

MAINE STATE LEGISLATURE

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Safety Belt Use in Maine

1998

Executive Summary



*Prepared for the
Bureau of Highway Safety
Department of Public Safety
State of Maine*

by

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EXECUTIVE SUMMARY

Research findings from 1996 show that three out of every five persons who died in vehicle crashes would have survived if they had been wearing their safety belts. Average hospitalization costs were nearly \$5,000 less for persons injured in crashes and hospitalized, if they were wearing their safety belts at the time of the crash. Nationally, about 69% of motorists use their safety belts.¹

In the absence of a mandatory use law for adults until early 1996, the rate at which motorists in Maine have worn their safety belts had been about half the national rate.² In November 1995, Maine voters narrowly approved a referendum question establishing a secondary enforcement law requiring all persons to wear safety belts, or, in the case of children and infants, be appropriately placed in child restraint devices (CRDs). The study reported here is an observation study of safety belts and child restraint device use conducted in the fall of 1998, nearly three years after the new law had been implemented. Comparisons of these 1998 data with the 1997 and 1995 findings (and, in some instances, the 1991 data) provide the Bureau of Highway Safety with the primary measure of the effect of changes in the law by showing the extent to which use rates have changed following implementation of the new law.

The research project was conducted by the Survey Research Center of the Edmund S. Muskie School of Public Service at the University of Southern Maine, under a contract with the Bureau of Highway Safety, Department of Public Safety of the State of Maine. All of the field observations, data processing, and preparation of this report were conducted by the Muskie School staff.

Types of intersections selected as primary observation sites. Observations were recorded at one hundred-twenty different intersections from around the state, both signalized and non-signalized, which were selected using a standard unbiased sampling procedure. The sampling design was developed consistent with the new standardized guidelines from the National Highway Traffic Safety Administration (NHTSA). In all, observations of 6,110 passenger vehicles and the restraint use or nonuse of 8,470 occupants were recorded.

Sampling and estimating protocols. In 1998, NHTSA began to institute new standardized sampling and estimating protocols for all states to follow in their Safety Belt

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Use studies. These procedures were developed to ensure comparability among findings from state to state. The new estimation formulae are intended to provide each state with very precise estimates of their statewide belt use rates. These formulae provide a statistically sound method to calculate weights that will help adjust sample data to better reflect the volume and types of traffic found in all intersections in a state, not just those selected for observation.

One of the results of adopting new estimation methods, however, is that this year's findings and those of previous years are not entirely comparable. Different statistical methods can produce slightly different results, which is why NHTSA is moving to standardized methods. In Maine, the previous method for estimating use rates shows that the 1998 rate is essentially unchanged from 1997; the new method finds a decline of 2 percentage points (the "old" rate is still well within the margin of error for the "new" rate). We support the use of the new estimation formulae and NHTSA's efforts to bring consistency and uniformity to all of the states' Safety Belt Use studies, but wish to remind readers that the statistical procedures utilized in previous years are not quite equivalent to those used in 1998.

Subgroup analyses. This report includes findings from many subgroups, such as for different age groups, seating positions within vehicles, type of car, etc. We urge readers to keep in mind that many of these groups have very low numbers and, therefore, the point estimates of their use rates are much less precise than those for the entire sample.

INTERSECTION OBSERVATION STUDY FINDINGS

Overview: Compliance with the law. The overall restraint use was essentially unchanged from 1997 to 1998. However, by some measures (age, seating position, etc.), we have identified some changes. The data gathered in the intersection observation study indicate substantial, but by no means universal, compliance with the law requiring child restraint devices for children aged three and under. The law requiring safety belts for children aged four through eighteen is much less frequently observed, with only 54% of the children observed to be properly restrained, compared to 69% in 1997. A somewhat higher percentage of adults wear safety belts.

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Adults aged nineteen and over

Almost all occupants of passenger vehicles are now required to wear safety belts (there are a few exemptions). Over half (59%) of persons aged nineteen and over wore a safety belt in 1998, unchanged from 1997 and up from 47% in 1995. Adult men are still less likely to wear safety belts than adult women.

Children and youth

Children aged fifteen through eighteen. Since 1991, Maine law has required fifteen to eighteen year olds to use appropriate safety restraints; teens are well accustomed to the idea of wearing their seat belts. Yet those in their mid to late teens have the lowest safety belt use rate of any age group.

Unlike in 1997, the use rate for this age group is considerably lower than that of persons aged nineteen and older. Furthermore, the 1998 rate of 43% for fifteen to eighteen year olds is much lower than the 1997 use rate (58%) for the same age group. The 1998 figure has now declined back to the 1995 level.

In the fifteen through eighteen age group, females continue to be more likely to use their safety belts than males, 48% to 39% respectively. Among drivers, the use rates are closer, with 44% of female drivers and 41% of male drivers being properly restrained. In previous studies, female drivers in this age category were much more likely to be belted than were male drivers: in 1997, 64% of the female drivers used their safety belts, but only 47% of the males used theirs. As passengers, females' use rate in this age group is 51%, while that of the males is only 38%. This represents a major reversal in the belt use trend, as the females and males have declined from 66% and 52% in 1997.

Children aged eleven through fourteen. The percentage of eleven through fourteen year old children wearing safety belts -- 71% -- has declined slightly since the 1997 study. This number has increased substantially since 1991, when only 29% were properly restrained. More children in this age group are seated in the right front passenger seat than any other position, and are, therefore, quite vulnerable to injury in a crash.

The eleven through fourteen age group is important because it is they who will be driving in a few years, and who may be in a position to influence the use of safety belts by persons who are passengers in their vehicles. This group has been and should continue to be a target for safety belt education efforts in the middle schools, junior highs, and high schools.

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Children aged four through ten. Compliance with the "buckle up" requirement is lower among children estimated to be aged four through ten than among those aged eleven through fourteen. Fewer than two-thirds (60%) of the four through ten year-olds wear their safety belts, which is much lower than the 77% observed in 1997.

Safety belt use rates among elementary school aged children have increased since 1991, from about half of the children in this age group in 1991 to 60% now. However, the use rate for these children appears to have declined from the rates at which their age cohorts were secured in child restraint devices in the prior studies. While safely restrained as very young children, apparently many of these elementary school aged children (as well as older children) have been allowed to lapse into unsafe practices just as they are reaching the age at which they are able to buckle themselves in on their own initiative.

Toddlers aged one through three. Maine law requires children aged one through three years to be properly buckled in a CRD, whether or not they are traveling with their parents or legal guardians. Until 1991, the law allowed an exception for children traveling with persons who were not their parents or legal guardians and a CRD was not available, in which case they were to be properly secured by a seat belt, if one were available.

As with the entire "under four" age group, a high proportion (89%) of children aged one through three are properly restrained in CRDs, an increase from 84% in 1995 but a minor drop from the 90% recorded in 1997.

Very few of the observed children in this age group were totally without restraint. A small number were held in the lap of another person, and eight children were incorrectly secured in CRDs.

Infants in their first year of age. All of the infants observed were found to be in CRDs, but 14% of them were not correctly placed. Most frequently the incorrect placement meant that the devices were not facing backward, which is the safest position for infants.

Results for these two youngest age groups are very encouraging; for the vast majority of youngsters, efforts to comply with the law have been made. We wish to stress here, however, that all of these findings are based on very quick observations. While almost all of the children in CRDs appeared to be properly restrained, recent research has shown that many children are actually incorrectly secured and many CRDs are improperly attached to the car. For our study, detailed checking of CRD use was impossible; our results are limited to the *appearance* of correct or incorrect use.

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Passengers' use of safety belts related to use by driver

As in the earlier studies, buckling up continues to be a friend-and-family affair. When drivers wear their safety belts, the other occupants of the vehicle (who are most likely family and friends of the driver) are nearly three times more likely to be appropriately restrained than they are when the driver is not wearing a seat belt. In addition, the presence of a passenger in the middle front position in the front seat, which is often not a true seating position or a particularly safe one, is associated with nonbelted drivers.

Comparison with other geographic areas

Maine's safety belt use relative to other states has improved modestly since 1995.³ As of December 1995, Maine's use rate was 50%, the fifth lowest from the bottom of a list of all fifty states, the District of Columbia, and Puerto Rico. Maine's rate surpassed only those of Mississippi (46%), Oklahoma (46%), North Dakota (42%), and South Dakota (40%). By 1997, Maine's use rate had risen to number thirty-five on the list. At the time of this report, NHTSA had not yet released the current figures, so no new comparisons can be given.

Driver Restraint Use by Site and Vehicle Characteristics

In-state and out-of-state vehicle registration. Drivers of Maine-registered vehicles have higher safety belt use rates than those observed for many of the out-of-staters. The driver safety belt use rate for Maine passenger vehicles is 60% (up from 57% in 1997), compared to a high of 62% for drivers of vehicles registered in New York, New Jersey, and Pennsylvania. Use rates for cars with Canadian registrations (where each province has its own belt use law) were down from 82% a year ago to 57% in the current study; other (non-Maine) New England vehicles dropped to 47% (from 68% in 1997), while 67% of drivers in vehicles from other states in the United States were belted. We stress that the observed use rates for vehicles with out-of-state plates are reported here for information purposes only. There weren't enough observations of any other states to be able to make conclusive comparisons between Maine and any other state.

Size and type of vehicle. It is likely that selection of a vehicle and the propensity to buckle up or not are both related to age, lifestyle, and personality characteristics. As in previous years, the drivers with the highest rates of safety belt use are those who are driving station wagons: 70% of them are buckled up, a slight increase from 1997's rate of

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68%. Drivers of economy cars are next, with 65% wearing seat belts, followed by intermediate sized cars (63%), and jeep-type sport utility vehicles at 62%. Drivers of vans have a 61% use rate.

Drivers of sports and GT-type cars wear safety belts less often: 56% of them are buckled up. Least likely to wear safety belts are the drivers of pickup trucks: only 43% of these drivers comply with the law.

Use rates have improved slightly for drivers of several types of vehicles. Drivers of intermediate sized cars had a rate of 62% in 1997, jeeps and SUV drivers were up from 60% a year ago, sports cars increased from 52% and pick up truck drivers improved from their previous rate of 36%. Van drivers declined from 65% and economy car drivers went down from 67% in 1997.

Helmet use by motorcycle riders. In previous years, we have reported helmet use and non-use by motorcyclists. This information was recorded again in 1998 but because the observations were conducted in mid- to late October, frequently in bad weather, only about 20 motorcycles were observed. Due to the insignificant number, we do not relate any data regarding helmet use in this report.

Summary

Safety restraint use rates in Maine for all ages increased from 50% in 1995 to 61% in 1997. They dropped slightly to 59% in the 1998 study. The latest study was conducted in the fall of 1998, two and a half years after the new mandatory safety belt law took effect. Because there was little change in Maine's safety belt education programs between 1995 and 1998, it is likely that most of the increase is a result of the impact of the new law.

Safety belt use among adults has increased markedly during the 90's, rising from 33% among those aged sixteen and over in 1991 to 59% among those nineteen and over in 1998 (it should be noted that these are not entirely comparable figures due to the different age groupings used in the 1991 study).

Infants and young children are much more likely to be secured in restraint devices or to wear safety belts than are older children. In the 1998 study, all of the infants observed were in child restraint devices (although some were improperly restrained), and 60% of elementary school-age children were wearing safety belts. From that age, however, usage varies, such that 71% of eleven to fourteen year olds use their belts while

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fewer than half (43%) of fifteen to eighteen year olds wear safety belts.

Many of these figures represent markedly higher levels of compliance with Maine's safety belt requirements from the earliest studies. Before the implementation of the mandatory use law, Maine ranked among the lowest 10% of states in terms of compliance with safe practice. While this ranking of states depends as much on the activities of the other states as upon what is done in Maine, it appears from the NHTSA data and the observations in Maine that most out-of-staters still use their safety belts more often than people from Maine. With the implementation of the new law, however, Maine is now closing the gap.

Despite the increased overall rates from 1995 to 1998, there is cause for concern in the current data. Rates for children age four to ten and teenagers from fifteen to eighteen years old are markedly lower in 1998 than they were in 1997. Explanations for these differences are unknown—perhaps the fifteen year olds observed in October 1998 were more likely to be travelling to and from school with their friends and not using their belts, while more of the teenagers observed in August 1997 were travelling with their parents and were required to buckle up. Whatever the causes of these differences, it seems clear that children must continue to be a target for new, more effective educational campaigns to increase safety belt use.

Portland, Maine
April 15, 1999