate in 1985 was higher than that determined in 1984 in 10 of the 19 cities. In all 19 cities, the usage rate in 1985 was higher than that in 1982. The rate increased each year in only four cities. From 1982 to 1985, the usage rate had more than doubled in eight of the 19 cities.

Summary by Type of Safety Seat

Usage of various types of child safety seats is summarized in Table 15. For each safety seat, the number observed as well as the percentage properly used are listed. Data are presented for all children, infants only, and toddlers only. Observers were trained to identify specific seats and their proper usage. The seat used was identified in all but a few instances.

The Questor Kantwet One-Step was the single most frequently noted safety seat of all models observed, as was the case in the 1984 survey. Questor Kantwet also had the highest number of safety seats noted of any single manufacturer. The second most commonly observed seat was the older model Strolee Wee Care, which requires a tether. Other commonly observed seats distributed by Questor Kantwet included the Dyn-O-Mite infant seat and the Bobby-Mac. Seats distributed by Century and Cosco/Peterson also were observed frequently. The most common Century model was the Century 100 and the most common Cosco/Peterson model was the Safe-T-Seat. Several other seats, as noted in Table 15, were observed frequently.

Proper usage varied substantially for the various safety seats. Of the most common safety seats, the Strolee had the lowest proper-usage percentage. This is related to the requirement to use a tether in the toddler position in the model most commonly used. Proper-usage percentages for the other major manufacturers were similar. The major reasons for improper usage are summarized in Table 16. The major problem was failure to tether the seat as required (this is related to the Strolee safety seat). Another major reason for improper usage was failure to harness the child into the seat. An improper usage problem related to infants was facing the infant forward rather than in the proper rear-facing position.

As given in Table 3, the proper usage percentage in 1985 was 76 percent, which was substantially higher than that determined in previous surveys. This increase would be partially related to the decreased use of seats that have low proper-usage percentages. Specifically, more of the newer model Strolee seats, which do not require a tether, are being used and fewer of the "old type" seats in which the child was rarely harnessed are in use. Manufacturers have attempted to make the newer models of safety seats easier to use and to provide clear and concise instructions for proper usage which would decrease improper usage. It also should be noted that improper usage identified in the survey was limited to the types that could be easily noted as a vehicle passed slowly by the observer. Other types of improper usage, such as improper routing of the safety belt, were not included. While some of the increase in proper usage may be attributed to the data collection process, the results show that proper usage has increased.

Factors Affecting Usage

Several other factors, shown in Table 17, were noted as being related to child safety seat usage. Those relationships were very similar to those observed in previous surveys. There was a large reduction in usage when there were more than two small children in a car. Usage was especially related to age of the child, with the usage rate for infants about twice that for toddlers. Usage was also much higher for children in the rear seat when compared to children in the front seat. Driver age and sex also were related, with usage higher when a female was driving and much lower when an older person was driving.

Usage also was much higher for children when the driver was wearing a safety belt. Almost all children (91 percent) riding in a vehicle in which the driver was wearing a safety belt were also either in a safety seat or belt.

SUMMARY

Statewide usage rates in the 19 cities previously surveyed in 1982, 1983, and 1984 showed that driver safety belt usage increased in 1985 while child safety seat and safety belt usage remained at the 1984 level. The statewide usage rate of safety belts by drivers was 9.2 percent in 1985 compared to 6.9 percent in 1984, 5.8 percent in 1983, and 4.2 percent in 1982. The percentage of children in either a safety seat or belt was 29.1 percent in 1985 compared to 30.3 percent in 1984, 24.2 percent in 1983, and 15.4 percent in 1982.

The increase in driver safety belt rates in cities having public information campaigns was higher than the increase in control cities. This difference was statistically significant for both population categories. While the increase in child safety seat and belt usage was slightly higher in target cities compared to control cities, the difference was not statistically significant.

RECOMMENDATIONS

While driver safety belt usage has been increasing in the past few years, usage has remained very low with a statewide rate under ten percent. While public information campaigns have resulted in additional increases, no dramatic increases have occurred. For example, while driver safety belt usage in target cities under 10,000 population doubled, usage actually increased less than three percentage points (from 2.9 to 5.8 percent). The only method that may be expected to result in a dramatic increase in safety belt usage is enactment of a mandatory safety belt law. An analysis of Kentucky accident records has shown the reduction in accident severity associated with safety belt usage (Table 18) (6). The potential annual reductions in traffic accident fatalities and accident savings from an increase in driver safety belt usage has also been estimated (Table 19) (6). For example, a driver usage rate of 50 percent would result in a potential annual reduction of 148 fatalities and an

annual accident savings from the reduction in fatalities and serious injuries of 50 million dollars.

The finding that the use of child safety seats and safety belts actually decreased slightly in 1985 compared to 1984 points out the inadequacy of Kentucky's current child restraint law. It appears that the increase in safety seat and belt usage that can be expected from the current law has been reached at a level of only about 30 percent. This is directly related to the weaknesses contained in the current law. A major weakness is the lack of any penalty provision. Kentucky is one of only three states that does not impose a fine for failure to comply with the law. The existing law should be modified and strengthened using the recommendations in a previous report (2). The modifications include adding a penalty, having the law apply to children under the age of 6, and allowing the substitution of safety belts for safety seats for older children. The low usage rate determined for 4 and 5 year olds in this study shows the need for the law to apply to children under 6 years of age.

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Figure 2. Data Collection Coding Instructions.*

1. General Information
 - DATE --Date of Data Collection
 - TIME --Time Data Sheet Started
 - CITY --City Where Data Collected
 - LOCATION --Intersection Where Data Collected

 - COMMENTS --Relevant Comments Concerning Data

2. Data for Cars Containing Children under Four:
 - NO. CH. --Number of Children under Four in Vehicle
Record Once for Each Vehicle
 - AGE --Check Best Estimate of Child's Age
 - RESTRAINT --Check Appropriate Code
 - N -- None
 - B -- Harness and Belt
 - SS -- Child Restraint (Safety Seat)
 - CHILD SAFETY SEAT
 - TYPE -- Brand and Model (e.g., Kantwet One-Step)
 - P-I -- Check Whether Properly (P) or Improperly (I) Used
 - REASON -- If Improperly Used, Give Explanation (e.g., Not Tethered)
 - SS -- Safety Seat in Vehicle not in Use
 - POSITION -- Check One in Two Categories
 1. F - Front Seat
 - R - Rear Seat
 - C - Cargo Area
 - Do Not Check Following Category if Child Restraint Used
 2. S - Seated in a Normal Manner
 - L - Held in Lap
 - ST - Standing in Seat
 - O - Other (e.g., Standing or Sitting on Front Edge of Seat)
 - DRIVER -- Check One in Three Categories
 1. N - No Restraint
 - B - Safety Belt
 2. M - Male
 - F - Female
 3. Y - Young (16 - 30 Years)
 - M - Middle (31-50 Years)
 - O - Older (51 or More)

3. Data for Drivers and Passengers of Other Vehicles
 - For Each Driver, Determine Safety Belt Usage and Place a Mark in the Appropriate Category. For each Passenger, Determine Safety Belt Usage and Place a Mark in the Appropriate Age Category. Put Maximum of Ten Marks in a Given Space.

* When data have been recorded for ten children or for 160 drivers, it will be necessary to start a new sheet.

TABLE 1. DISTRIBUTION OF SAMPLE USED TO ESTIMATE "STATEWIDE"
USAGE OF CHILD SAFETY SEATS

COUNTY POPULATION CATEGORY (NUMBER OF CHILDREN UNDER 5 YEARS OLD)	PERCENTAGE OF STATEWIDE TOTAL	SAMPLE SIZE	SURVEY COUNTIES	SURVEY CITIES
10,000 or more	26.6	1,330	Fayette Jefferson Kenton	Lexington Louisville Covington
5,000-9,999	14.0	700	Campbell Christian Hardin	Newport Hopkinsville Elizabethtown
2,500-4,999	23.3	1,165	Franklin Henderson Hopkins Perry Pulaski	Frankfort Henderson Madisonville Hazard Somerset
1,000-2,499	26.0	1,300	Barren Clark Mason Nelson Rowan	Glasgow Winchester Maysville Bardstown Morehead
Under 1,000	10.1	505	Anderson Caldwell Carroll	Lawrenceburg Princeton Carrollton

TABLE 2. LISTING OF AVAILABLE CHILD SAFETY SEATS*

MANUFACTURER	MODEL	DESCRIPTION
Cosco/Peterson	Safe-T-Shield	Convertible; three-point harness for infants; shield only for toddlers
	Safe-T-Seat	Convertible; five-point harness
	Safe and Easy	Convertible; five-point harness
	Safe and Snug	Convertible; combination shield and harness system
	Safe-T-Mate	Convertible; combination shield and harness system
	First Ride	Infants only; Y-harness
	Travel Hi-Lo	Children to 65 lbs; lap and shoulder belt in front seat, belt and tethered body harness in rear
	Deluxe Travel Hi-Lo	Children to 65 lbs; backrest and three-point harness
	Commuter	Convertible; combination shield and harness system
Explorer	Toddlers and children; swing away shield	
Century	Century 100	Convertible; five-point harness
	Century 200	Convertible; combination shield and harness system
	Century 300	Convertible; five-point harness with armrest
	Infant Love Seat	Infants only; Y-harness
	Child Love Seat	Toddlers only; five-point harness, tether required
	Safe-T-Rider	Toddlers and children to 10 years; lap and shoulder belt in front seat, lap belt and tethered body harness in rear seat
Trav-l-guard	Convertible; five-point harness with armrest	
Strolee	Wee Care 599	Convertible; five-point harness with armrest; tether required
	Wee Care 618	Convertible; five-point harness with armrest
	Wee Care 612	Convertible; five-point harness
	Wee Care Booster Seat	Children to 70 lbs; auto lap and shoulder belt in front seat, auto lap belt with tethered harness in rear seat
Questor Kantwet	Dyn-O-Mite	Infants only; Y-harness
	One-Step	Convertible; combination shield and harness system
	Care Seat	Convertible; five-point harness
	Safe Guard	Toddlers only; five-point harness
	High-Tech Car Seat	Toddlers only; five-point harness
	Britax Handicapped	Toddlers and children; five-point harness
	Bobby Mac Champion	Convertible; five-point harness for infant, add shield for toddler
	Bobby Mac Deluxe II	Convertible; three-point harness for infant, add swing-down shield for toddler
Bobby Mac Super	Convertible; five-point harness, tether required	
Bobby Mac Wings	Toddler and children; full shield	

* Convertible restraints can be used by infants and toddlers, infants in a rear-facing position and toddlers in a forward-facing position. Tethers, where required, are for toddler position only.

TABLE 2. LISTINGS OF AVAILABLE CHILD SAFETY SEATS* (Continued)

MANUFACTURER	MODEL	DESCRIPTION
International	Astroseat (9300A)	Convertible; five-point harness with armrest
	Astroseat (9100A) Astrorider	Convertible; five-point harness Children to 55 lbs; used with adult three-point belt system or adult lap belt with harness
Kolcraft	Hi-Rider	Convertible; five-point harness, optional shield
	Hi-Rider XL	Convertible; five-point harness with armrest
	Quikstep	Convertible; combination shield and harness system
	Tot-Rider	Toddlers and children to 10 yrs; lap and shoulder belt in front seat, lap belt and tethered body harness in rear
	Tot-Rider XL	Toddlers and children to 10 yrs; lap and shoulder belt in front seat, harness system in rear
	Tot-Rider Quikstep Redi-Rider	Toddlers and children; full shield Convertible; combination shield and harness system
	Rock'n Ride	Infants only; Y-harness
Ford	Tot Guard	Toddlers only; shield only
	Infant Carrier	Infants only; three-point harness
General Motors	Infant Love Seat	Infants only; Y-harness
	Child Love Seat	Toddlers only; five-point harness, tether required
Welsh	Travel Tot	Convertible five-point harness with shield
Collier-Keyworth	Safe and Sound	Convertible; combination shield and harness system
	Roundtripper	Convertible; combination shield and harness system
	Co-Pilot	Toddlers and children; full protective shield
Pride Trimble	Pride Ride (820)	Convertible; five-point harness
	Pride Ride (830)	Convertible; five-point harness with armrest
	Autoboosters	Toddlers and children; lap and shoulder belt in front seat
Graco	Little Traveler (315)	Convertible; five-point harness with armrest
	Little Traveler (310)	Convertible; five-point harness
Nissan/Datsun	Nissan	Convertible; combination shield and harness system
Rupert	E-Z-On Vest	Toddlers and children; auto harness system, tether required

*Convertible restraints can be used by infants and toddlers, infants in a rear-facing position and toddlers in a forward-facing position. Tethers, where required, are for toddler position only.

TABLE 3. 1985 "STATEWIDE" CHILD SAFETY SEAT USAGE RATES

COUNTY POPULATION CATEGORY (NUMBER OF CHILDREN UNDER 4 YEARS OLD)	SAMPLE SIZE	NUMBER USING CHILD SAFETY SEAT	PERCENT USING CHILD SAFETY SEAT	PERCENT OF CHILD SAFETY SEATS USED PROPERLY	NUMBER USING SAFETY BELT	PERCENT USING SAFETY BELT	PERCENT USING ANY RESTRAINT
10,000 or more	1,330	410	30.8	78	172	12.9	43.8
5,000-9,999	700	150	21.4	81	24	3.4	24.9
2,500-4,999	1,165	235	20.2	75	57	4.9	25.1
1,000-2,499	1,300	250	19.2	73	53	4.1	23.3
Under 1,000	505	89	17.6	72	14	2.8	20.4
All	5,000	1,134	22.7	76	320	6.4	29.1

TABLE 4. 1985 "STATEWIDE" DRIVER SAFETY BELT USAGE RATES

COUNTY POPULATION CATEGORY (NUMBER OF LICENSED DRIVERS)	NUMBER OF COUNTIES IN CATEGORY	PERCENTAGE OF STATEWIDE DRIVING POPULATION	SURVEY COUNTIES	SURVEY CITIES	SAMPLE SIZE	PERCENT DRIVERS USING SAFETY BELTS	PERCENT USAGE FOR CATEGORY
Over 75,000	3	30.0	Jefferson Fayette Kenton	Louisville Lexington Covington	9,526 5,659 2,637	13.5 17.3 16.2	15.0
30,001-75,000	9	17.0	Campbell Hardin Christian	Newport Elizabethtown Hopkinsville	3,302 2,386 2,345	5.8 8.3 5.6	6.5
20,001-30,000	13	14.6	Hopkins Henderson Franklin Pulaski Barren	Madisonville Henderson Frankfort Somerset Glasgow	2,793 2,971 4,615 3,569 1,564	7.5 9.0 11.4 6.8 4.8	8.5
10,001-20,000	32	20.0	Clark Nelson Perry Mason	Winchester Bardstown Hazard Maysville	4,148 3,247 2,020 3,413	8.9 7.1 5.9 5.7	7.1
Under 10,001	63	18.4	Rowan Caldwell Anderson Carroll	Morehead Princeton Lawrenceburg Carrollton	2,471 1,722 1,869 1,694	5.1 3.1 5.6 7.3	5.2

TABLE 5. 1985 "STATEWIDE" FRONT SEAT PASSENGER SAFETY BELT USAGE RATES

COUNTY POPULATION CATEGORY (NUMBER OF LICENSED DRIVERS)	PASSENGER AGE CATEGORY							
	4-5 YEARS		6-12 YEARS		13-19 YEARS		OVER 19 YEARS	
	SAMPLE SIZE	PERCENT USAGE FOR CATEGORY	SAMPLE SIZE	PERCENT USAGE FOR CATEGORY	SAMPLE SIZE	PERCENT USAGE FOR CATEGORY	SAMPLE SIZE	PERCENT USAGE FOR CATEGORY
Over 75,000	278	24.1	354	23.2	509	8.8	3,242	13.2
30,001-75,000	158	8.2	253	6.3	537	3.9	1,944	6.6
20,001-30,000	218	6.4	300	6.7	695	5.0	3,462	7.8
10,001-20,000	237	10.6	349	7.2	530	1.1	3,298	6.3
Under 10,000	142	8.4	232	6.5	379	1.8	1,864	5.4
All	1,175	13.2	1,488	11.7	2,650	4.6	13,810	8.5

TABLE 6. DRIVER SAFETY BELT USAGE RATES IN CITIES HAVING PUBLICITY CAMPAIGNS

STATE POLICE POST	CITY	PERCENT OF DRIVERS USING A SAFETY BELT		PERCENT CHANGE	STATISTICALLY SIGNIFICANT*
		1984	1985		
1	Mayfield	4.3	4.4	2	No
3	Glasgow	2.5	4.8	92	Yes
4	Elizabethtown	5.0	8.3	66	Yes
6	Florence	6.9	10.5	52	Yes
7	Richmond	7.4	9.0	22	No
8	Morehead	3.1	5.1	65	Yes
9	Prestonsburg	4.7	6.2	32	No
10	Harlan	1.3	3.7	185	Yes
11	Williamsburg	0.8	3.3	313	Yes
12	Versailles	6.4	9.6	50	Yes
13	Jackson	2.0	5.1	155	Yes
14	Ashland	2.9	6.7	131	Yes
15	Campbellsville	2.1	5.4	157	Yes
16	Henderson	7.0	9.0	29	No

*Level of statistical significance of 0.99

TABLE 7. CHILD SAFETY SEAT AND SAFETY BELT USAGE RATES FOR CHILDREN UNDER FOUR YEARS OLD IN CITIES HAVING PUBLICITY CAMPAIGNS

STATE POLICE POST	CITY	PERCENT USING CHILD SAFETY SEAT OR SAFETY BELT		PERCENT CHANGE	STATISTICALLY SIGNIFICANT*
		1984	1985		
1	Mayfield	28.0	26.4	-6	No
3	Glasgow	20.5	18.5	-10	No
4	Elizabethtown	33.7	30.2	-10	No
6	Florence	33.0	37.0	12	No
7	Richmond	29.3	32.9	12	No
8	Morehead	12.8	14.6	14	No
9	Prestonsburg	13.7	20.2	47	No
10	Harlan	5.5	10.6	93	No
11	Williamsburg	12.0	10.7	-11	No
12	Versailles	21.2	30.2	42	No
13	Jackson	3.9	6.8	74	No
14	Ashland	19.2	32.5	69	Yes
15	Campbellsville	17.5	20.0	14	No
16	Henderson	26.0	30.0	15	No

* Level of statistical significance of 0.99

TABLE 8. COMPARISON OF THE CHANGE IN SAFETY BELT USAGE FROM 1984 TO 1985 FOR TARGET VERSUS CONTROL CITIES

COUNTY POPULATION CATEGORY (CITY POPULATION)	CONTROL CITIES	PERCENT CHANGE	PERCENT CHANGE BY CATEGORY	TARGET CITIES	PERCENT CHANGE	PERCENT CHANGE BY CATEGORY	STATISTICAL DIFFERENCE*
Over 10,000	Danville	28	24	Ashland	131	47	Yes
	Georgetown	1		Elizabethtown	66		
	Hopkinsville	24		Florence	52		
	Murray	88		Glasgow	92		
	Newport	7		Henderson	29		
				Mayfield	2		
		Richmond	23				
Under 10,000	Barbourville	160	48	Campbellsville	157	100	Yes
	Carrollton	40		Harlan	185		
	Lawrenceburg	75		Jackson	155		
	Letchfield	0		Morehead	65		
	Princeton	29		Prestonsburg	32		
				Versailles	50		
				Williamsburg	312		

*Target versus control group at level of statistical significance of 0.99.

TABLE 9. COMPARISON OF THE CHANGE IN CHILD SAFETY SEAT AND SAFETY BELT USAGE FROM 1984 TO 1985 FOR TARGET VERSUS CONTROL CITIES

COUNTY POPULATION CATEGORY (CITY POPULATION)	CONTROL CITIES	PERCENT CHANGE	PERCENT CHANGE BY CATEGORY	TARGET CITIES	PERCENT CHANGE	PERCENT CHANGE BY CATEGORY	STATISTICAL DIFFERENCE*
Over 10,000	Danville	-12	3	Ashland	69	8	No
	Georgetown	-15		Elizabethtown	-10		
	Hopkinsville	6		Florence	12		
	Murray	42		Glasgow	-10		
	Newport	4		Henderson	15		
				Mayfield	-6		
		Richmond	12				
Under 10,000	Barbourville	-5	19	Campbellsville	14	29	No
	Carrollton	36		Harlan	93		
	Lawrenceburg	5		Jackson	74		
	Letchfield	3		Morehead	14		
	Princeton	33		Prestonsburg	47		
				Versailles	42		
				Williamsburg	-11		

*Target versus control group at level of statistical significance of 0.99

TABLE 10. 1985 USAGE RATES OF SAFETY BELTS BY DRIVERS BY CITY

CITY	POPULATION	SAMPLE SIZE	NUMBER USING SAFETY BELT	PERCENT USING SAFETY BELT
Louisville	298,451	9,526	1,290	13.5
Lexington	204,165	5,659	981	17.3
Covington	49,585	2,637	427	16.2
Hopkinsville	27,318	2,345	132	5.6
Ashland	27,064	2,337	156	6.7
Frankfort	25,973	4,615	524	11.4
Henderson	24,834	2,971	268	9.0
Richmond	21,705	4,011	360	9.0
Newport	21,587	3,302	191	5.8
Madisonville	16,979	2,793	210	7.5
Florence	15,586	2,391	252	10.5
Elizabethtown	15,380	2,386	197	8.3
Winchester	15,216	4,148	371	8.9
Murray	14,248	2,142	152	7.1
Glasgow	12,958	1,564	75	4.8
Danville	12,942	2,141	165	7.7
Georgetown	10,972	2,998	241	8.0
Mayfield	10,705	2,856	126	4.4
Somerset	10,649	3,569	242	6.8
Campbellsville	9,768	1,847	100	5.4
Maysville	7,983	3,413	193	5.7
Morehead	7,789	2,471	127	5.1
Princeton	7,073	1,722	53	3.1
Versailles	6,427	2,360	227	9.6
Bardstown	6,155	3,247	230	7.1
Williamsburg	5,560	1,254	42	3.3
Hazard	5,371	2,020	119	5.9
Lawrenceburg	5,167	1,869	104	5.6
Leitchfield	4,533	1,920	53	2.8
Prestonsburg	4,011	1,685	104	6.2
Carrollton	3,967	1,694	123	7.3
Barbourville	3,333	1,638	22	1.3
Harlan	3,024	1,562	58	3.7
Jackson	2,651	1,630	83	5.1

TABLE 11. 1985 USAGE RATES, BY CITY, FOR CHILD SAFETY SEATS AND SAFETY BELTS (CHILDREN UNDER 4 YEARS OF AGE)

CITY	POPULATION	SAMPLE SIZE	NUMBER USING CHILD SAFETY SEAT	PERCENT USING CHILD SAFETY SEAT	PERCENT OF CHILD SAFETY SEATS USED PROPERLY	NUMBER CHILDREN USING SAFETY BELT	PERCENT CHILDREN USING SAFETY BELT	PERCENT CHILDREN USING ANY RESTRAINT
Louisville	298,451	546	141	25.8	82	86	15.8	41.6
Lexington	204,165	507	179	35.3	76	46	9.1	44.4
Covington	49,585	277	90	32.5	74	40	14.4	46.9
Hopkinsville	27,318	178	30	16.9	73	6	3.4	20.2
Ashland	27,064	160	42	26.3	62	10	6.3	32.5
Frankfort	25,973	293	57	19.5	79	23	7.9	27.3
Henderson	24,834	200	45	22.5	58	15	7.5	30.0
Richmond	21,705	237	65	27.4	85	13	5.5	32.9
Newport	21,587	237	42	17.7	86	10	4.2	21.9
Madisonville	16,979	201	60	29.9	73	11	5.5	35.3
Florence	15,586	200	51	25.5	82	23	11.5	37.0
Elizabethtown	15,380	285	78	27.4	82	8	2.8	30.2
Winchester	15,216	353	88	24.9	72	13	3.7	28.6
Murray	14,248	160	29	18.1	76	7	4.4	22.5
Glasgow	12,958	151	23	15.2	56	5	3.3	18.5
Danville	12,942	162	34	21.0	85	4	2.5	23.5
Georgetown	10,972	150	28	18.7	75	5	3.3	22.0
Mayfield	10,705	174	41	23.6	66	5	2.9	26.4
Somerset	10,649	270	53	19.6	89	6	2.2	21.9
Campbellsville	9,768	150	21	14.0	81	9	6.0	20.0
Maysville	7,983	280	49	17.5	69	3	1.1	18.6
Morehead	7,789	226	23	10.2	83	10	4.4	14.6
Princeton	7,073	171	24	14.0	62	4	2.3	16.4
Versailles	6,427	159	43	27.0	81	5	3.1	30.2
Bardstown	6,155	290	67	23.1	79	22	7.6	30.7
Williamsburg	5,560	150	13	8.7	100	3	2.0	10.7
Hazard	5,371	201	20	10.0	75	2	1.0	10.9
Lawrenceburg	5,167	158	30	19.0	73	7	4.4	23.4
Leitchfield	4,533	159	19	12.0	84	5	3.1	15.1
Prestonsburg	4,011	168	33	19.6	82	1	0.6	20.2
Carrollton	3,967	176	35	19.9	77	3	1.7	21.6
Barbourville	3,333	160	9	5.6	67	1	0.6	6.3
Harlan	3,024	160	12	7.5	92	5	3.1	10.6
Jackson	2,651	161	6	3.7	67	5	3.1	6.8

TABLE 12. 1985 USAGE RATES OF SAFETY BELTS BY FRONT SEAT PASSENGERS BY CITY

CITY	POPULATION	AGE CATEGORY (YEARS)											
		4-5			6-12			13-19			OVER 19		
		SAMPLE SIZE	NUMBER USING SAFETY BELT	PERCENT USING SAFETY BELT	SAMPLE SIZE	NUMBER USING SAFETY BELT	PERCENT USING SAFETY BELT	SAMPLE SIZE	NUMBER USING SAFETY BELT	PERCENT USING SAFETY BELT	SAMPLE SIZE	NUMBER USING SAFETY BELT	PERCENT USING SAFETY BELT
Louisville	298,694	121	33	27.3	150	27	18.0	262	27	10.3	1,813	223	12.3
Lexington	204,165	83	21	25.3	157	41	26.1	151	8	5.3	1,064	145	13.6
Covington	49,585	74	13	17.6	74	14	18.9	123	10	8.1	588	60	10.2
Hopkinsville	27,318	47	4	8.5	111	4	3.6	262	5	1.9	479	18	3.8
Ashland	27,064	45	5	11.1	90	14	15.6	202	6	3.0	537	30	5.6
Frankfort	25,973	21	3	14.3	8	1	12.5	75	2	2.7	1,023	115	11.2
Henderson	24,834	60	4	6.7	108	4	3.7	257	7	2.7	692	40	5.8
Richmond	21,705	59	9	15.3	101	20	19.8	222	9	4.1	990	85	8.6
Newport	21,587	53	4	7.5	67	5	7.5	125	6	4.8	857	51	6.0
Madisonville	16,979	41	5	12.2	93	5	5.4	230	12	5.2	407	24	5.9
Florence	15,586	35	9	25.7	69	14	20.3	101	5	5.0	438	55	12.6
Elizabethtown	15,380	58	5	8.6	75	7	9.3	150	10	6.7	608	59	9.7
Winchester	15,216	100	12	12.0	122	6	4.9	180	2	1.1	905	78	8.6
Murray	14,248	24	2	8.3	88	10	11.4	112	3	2.7	492	53	10.8
Glasgow	12,958	13	0	0.0	12	1	8.3	44	2	4.5	446	21	4.7
Danville	12,942	21	5	23.8	30	1	3.3	45	0	0.0	433	28	6.5
Georgetown	10,972	50	7	14.0	21	3	14.3	29	0	0.0	848	60	7.1
Mayfield	10,705	42	0	0.0	87	2	2.3	138	0	0.0	659	23	3.5
Somerset	10,649	83	2	2.4	79	9	11.4	89	12	13.5	894	71	7.9
Campbellsville	9,768	69	2	2.9	50	3	6.0	50	3	6.0	415	22	5.3
Maysville	7,983	40	2	5.0	53	3	5.7	73	0	0.0	1,048	48	4.6
Morehead	7,789	69	10	14.5	88	5	5.7	147	6	4.1	745	35	4.7
Princeton	7,073	40	1	2.5	80	5	6.3	109	1	1.0	363	8	2.2
Versailles	6,427	48	5	10.4	78	4	5.1	80	2	2.5	438	40	9.1
Bardstown	6,155	60	10	16.7	111	13	11.7	172	3	1.7	620	58	9.4
Williamsburg	5,560	56	5	8.9	52	2	3.8	44	0	0.0	426	10	2.3
Hazard	5,371	37	1	2.7	63	3	4.8	105	1	1.0	725	23	3.2
Lawrenceburg	5,167	13	1	7.7	10	1	10.0	44	0	0.0	347	23	6.6
Letchfield	4,533	28	4	14.3	39	7	18.0	92	3	3.3	408	23	5.6
Prestonsburg	4,011	26	0	0.0	20	3	15.0	44	1	2.3	594	28	4.7
Carrollton	3,967	20	0	0.0	54	4	7.4	79	0	0.0	409	34	8.3
Barbourville	3,333	103	3	2.9	47	0	0.0	39	0	0.0	309	5	1.6
Harlan	3,024	65	1	1.5	33	3	9.1	11	0	0.0	507	12	2.4
Jackson	2,651	34	0	0.0	31	1	3.2	71	2	2.8	580	22	3.8

TABLE 13. CHANGE IN USAGE OF SAFETY BELTS BY DRIVERS IN STATEWIDE SURVEY CITIES

CITY	PERCENT USING SAFETY BELTS			
	1982	1983	1984	1985
Louisville	6.2	11.9	13.1	13.5
Lexington	8.2	10.1	9.8	17.3
Covington	8.2	9.3	12.5	16.2
Hopkinsville	2.6	3.0	4.5	5.6
Frankfort	4.8	7.1	7.4	11.4
Henderson	3.1	4.6	7.0	9.0
Newport	4.7	6.4	5.4	5.8
Madisonville	1.9	2.8	4.8	7.5
Elizabethtown	2.6	3.5	5.0	8.3
Winchester	2.3	2.9	5.6	8.9
Glasgow	2.9	2.8	2.5	4.8
Somerset	2.4	3.6	5.6	6.8
Maysville	1.5	3.3	5.5	5.7
Morehead	2.9	3.2	3.1	5.1
Princeton	1.6	1.7	2.4	3.1
Bardstown	3.5	4.1	5.9	7.1
Hazard	4.4	2.7	4.2	5.9
Lawrenceburg	0.8	2.3	3.2	5.6
Carrollton	2.6	4.9	5.2	7.3

TABLE 14. CHANGE IN USAGE OF SAFETY SEATS OR BELTS BY CHILDREN UNDER 4 YEARS OF AGE IN SURVEY CITIES

CITY	PERCENT USING SAFETY SEATS OR BELTS			
	1982	1983	1984	1985
Louisville	21.6	36.3	49.1	41.6
Lexington	32.1	45.8	50.0	44.4
Covington	22.4	38.6	49.1	46.9
Hopkinsville	11.8	19.1	19.1	20.2
Frankfort	15.4	25.9	30.0	27.3
Henderson	13.5	18.5	26.0	30.0
Newport	11.0	27.4	20.3	21.9
Madisonville	12.4	18.4	29.4	35.3
Elizabethtown	11.2	26.7	33.7	30.2
Winchester	12.5	13.9	33.4	28.6
Glasgow	13.9	16.6	20.5	18.5
Somerset	7.4	23.3	23.7	21.9
Maysville	11.8	18.2	17.1	18.6
Morehead	10.2	14.1	12.8	14.6
Princeton	9.9	11.7	12.3	16.4
Bardstown	19.7	21.0	31.0	30.7
Hazard	7.0	9.5	9.0	10.9
Lawrenceburg	7.0	6.3	22.2	23.4
Carrollton	6.3	10.2	15.9	21.6

TABLE 15. USAGE OF VARIOUS TYPES OF CHILD SAFETY SEATS

CHILD SAFETY SEAT	ALL CHILDREN		INFANTS ONLY		TODDLERS ONLY	
	NUMBER OBSERVED	PERCENT PROPERLY USED	NUMBER OBSERVED	PERCENT PROPERLY USED	NUMBER OBSERVED	PERCENT PROPERLY USED
Questor Kantwet	527	85	249	82	278	88
One-Step	302	89	110	88	192	96
Bobby-Mac	111	77	37	84	74	73
Dyn-O-Mite	101	74	101	74	0	DNA**
Care Seat	10	70	1	100	9	67
Safe Guard	3	67	0	DNA	3	67
Strolee Wee Care	269	44	85	52	184	32
Tether	228	29	68	43	160	23
No Tether	41	90	17	88	24	92
Century	261	91	77	78	184	91
100	25	88	7	71	18	94
300	19	68	7	71	12	67
200	14	93	1	100	13	92
Trav-l-Guard	1	100	0	DNA	1	100
Unclassified	202	94	62	95	140	93
Cosco/Peterson	237	90	81	88	157	90
Safe-T-Seat	136	89	40	90	96	89
Safe and Snug	77	94	31	90	46	96
Safe and Easy	15	87	5	80	10	90
First Ride	4	75	4	75	0	DNA
Safe-T-Shield	3	100	0	DNA	3	100
Travel Hi-Lo	2	50	0	DNA	2	50
International						
Astroseat	84	89	33	88	51	90
Old Type*	53	43	10	30	43	47
Booster Seat	77	75	0	DNA	77	75
Child Love Seat	19	47	0	DNA	19	47
Infant Love Seat	16	81	16	81	0	DNA
Collier Keyworth						
Safe and Sound	13	92	2	100	11	91
Kolcraft	6	100	2	100	6	100
Graco	4	75	0	DNA	5	75
Pride Trimble	2	100	0	DNA	2	100

*Seat not currently available. Has armrest and separate headrest.
Made by more than one manufacturer.

**DNA - Does Not Apply.

TABLE 16. MAJOR REASONS FOR IMPROPER USAGE

REASON	NUMBER WITH GIVEN REASON
Child Not Harnessed as Required	113
Infant Facing Forward Restraint Not Tethered as Required	56
Shield Not Used as Required	176
Restraint Not Belted to Car	18
	13

TABLE 17. VARIOUS FACTORS AFFECTING CHILD SAFETY SEAT USAGE

VARIABLE	CATEGORY	SAMPLE SIZE	PERCENT USING SAFETY SEATS OR BELTS
Number of Children Under 4 in Car	1	5,597	28
	2	1,596	25
	3 or More	317	16
Age (Years)	Less Than 1	1,205	47
	1-3	6,305	23
Child's Location	Front	3,695	18
	Rear	3,728	36
Driver Sex	M	1,878	18
	F	5,613	29
Driver Age	Y*	2,742	28
	M	4,471	27
	0	278	6
Driver Restrained	Yes	831	91
	No	6,678	19

*Y -- 16-30 years
M -- 31-50 years
0 -- 51 years or older

TABLE 18. ACCIDENT SEVERITY VERSUS SAFETY BELT USAGE
(ALL DRIVERS)

TYPE OF INJURY	PERCENTAGE SUSTAINING A GIVEN INJURY		
	NOT WEARING SAFETY BELT	WEARING SAFETY BELT	PERCENT REDUCTION
Fatal	0.22	0.05	77
Incapacitating	2.32	1.33	43
Non-Incapacitating	4.54	3.75	17

TABLE 19. POTENTIAL ANNUAL REDUCTION IN TRAFFIC ACCIDENT FATALITIES AND
ACCIDENT SAVINGS FROM INCREASE IN DRIVER SAFETY BELT USAGE

DRIVER USAGE RATE	POTENTIAL ANNUAL REDUCTION IN NUMBER OF FATALITIES	ANNUAL ACCIDENT SAVINGS FROM REDUCTION IN FATALITIES (MILLIONS \$)	ANNUAL ACCIDENT SAVINGS FROM REDUCTION IN FATALITIES AND SERIOUS INJURIES (MILLIONS \$)
10	15	3.2	5.1
20	48	10.1	16.3
30	81	17.0	27.5
40	115	24.2	39.0
50	148	31.1	50.2
60	181	38.0	61.4
70	214	44.9	72.5
80	248	52.1	84.0
90	281	59.0	95.2
100	314	65.9	106.4