

PICKUP TRUCK OCCUPANT SAFETY BELT USAGE

**Ronald R. Besel
Carolyn S. Dennis
Maria L. Drake**

**Purdue University
Center for the Advancement of Transportation Safety
(formerly Automotive Transportation Center)
West Lafayette, Indiana**

**Prepared for:
Governor's Council on Impaired & Dangerous Driving
Office of Traffic Safety
150 West Market Street
Indianapolis, Indiana**

Submitted: January 26, 2001

This report was prepared in cooperation with The Governor's Council on Impaired & Dangerous Driving and the U.S. Department of Transportation, National Highway Traffic Safety Administration.

The findings and conclusions in this report are solely those of the authors and do not necessarily reflect the views of The Governor's Council on Impaired & Dangerous Driving, the National Highway Traffic Safety Administration, or Purdue University.

TABLE OF CONTENTS

page

Overview	1
Figure: Bi-Annual Fatality Restraint Usage Rate of Cars and Pickup Trucks	2
Conclusions	3
Executive Summary	4
Background	4
Survey of State Laws and Observational Surveys for Pickup Occupants	5
Table 1: Observational Safety Belt Survey Rates for Selected Primary Law States	7
Table 2: Observational Safety Belt Survey Rates for Selected Secondary Law States	8
Restraint Use for Pickup and Other Vehicle Type Occupant Fatalities	8
Table 3: Restraint Use by Pickup Truck Occupant Fatalities for Selected Primary Law States	9
Table 4: Indiana 1999 Fatality Restraint Use by Vehicle Type	10
References	11

Overview

Only two of the fifty states, Georgia and Indiana—both primary-law states—exclude adult pickup truck occupants from their mandatory restraint requirement. No other state, even secondary law states, grant this exception to occupants of standard duty pickup trucks.¹ This is a pivotal point to be made—without a law that requires pickup truck occupants to buckle up, a considerable degree of incentive has been removed for a large and growing segment of the driving population. In Indiana alone, pickup truck registrations represent approximately one-fifth of the state's registered vehicles on the roadways. This represents an increase from 17 percent only a few years ago. Thus, one out of five Indiana residents is legally permitted to travel across our roadways, free from the required use of a safety belt. These 20 percent of vehicles, however, are over-represented with 25.5 percent of all unrestrained fatalities in passenger vehicles in Indiana for 1999. Moreover for 1999, Indiana posted the second highest rate of unrestrained pickup truck occupant fatalities in NHTSA's Region V. For all persons killed in pickup trucks on Indiana's roadways in 1999, 77.5 percent were unrestrained. This is considerably higher than the 49.4 percent of unrestrained Indiana occupants killed in passenger cars, sport-utilities, and vans. Michigan, which recently passed their primary law, was the lowest in the Region at 69.4 percent for unrestrained pickup truck occupants, while Wisconsin was highest at 80.0 percent of killed pickup truck occupants unrestrained. Nationally, Indiana ranked twenty-second for having the worst rate of unrestrained pickup truck fatalities occurring in 1999.

When the unrestrained fatality rate is normalized against the number of registered pickup trucks for each state in the Region, an even graver picture emerges for Indiana. In 1999, Indiana had the highest number of unrestrained fatalities per 100,000 registered pickup trucks at 11 for every 100,000 registered pickup trucks, as compared to the other states in the Region. Ohio had the lowest rate at 8.6 unrestrained fatalities per 100,000 registered pickup trucks. At the national level, Indiana posted the twenty-eighth worst rate for unrestrained pickup truck fatalities compared to all the other states for 1999. Of the 113 unrestrained pickup truck occupant fatalities in Indiana, 82.3 percent occurred in a rural locale, which is several points higher than the national average of 77.9 percent. Illinois had the lowest rate in the NHTSA Region V at 66.1 percent, and Wisconsin was highest with 91.5 percent occurring in a rural location.

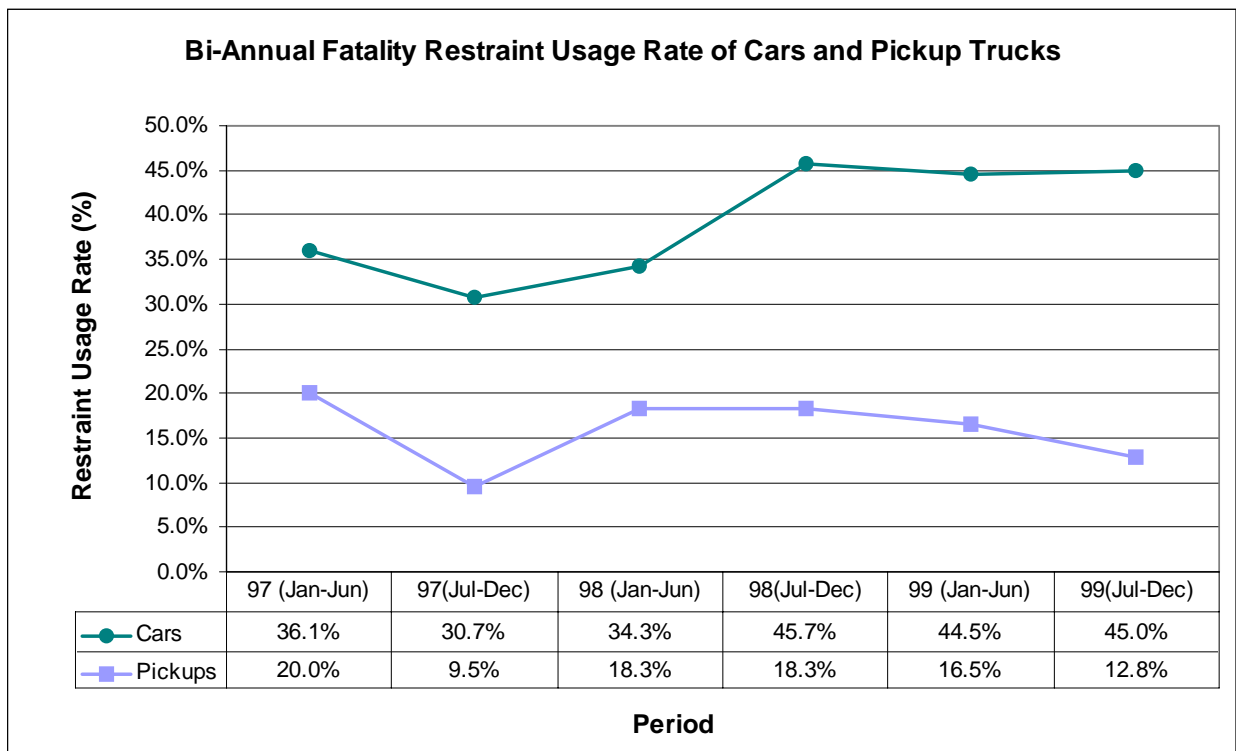
Data collected during the September 2000 Roadside Observation Survey of Restraint Use in Indiana revealed that 68.1% of drivers of passenger cars were restrained versus 31.2% for drivers of pickup trucks. Front seat passengers were 64.0% and 29.7%, respectively. Comparisons of roadways revealed that 63.9% of occupants of passenger cars traveling on rural local roads were restrained versus 25.0% of occupants of pickup trucks traveling on rural local roads. It is estimated that an additional 33 people that died on Indiana's roads in 1999 could have been saved if the restraint usage rates of pickup truck occupants had been 60 percent, and 44 additional lives would have been saved with a 70 percent restraint usage rate. Two of these deaths were unrestrained children, and four additional unrestrained children were seriously injured. These unprotected children ranged in age from 5-15 years old. Two children were over the age of 11, and thus, exempt from Indiana's safety restraint law—they were left without the necessary restraining device they required to protect them in the event of a crash.

Another area of serious concern is the practice of hauling passengers in the cargo areas of pickup trucks, station wagons, sport-utility vehicles, etc. In NHTSA's Region V for 1999, 26 people lost their

¹ A few states exempt farm trucks and trucks over three-fourths of a ton to one ton in vehicle weight.

lives riding in an enclosed cargo area (2 from Indiana), 12 died riding in an unenclosed cargo area, and 9 died riding on the vehicle’s exterior. Fourteen of these 59 deaths were riding in pickup trucks. Presently, 24 states and the District of Columbia have restrictions in place prohibiting passengers riding in the cargo areas of vehicles (Indiana is not one of them). However, many of those states have exceptions and exclusions, such as parade processions, farming operations, hunting activities, and passengers over 17; some even as young as 12 are permitted to ride unaccompanied in the cargo areas of pickup trucks. It is evident from the fatality and injury statistics that Indiana needs a mandatory safety restraint law that applies to all pickup truck occupants, not just small children. Without a mandatory law, this is extremely problematic at best, as indicated by the low rates for restraint usage in fatally injured pickup truck occupants. Further, it is not enough for Indiana merely to say that it has the lowest or even a comparable rate of unrestrained fatalities in the Region, or across the country. The State must enact legislative measures that will increase belt usage among the pickup truck driving population via a legal mandate, in conjunction with increasing the effort and effectiveness of dollars spent to develop campaigns that specifically target this segment. Without the support of a mandatory restraint use law for all pickup truck occupants to back the campaign and educational efforts, any attempts—as has been the case thus far—would prove ineffective.

As can be seen in the comparison of fatality rates between cars and pickup trucks for Indiana (see chart below), with the passage of the primary law in July 1998, the percent of restrained fatally injured occupants in cars increased from 34.3 percent during the six months between January-June 1998, to 45.7 percent from July-December 1998. During these same time periods, pickup trucks remained constant at 18.3 percent, reflecting no change due to the passage of the primary law. Additionally, restraint use by killed pickup truck occupants has continued to decrease, reaching the most-recent low of 12.8 percent for the period of July-December 1999.



Conclusions

Using the 1999 Indiana crash data, it was estimated that 33 more lives would have been saved annually if the restraint usage rates of pickup truck occupants were 60 percent and 44 more would have been saved with a 70 percent pickup usage rate. The number of pickup fatalities increased from 145 to 146, and the percent restrained for 1999 (13.7 percent) was essentially the same as in 1998 (13.1 percent).

While the experience of other states has been that pickup truck occupant usage rates continue to be lower than for occupants of other passenger vehicles, the usage rates for states that do not exclude pickup truck occupants from their law are far higher than for Indiana. Amending Indiana's law to remove the exclusion for vehicles registered as pickup trucks promises to yield high dividends in the number of lives saved, reductions in injury severity, and much lower economic losses from pickup truck crashes.

Drastic legislative measures are necessary to reduce the continued and increasing loss of lives on our roadways. The 113 people killed in 1999, fathers, mothers, sons, and daughters, often lie dying on the very roadway in which they traveled, having been thrown from the pickup truck in which they were riding, unaware that the few seconds it would have taken to fasten their safety belt could have saved their life. The State legislature needs to vigorously campaign for the passage of a primary safety belt law that applies to all pickup truck occupants, not just children, and compliance must equally be vigorously enforced. As a component of the pickup truck law, riding in the cargo area of pickup trucks and passenger vehicles (including SUVs, vans, and station wagons) needs to be severely restricted to private property, parades, or other similar events, if not prohibited altogether, especially in the 0-16-year-old age group.

Pickup Truck Occupant Safety Belt Usage

Executive Summary

Prior to the passage of the Indiana primary safety belt law in 1998, pickup truck seatbelt usage rates were below 30 percent with a 29.7 percent rate in September 1997. Following the passage of the primary enforcement law, the usage rate for pickup truck occupants rose to 38.0 percent in September 1998. But, since September 1998, the seatbelt usage rate has declined to 33.5 percent in September 1999, and to 32.8 percent in May/June 2000.

One purpose of this study was to see whether other states also have sizable differences between the restraint usage rates for pickup trucks and passenger cars, whether exclusion of some pickup trucks from the state's law may account for these differences, and whether the type of law effects such differences. It was found that Indiana has had much lower pickup truck usage rates than other states with primary laws, and only one state (North Dakota) surveyed had a lower rate in 1999. Indiana had the largest difference between the passenger car and the pickup truck restraint usage rates of any of the states surveyed.

Both passenger car and pickup truck restraint usage rates tend to be significantly higher for primary-law states. The rates for Indiana, Louisiana and Oklahoma are lower than other primary-law states and similar to the rates achieved by the better-performing secondary-law states. The median difference between the passenger car and pickup truck rates is only slightly lower for primary-law states. While there are significant differences in the total cost of a safety belt violation among states, it is not clear that this has affected the usage rate achieved by states. Low restraint usage rates for pickup truck occupants in secondary-law states did not have any apparent relationship to the exclusion of farm use or larger pickup trucks.

A second purpose of this study was to estimate the number of lives saved and reduced economic cost that could be realized if the usage rates of Indiana pickup truck occupants could be raised to the levels achieved by occupants of other passenger vehicles. It was estimated, using 1999 Indiana crash data, that 33 lives would have been saved annually if the restraint usage rates of pickup truck occupants were 60 percent, and 44 additional lives would have been saved with a 70 percent pickup truck usage rate. The number of pickup truck fatalities increased from 145 in 1998 to 146 for 1999, and the percent restrained was essentially the same as in 1998. The usage rate for Indiana pickup truck fatalities, between 9.4 percent and 10.3 percent in 1999, was far lower than any primary-law state examined, other than Iowa. Georgia, the only other state exempting all pickup truck from its safety belt law, had a pickup truck usage rate for fatalities higher than only Indiana and Iowa, but this rate was almost double the Indiana rate.

Background

The Indiana Observational Safety Belt Surveys have, since 1995, documented extremely low usage rates for pickup truck drivers and passengers. Prior to the passage of the Indiana primary safety belt law in 1998, pickup truck usage rates were below 30 percent with a 29.7 percent rate in September 1997. Although the 1998 law continued to exempt occupants of all vehicles registered as pickup trucks, the usage rate for pickup truck occupants rose to 38.0 percent in September 1998. The usage rate for passenger car occupants was an all-time high of 68.6 percent in the 1999 survey. However, since September 1998, the usage rate for pickup truck occupants has declined to 33.5 percent in September 1999 and to 32.8 percent in May/June 2000.

The National Highway Traffic Safety Administration (NHTSA) conducted a National Occupant Protection Use Survey (NOPUS) (NHTSA, 1999a) during 1998. The usage rate for pickup truck occupants was self-reported to be 58.7 percent, as compared to a 71.3 percent usage rate for occupants of passenger cars.

Under primary or standard enforcement, a citation may be written whenever a law enforcement officer observes an unbelted driver or front-seat passenger. For secondary enforcement, the officer is required to stop a violator for another infraction before issuing a safety belt citation. As reported to NHTSA (NHTSA, 1999b), states with primary belt laws averaged 17 percentage points higher in 1998 than those with secondary laws (79 versus 62 percent). The 13.2 percent increase reported by Michigan from 70.1 percent in 1999 under a secondary statute to 83.5 percent in March 2000, immediately after the implementation of a primary law, was typical of improvements measured in other primary-law states. Thus far, Indiana has not seen as large an improvement in restraint usage rates as experienced by other states with primary laws, but it is not known how the challenge to Indiana's primary seatbelt law has adversely affected support for and compliance with seatbelt use in Indiana.

One purpose of this study was to estimate the number of lives that could be saved and the reduction to economic costs that could be realized if the usage rates of Indiana pickup truck occupants were raised to the levels achieved by occupants of other passenger vehicles. A second purpose was to see whether other states also have sizable differences between the usage rates for pickup truck and other passenger vehicles, whether exclusion of some pickup trucks from the state's law may account for these differences, and whether the type of law effects such differences.

At the request of the Governor's Council for Impaired and Dangerous Driving, Office of Traffic Safety, the Center for the Advancement of Transportation Safety (CATS) at Purdue University examined these issues by obtaining and evaluating other states' observational survey reports that contained estimates of pickup truck occupant restraint usage rates. Three states were able to provide the desired usage rate numbers not found in their reports. The type of safety restraint law in those states (primary or secondary), the penalties for safety restraint violations, and whether some pickup truck occupants are exempted from their laws were analyzed.

Survey of State Laws and Observational Surveys for Pickup Truck Occupants

An Internet search and a phone survey were conducted to obtain information regarding other state laws and restraint usage by pickup truck occupants. The other states in NHTSA Region V were contacted first, and the most recent observational survey reports were obtained from each of them. Of these states, only Michigan has a primary enforcement law, which went into effect during March 2000. In order to compare Indiana with states that have relevant similarities (primary law and/or exclusion of some or all pickup truck occupants from the law), a majority of the 50 states were contacted. An attempt was made to contact every state having a primary law and every state that, according to NHTSA, has had or historically had exclusions for some pickup truck occupants in their law. If a contact was made, several questions were asked to determine whether relevant information could be provided:

- Does the observational survey report for the state report pickup truck occupant usage separately from passenger car or all other passenger vehicle occupants?
- Has the safety restraint use law for the state always included pickup truck occupants?

- Are some pickup trucks (such as farm-use vehicles) excluded from the law?
- If some pickup truck occupants have been excluded from the law, have there been any instances of local ordinances for safety belt use by occupants of excluded vehicles?

Reports were requested from states if they indicated that they reported any usage rates by vehicle type. Connecticut, Maryland and Kansas provided pickup truck and passenger car occupant rates that were not included in their observational survey report. Mark Solomon of Pruesser Research Group provided 1998 survey usage rates from several states CATS had not been successful in contacting. The 1999 survey information, if available, is included in Tables 1 and 2, along with year 2000 data for states that had completed their current year report.

CATS found that information provided by NHTSA on types of vehicles excluded from safety restraint laws was inaccurate for several states. This is understandable since it sometimes took several phone calls to locate a person in a state that was knowledgeable concerning the details of their state's law. While CATS attempted to contact every state that may exclude some pickup trucks from their safety restraint law, complete historical information on exclusions that may have been present in the past could not be obtained. One reason for this is that some states use the term "passenger vehicle" to define the applicability of their law and may define this term in an entirely different section of their legislative code from the section on safety restraint usage violations. In fact, Indiana is one state that includes its exclusion of pickup truck occupants in the definition of a passenger vehicle. This definition specifically excludes vehicles that are licensed as pickup trucks. Since Indiana vehicle owners may choose to license a van or SUV as a pickup truck, they may, by this choice, exclude the occupants of their vehicle from Indiana's safety restraint law.

CATS found no instances of attempts to use local ordinances that eliminate exclusions on pickup trucks or farm-use pickup trucks. It is possible that such local ordinances have been employed or proposed in some states, but the individuals CATS interviewed did not know about them.

One state (New Mexico) has documented the effects of removing an exclusion for pickup trucks that was included in their 1986 primary law. During the period (1986-1989) when pickup trucks were exempt from the law, pickup truck deaths climbed 30 percent above the pre-law average, while passenger car fatalities rose by just 1 percent. After pickup trucks were included in the law (July 1989), pickup truck occupant fatalities for the following 12-month period declined by 14 percent, while passenger car occupant fatalities remained the same. In 1988, the observed usage rate for light truck occupants (pickup trucks and SUVs) was 20 percent, and the passenger car rate was 44 percent. In 1989, the light truck rate increased to 39 percent, and the passenger car rate to 65 percent. By 1996, the last year for which the New Mexico survey reported a light truck rate, the difference between the rates for cars (89 percent) and light trucks (83 percent) had narrowed to 6 percentage points. (New Mexico Highway Safety & Performance Plan, 2000).

Table 1 displays the observational survey rates for the primary-law states that were able to provide pickup truck (or light truck) rates distinguishable from passenger cars (or passenger vehicles excluding pickup trucks). Table 2 displays the same information for selected secondary-law states. Michigan appears in both tables since it had a secondary law throughout 1999. If available, both the 1999 and 2000 survey data are included in the tables. The penalty provisions for safety restraint violations were taken from a recent survey conducted by Stateside Associates, Inc. for the Automotive Coalition for Traffic Safety, Inc. (ACTS).

Prior to 1998, NHTSA approved observational surveys in some states that excluded pickup truck occupants. As a result, there are states that revised their survey in 1998 to include pickup truck occupants for the first time. Indiana began collecting pickup truck occupant data in 1995, but did not include this data in estimating the overall usage rate reported to NHTSA. Currently, NHTSA does not require that states report usage statistics by vehicle type, so there is great variability in how states gather and report usage data. New York, for example, collects only restrained/not-restrained data using simple hand-held counters. Thus, no information on vehicle type, gender, age, or race is collected. Minnesota is the only state in NHTSA Region V that collects only restraint-usage data.

Other states combine data into reporting categories that make comparisons problematic. Georgia, the state whose current law is most similar to Indiana, includes SUVs with pickup trucks. Several states (Idaho, Oklahoma-1999 and Texas) include SUVs and vans in the passenger car category. The Oklahoma 2000 survey had the same categories as Indiana. It is notable that Oklahoma’s usage rate for large van occupants (58.1 percent) is almost as low as the pickup truck rate, as has been the case for Indiana.

Examining Tables 1 and 2, it is clear that both passenger car and pickup truck usage rates tend to be significantly higher for primary-law states. The rates for Indiana, Louisiana and Oklahoma are lower than other primary-law states and similar to the rates achieved by the better-performing, secondary-law states. The median difference between the passenger car and pickup truck rates is only slightly lower for primary-law states. While there are significant differences in the total cost of a safety belt violation among states, it is not clear that this has affected the usage rate achieved by states. Note that only one state (New Mexico) assesses points to a driver’s record for a violation, and this penalty was just enacted this year.

Table 1
Observational Safety Belt Survey Rates for Selected Primary Law States

State	Month/Year	Law	Pickup Truck		Total Cost	Driver Record	All		Pickup Trucks	Difference Cars - PUs
			Excluded	Fine			Passenger Cars	Cars		
Indiana	Sept. 99	Primary 7/98	Yes	Max \$25	\$25	Yes	57.3	63.3	33.5	29.8
	May. 00		Yes				58.4	66.7	32.8	33.9
Connecticut	Oct. 99	Primary 1/86	No	\$15	\$37	Yes	72.9	71.3	48.9	22.4
Georgia	June 99	Primary 7/96	Yes	\$15	\$15	Yes	74.2	77.3	63.3 (LT)	> 14
Hawaii	Jan. 99	Primary 12/85	No	\$20	\$42	Yes	80.3	83.2	69.2	14.0
	Feb. 00	Primary 12/85	No				80.3	83.0	70.6	12.4
Louisiana	1999	Primary 11/95	No	\$25	\$25	Yes	67.0	70.0	62 (LT)	> 8
Maryland	Dec. 99	Primary 10/97	No	\$25	\$25	No	82.7	85.0	67.0	18.0
Michigan	Mar. 00	Primary 3/00	No	\$25	\$40	Yes	83.5	85.7	74.2	11.5
New Mexico	1996	Primary 1/86	No	\$25	\$66	2 points	87.0	89.0	83 (LT)	>6
North Carolina	Nov. 99	Primary 10/85	No	\$25	\$25	No	79.7	84.9	66.4	18.5
	June 00						81.6	85.8	69.1	16.7
Oklahoma	June 99	Primary 11/97	No	\$20	\$20	No	60.7	66.7	46.4	20.3
	July 00	Primary 11/97	No				67.5	71.8	56.3	15.5
Texas	June 99	Primary 9/85	over 3/4 ton	\$25	\$88	Yes	74.0	76.8	65.3	11.5

Table 2
Observational Safety Belt Survey Rates for Selected Secondary Law States

State	Month/Year	Law	Pickup Truck Excluded	Fine	Total Cost	Driver Record	All Passenger Vehicles	Cars	Pickup Trucks	Difference Cars - PUs
Colorado	Aug. 99	Secondary	No	\$15	\$17	Age 16	65.2	70.7	49.8	20.9
Florida	June 99	Secondary	No	Min \$30	\$48	Yes	58.7	62.9	42.8	20.1
Idaho	Dec. 99	Secondary	No	\$5	\$5	No	51.6	57.0	39.8	17.2
Illinois	July 99	Secondary	No	\$25	\$53	No	65.9	69.2	49.6	19.6
Kansas	1999	Secondary	No	\$10	\$55	No	62.7	63.0	46.0	17.0
Kentucky	Oct. 99	Secondary	No	\$25	\$92	No	58.6	63.4	42.0	21.4
Michigan	Sep. 99	Secondary	No	\$25	\$40	Yes	70.1	74.8	53.7	21.1
Mississippi	Summer 99	Secondary	Farm Vehicle	\$25	\$25	No	54.5	57.9	47.8	10.1
Missouri	Oct. 99	Secondary	Over 1-ton	\$10	\$10	No	60.8	68.0	41.3	26.7
North Dakota	1998	Secondary	No	\$20	\$20	No	40.0	48.9	30.8	18.1
Ohio	1999	Secondary	No	\$25	\$44	No	64.8	68.0	49.0	19.0
Rhode Island	May 99	Secondary	No	\$50	\$50	No	67.3	72.9	48.1	24.8
Tennessee	Sep. 99	Secondary	No	\$10	\$10	No	61.0	65.0	43.3	21.7
Washington	1998	Secondary	No	\$35	\$72	Yes	79.1	82.2	67.9	14.3
West Virginia	Dec. 99	Secondary	No	\$25	\$25	No	51.9	57.2	38.6	18.6
Wisconsin	Sep. 99	Secondary	Farm Plate	\$10	\$10	Yes	65.1	66.8	47.7	19.1

Low restraint use rates for pickup truck occupants in secondary-law states do not have any obvious relationship to the exclusion of farm-use or larger pickup trucks. While Missouri does not presently exclude pickup trucks from its law, such an exemption was included before August 1997, and may still effect the enforcement of the law in that state. It is possible that farm-use pickup trucks are under-represented in most of the state surveys, since a state can choose to exclude from their survey counties that account for up to 15 percent of the state total population. This would not be the case for Indiana, since low population counties were not excluded when the survey was designed in 1994.

Restraint Use for Pickup truck and Other Vehicle Type Occupant Fatalities

Another source of data relevant to the issue of lives that are lost due to lack of use of safety restraints is the Fatality Analysis Reporting System (FARS). The 1999 FARS data was used to make comparisons between Indiana and selected primary-law states (See Table 3). Each state from Table 1 that has reported observation usage rates for pickup truck or light truck occupants higher than 60 percent, and three states that do not report pickup truck rates (California, Iowa and New York) were selected for comparison to Indiana.

It is expected that the usage rate for fatalities will be considerably lower than the observed rate because of the effectiveness of safety restraints in saving lives and reducing the severity of injuries. NHTSA has estimated that for light truck occupants, lap/shoulder belts reduce the risk of fatal injury by 60 percent, and moderate-to-critical injury by 65 percent.

Examining Table 3, it is clear that the usage rate for Indiana pickup truck occupant fatalities is far lower than any primary-law state examined, other than Iowa. The low estimate for the usage rate essentially assumes that for those persons killed for whom restraint usage was coded as “unknown,” no restraint was used. The high estimate is based on the cases for whom the restraint usage was coded as “known.” Of the 13 Indiana 1999 pickup truck occupant fatalities with unknown use, three were fully ejected and two partially ejected from the pickup truck, making it likely that they were, in fact, unrestrained at the time of the crash.

Georgia, the only other state exempting all pickup trucks from its safety belt law, had a pickup truck usage rate for fatalities higher than only Indiana and Iowa; but, this rate was almost double the Indiana rate.

Table 3
1999 Restraint Use by Pickup Truck Occupant Fatalities for Selected Primary Law States

State	Pickup Truck Fatalities	Total Fatalities	Percent Pickup Truck	Restraint Status				Usage Percent	
				Restrained	Not Restrained	Unknown Use	Other Usage	Low	High
Indiana	146	1,013	14.4%	13	113	13	0	9.4%	10.3%
California	360	3,559	10.1%	130	195	31	2	36.3%	40.4%
Georgia	227	1,508	15.1%	40	163	22	2	17.8%	19.7%
Hawaii	9	98	9.2%	3	6	0	0	33.3%	33.3%
Iowa	73	490	14.9%	8	56	9	0	11.0%	12.5%
Maryland	49	590	8.3%	16	27	2	4	32.7%	42.6%
New Mexico	109	460	23.7%	23	78	7	1	21.3%	22.8%
New York	76	1,545	4.9%	17	53	6	0	22.4%	24.3%
North Carolina	204	1,505	13.6%	65	115	24	0	31.9%	36.1%
Texas	794	3,518	22.6%	241	538	14	1	30.4%	30.9%

Other Usage: Child safety seat - 1, Improper use of child seat - 2, Shoulder strap only - 1, Improper use - 6

Restrained: Sum of Lap & shoulder harness, Lap belt only and Unknown type restraint

Usage Low Estimate = Restrained/(Restrained + Not Restrained + Unknown Use + Improper Use)

Usage High Estimate = (Restrained + Improper Use)/(Restrained + Improper Use + Not Restrained)

The restraint usage for Indiana fatalities in 1999 crashes by vehicle type is displayed in Table 4. The restraint usage rate was much lower for pickup truck occupants than for each of the other passenger vehicle categories used for Indiana’s observational survey. The number of fatalities for large van occupants is too small to draw conclusions based on a single year’s data, and it is surprising that the usage rate for minivan occupants exceeded 50 percent. This data does confirm the finding of the observational survey that the restraint usage for pickup truck occupants is very low and results in the loss of many lives.

Table 4
Indiana 1999 Fatality Restraint Use by Vehicle Type

Vehicle Type	Occupant Fatalities	Percent of Total	Not			Usage Percent		Shoulder Strap Only	Lap Belt Only	Child Seat
			Restrained	Restrained	Unknown Use	High	Low			
Cars	540	66.3%	204	261	44	40.1%	43.9%	3	24	4
Pickup Trucks	146	14.4%	13	113	13	9.4%	10.3%	0	0	0
Minivans	51	5.0%	29	20	2	56.9%	59.2%	0	7	0
Large Vans	15	1.5%	5	9	1	33.3%	35.7%	0	0	0
SUVs	62	6.1%	16	40	6	25.8%	28.6%	0	4	0
All Pass. Veh.	814		267	443	66	34.4%	37.6%	3	35	4

Data Source: Fatal Analysis Reporting System (FARS)

Restrained: Sum of Lap & shoulder harness, Lap belt only and Unknown type restraint

Usage Low Estimate = $\text{Restrained} / (\text{Restrained} + \text{Not Restrained} + \text{Unknown Use} + \text{Improper Use})$

Usage High Estimate = $(\text{Restrained} + \text{Improper Use}) / (\text{Restrained} + \text{Improper Use} + \text{Not Restrained})$

References

ACTS, 2000, "A Summary of Adult Seat Belt & Child Safety Restraint Statutes in the 50 States and the District of Columbia," Stateside Associates, Inc. for the Automotive Coalition for Traffic Safety, Inc., July 2000.

NHTSA, 1999a, "Observed Safety Belt Use in 1998," Research Note, National Highway Traffic Safety Administration, September 1999.

NHTSA, 1999b, "Traffic Safety Facts 1998–Occupant Protection," National Highway Traffic Safety Administration, DOT HS 808 954, 1999.

New Mexico, 2000, "New Mexico Highway Safety & Performance Plan–2000," New Mexico Traffic Safety Bureau.