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Special Study--Fatalities and Injuries Associated with Riding in Cargo Areas of Pickup Trucks

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16. Abstract An average of 242 persons were killed each year from 1975 through 1979 in accidents while riding in the cargo areas of pickup trucks, according to data from the National Highway Traffic Safety Administration's (NHTSA) Fatal Accident Reporting System (FARS).

In 1979, the Safety Board investigated an accident involving a compact pickup truck in which the driver and three persons were riding in the cab and eight persons were in the open-cargo area of the truck. The driver failed to negotiate a curve and the truck ran off the road and overturned. Seven persons in the cargo area were killed.

As a result of its investigation of this accident, the Safety Board recommended that the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) establish model guidelines for prohibiting passengers from riding in open cargo areas of most vehicles. The NCUTLO had considered model guidelines on a broader scale in 1975, but because of several complications, the proposal was rejected.

This study was made to demonstrate further the need for model guidelines prohibiting passengers from riding in the cargo area of a vehicle, and to make available information about the dangers to passengers riding in the open cargo area of a vehicle.

Recommendations are made to the NCUTLO, the National Highway Traffic Safety Administration, the Insurance for Highway Safety, the Motor Vehicle Manufacturers Association, the National Safety Council, Automobile Importers of America, the National Safety Council and to the Governors of the 50 States.

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NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

SPECIAL STUDY

Adopted: September 9, 1981

FATALITIES AND INJURIES ASSOCIATED WITH RIDING IN CARGO AREAS OF PICKUP TRUCKS

INTRODUCTION

An average of 242 persons were killed each year from 1975 through 1979 in accidents while riding in the cargo areas of pickup trucks, 1/ according to data from the National Highway Traffic Safety Administration's (NHTSA) Fatal Accident Reporting System (FARS). In addition, an average of 167 persons suffered incapacitating injuries and 142 persons received nonincapacitating injuries each year.

In 1979, the Safety Board investigated an accident involving a compact pickup truck in which the driver and three persons were riding in the cab and eight persons were in the open cargo area of the truck. The driver failed to negotiate a curve and the truck ran off the road and overturned. Seven persons in the cargo area were killed.

As a result of its investigation of this accident, the Safety Board recommended that the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) establish model guidelines for prohibiting passengers from riding in open cargo areas of most vehicles. The NCUTLO had considered model guidelines on a broader scale in 1975, but because of several complications, the proposal was rejected. The NCUTLO has not yet acted to implement the Safety Board's recommendation because of a lack of funds.

This study was made to demonstrate further the need for model guidelines prohibiting passengers from riding in the cargo area of a vehicle, and to make available information about the dangers to passengers riding in the open cargo area of a vehicle. This study analyzes 1975 through 1979 FARS data, additional Safety Board accident investigations, one investigation by a State agency, and other accidents.

ACCIDENTS

On April 23, 1979, near Crofton, Maryland, a compact pickup truck, occupied by the driver, three other persons in the cab, and eight persons in the open cargo area, went out of control on a curve, ran off the road, and struck three trees located about 7 feet from the edge of the pavement. After striking the trees, the truck was redirected back onto the pavement and came to rest upside down. (See figure 1.) The ages of the occupants ranged from 14 to 19 years. 2/ The three passengers in the cab and seven persons in the cargo area were killed. One passenger survived but was injured seriously; the driver received minor injuries.

1/ Includes all pickup trucks, with or without caps, campers, stake, and small dump bodies.
2/ For more detailed information, read Highway Accident Report--"Ford Courier Pickup Truck, Fixed Object Collision, Patuxent Road, Near Crofton, Maryland, April 23, 1979" (NTSB-HAR-79-6).

Figure 1.--Pickup truck in which 10 of the 11 passengers were fatally injured.

The surviving passenger said that the driver was operating "way in excess" of the 25- to 35-mph posted speed limit at the time of the accident. Testimony revealed that the driver and others in the group had bought and consumed beer and a quart of premixed cocktail drink earlier in the day. Later, witnesses saw the driver smoke marijuana. The driver and his friends purchased a bottle of bourbon and two six-packs of beer and were traveling to a local park to have a party when the accident occurred.

A similar accident occurred in July 1980 in Virginia. According to the investigation of a crash team of the Virginia Department of Transportation Safety, a pickup truck transporting a driver and three passengers in the cab and six persons in the open cargo area was proceeding on an acceleration ramp to enter an interstate highway when the left rear tire rapidly deflated (blew out). The truck started to fishtail, which caused the driver to lose control. The truck rolled over to its right and flipped over, ejecting the six passengers from the cargo area. Five persons landed in the eastbound lane against the concrete median barrier, and the sixth person was ejected over the barrier into the westbound lane. The vehicle completed one rollover and landed on top of the barrier. The rear differential caught the barrier; the vehicle flipped again, landing on its top in the roadway, and skidded into the westbound lane. (See figure 2.) One of the persons thrown into the eastbound lane suffered fatal head and internal injuries. The remaining ejectees were treated for injuries and released from hospitals. Three of the four passengers who remained in the cab suffered skull fractures. The persons involved were from 17 to 19 years old.

Before the accident, the occupants of the truck, a four-wheel drive vehicle with a modified suspension, had spent the evening socializing and "riding around." The group had consumed three or four cases of beer and one of the persons had some marijuana. The group had decided to buy more beer, which they could not do in Virginia after midnight, and were on their way to Maryland, where beer is sold until 2 a.m., when the accident happened.

The investigation determined that the oversized tires that raised the vehicle suspension contributed to the vehicle's overturning.

On April 14, 1981, the Safety Board investigated an accident in Arcata, California, involving 10 teenagers going to the beach in a pickup truck. The driver and a passenger were in the cab and eight persons were in the open cargo area. The truck was traveling at about 55 mph in the right lane of a four-lane, divided highway. As the driver changed lanes, he abruptly turned the steering wheel back to the right because he thought he was too close to the raised concrete divider between the eastbound and westbound lanes. The truck overturned onto its left side, ejecting all eight passengers from the cargo area onto the roadway, shoulder, and surrounding surface area. The vehicle slid off the roadway, went down an embankment, and came to rest on its top. (See figure 3.)

The driver sustained moderate injuries and the cab passenger suffered a compound fracture of an arm and multiple lacerations. One person in the cargo area died from head injuries, three persons sustained skull fractures, one person had a 2-inch laceration to the scalp and multiple abrasions to the right hand, one person received minor injuries, and two persons were not injured.

There was no evidence of alcohol or drug involvement in this accident.

On April 29, 1981, the Safety Board investigated an accident in Los Angeles, California, involving a pickup truck transporting the driver and a passenger in the cab and 10 persons in the open cargo area to the beach. The persons ranged in age from 4 to 17. The pickup truck was traveling at 55 mph in the passing lane of a five-lane interstate

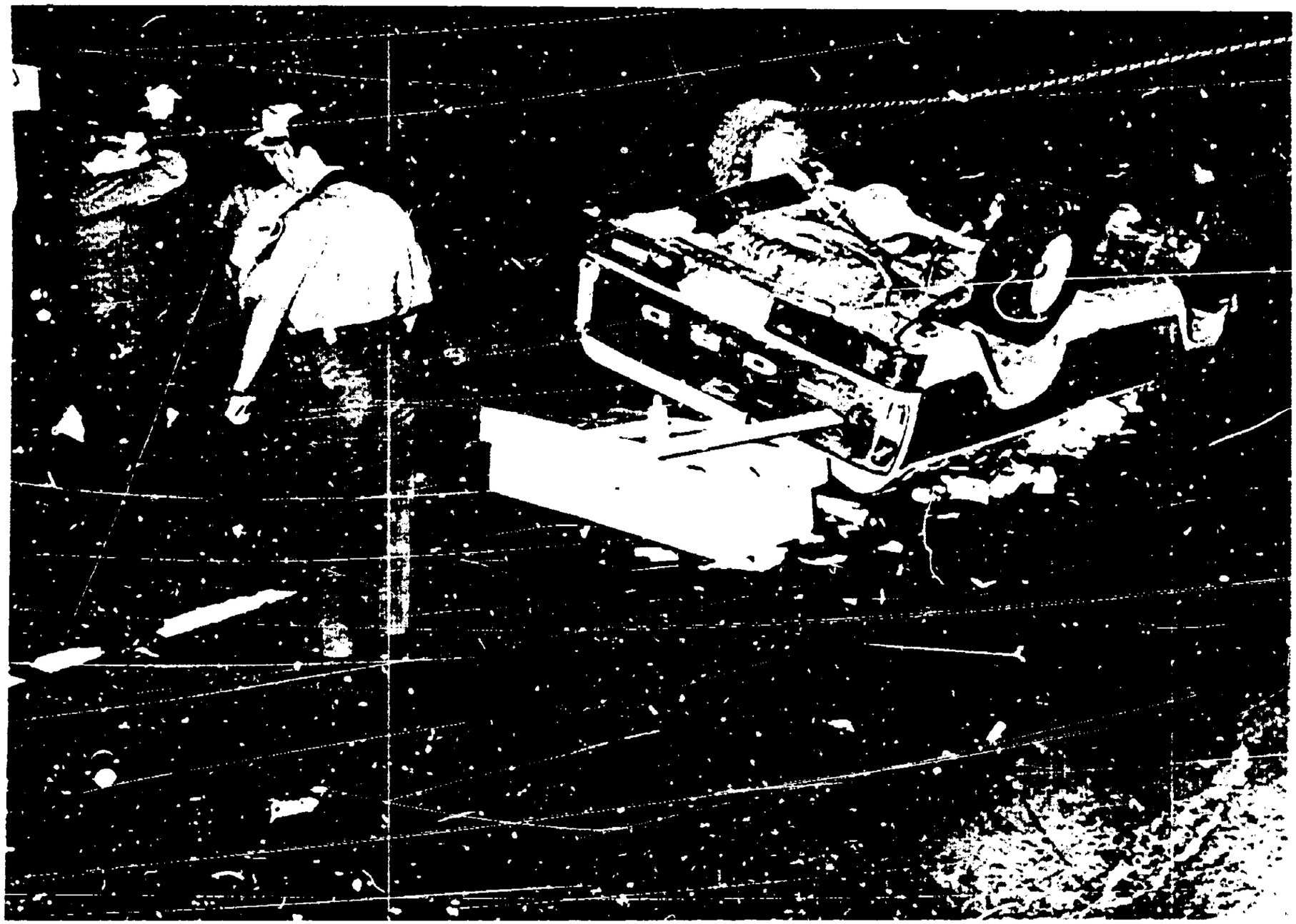
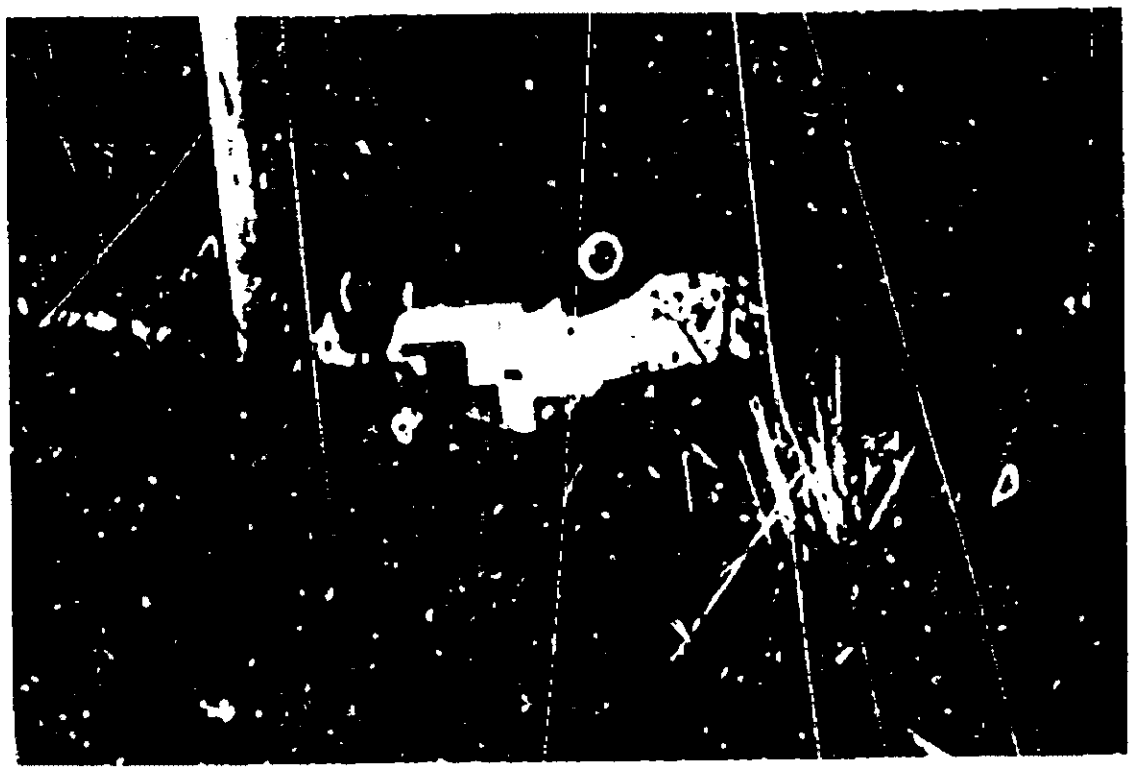


Figure 2.--Pickup truck in Virginia accident.

Photo by Mark S. Reinstein



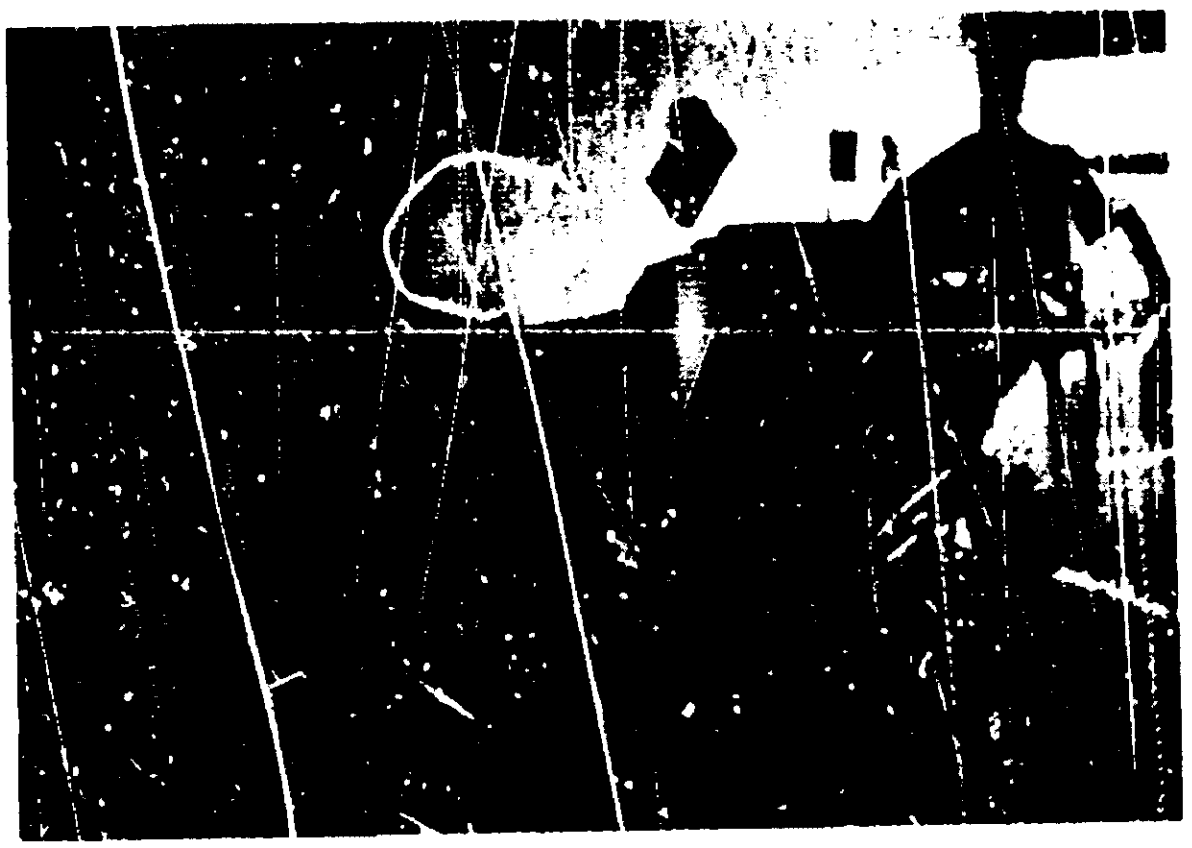


Figure 3.--Pickup truck in Arcata, California accident.

highway when the driver saw a board in the roadway and swerved to avoid hitting it. As the truck swerved sharply to the right, the rear of the vehicle swung wide to the right and tilted, ejecting all 10 persons from the cargo area onto the road. The pickup truck then overturned and returned to an upright position as it continued back across the traffic lanes where it struck a concrete center divider and a stationary moped. (See figure 4.)

The operator of the moped suffered minor injuries. The driver and cab passenger were not ejected and sustained minor injuries. One of the persons in the cargo area was killed, two persons were seriously injured, and the other persons received minor injuries.

There was no evidence of alcohol or drug involvement in the accident. The driver of the truck stated that she could not control the vehicle because of the shifting weight of the occupants in the cargo area.

On July 20, 1981, the Safety Board investigated an accident in Leawood, Kansas, involving four 16-year-olds driving around for pleasure in a pickup truck. The driver and a passenger were in the cab and two persons were in the open cargo area. As the pickup truck proceeded down a steep hill, it began to gain speed. As it started up the next hill after traveling through a slight left curve, the vehicle went out of control. It left the right side of the road, came back on the road, then proceeded off the left side of the road. The vehicle then struck a tree 54 feet from the curb. After it struck the tree, the vehicle rolled over onto its top. The two occupants in the back of the pickup were ejected; one was fatally injured and the other received minor injuries. The driver was not ejected and sustained moderate injuries. The right-front passenger also was not ejected and suffered minor bruises. The survivor who had been riding in the cargo area said that he thought the passenger who was killed had been thrown against the rear windshield during the accident. There was no observed evidence of alcohol involvement in this accident.

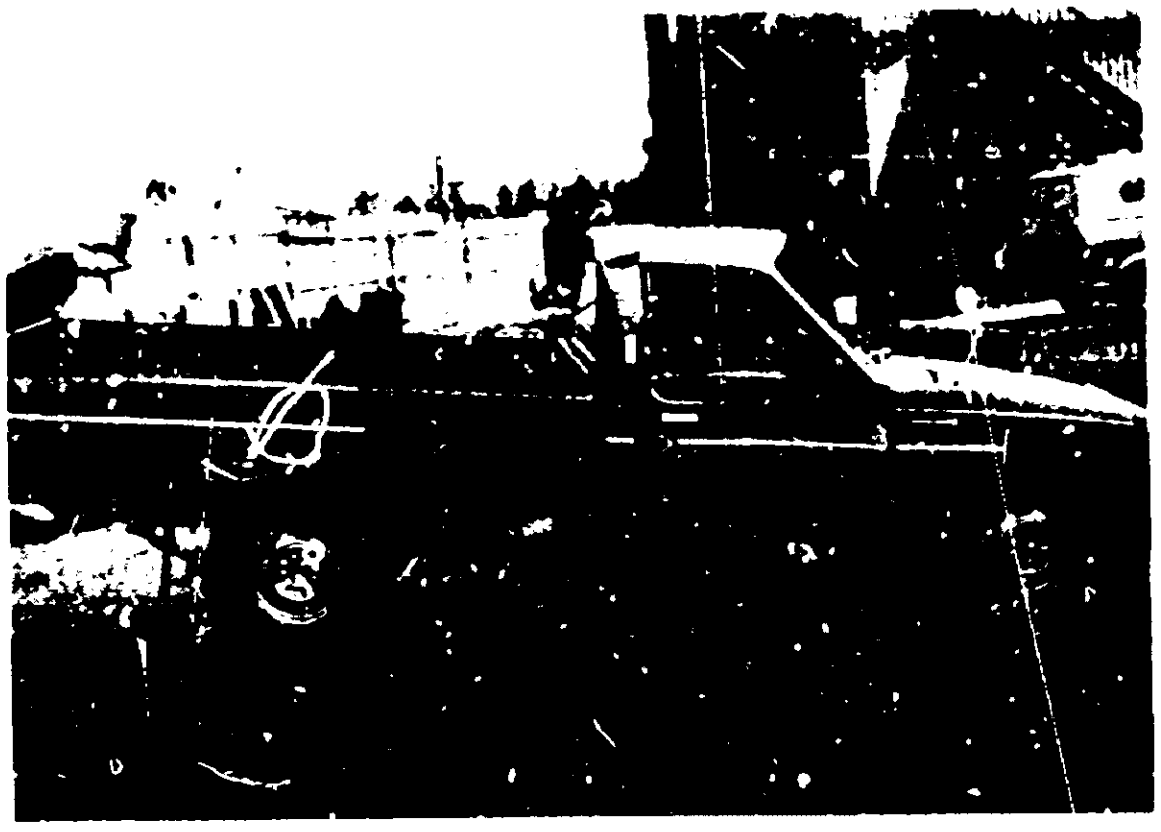
On March 10, 1980, in Milford, Massachussetts, a pickup truck carrying a driver and two passengers in the cab and six persons in the open cargo area crashed into two houses and disintegrated. The impact threw the teenaged passengers as far as 50 feet into the street. One person was killed, one person received severe head injuries, and the other persons received severe ear, head, and facial lacerations. It was undetermined that the person killed was riding in the rear cargo area.

The result of a similar accident was discussed by a hospital emergency room nurse in a newspaper's advice column: "Within a few minutes we saw seven little ones -- from 3 to 8 years of age -- necks and backs broken, bodies mangled, bloodied from head to foot". 3/The youngsters had been riding in the open cargo area of a pickup truck on their way to a birthday party when the truck was struck from behind by another vehicle driven by a drunken driver. The nurse asked the newspaper readers never to allow their children to ride in the open area of a truck.

FATAL ACCIDENT DATA

Fatal accident data from the Fatal Accident Reporting System (FARS) 4/ files of the National Highway Traffic Safety Administraton (NHTSA) were analyzed to determine characteristics of the fatalities and injuries associated with riding in the cargo area or on the exterior (roof, hood, fender, etc.) of a pickup truck.

3/ Washington Post, November 14, 1980, p. D10.
4/ The FARS is a census of fatal accidents occurring in the 50 States, District of Columbia, and Puerto Rico. The data are drawn from numerous sources including police reports, State driver license files, motor vehicle registration files, highway department files, and vital statistics files.



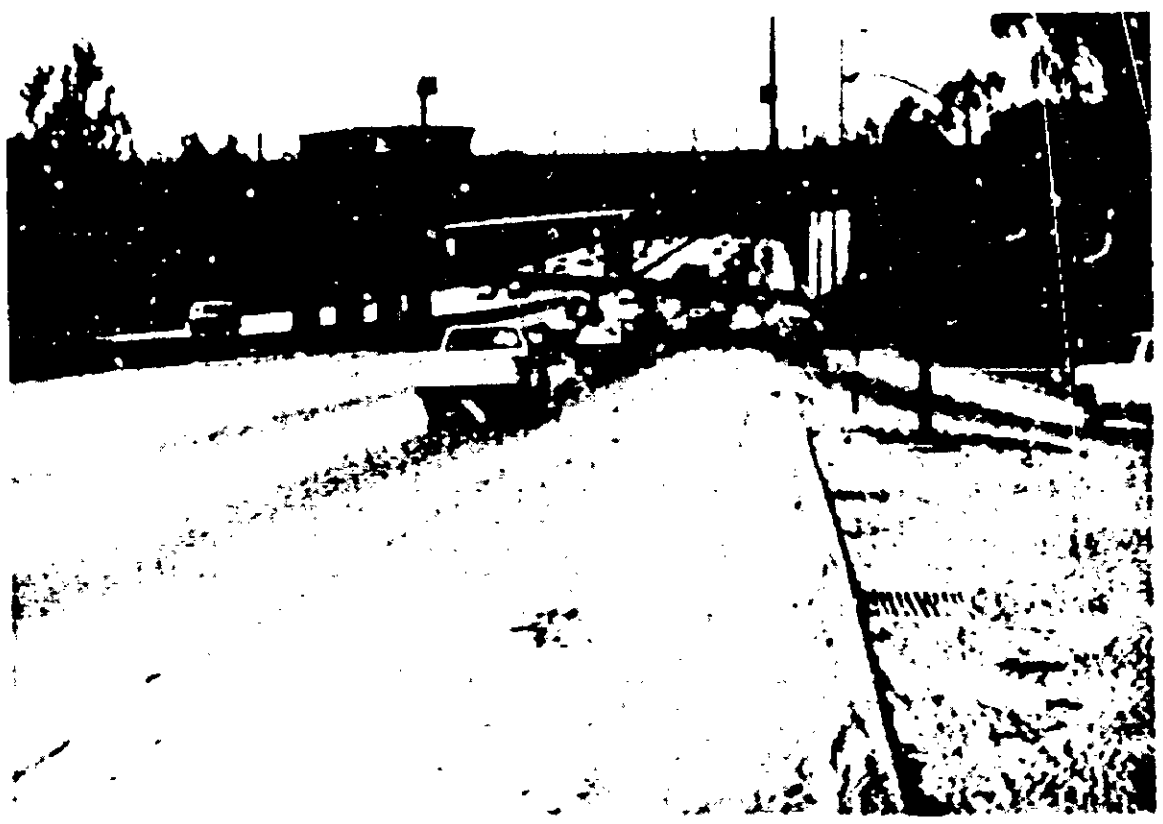


Figure 4.--Pickup truck involved in Los Angeles, California, accident (top) and accident site (bottom).

A comparison of fatalities by seating positions in the vehicle is shown in table 1. Except for fatal drivers traveling alone (46.6 percent) passengers traveling in the cargo area comprise the largest category of fatalities.

Table 1--Fatalities in pickup trucks by seating positions.

	Total	Fatalities	Percentage of Fatalities
Drivers (no passengers)	23,134	10,787	46.6
Drivers (with passengers)	15,860	4,761	30.0
Cab Passengers	19,373	5,211	27.0
Exterior Passengers	3,395	1,212 1/	35.7
Unknown	2,357	747	31.7

1/ For 1975-1975 FARS data, it was possible to identify 214 fatalities out of 1,212 who fell out of the cargo area or off the vehicle exterior.

Table 2 shows the yearly fatalities and injuries that resulted from this type of accident. These figures may be higher because the seating positions of a yearly average of 149 occupants who became fatalities and 147 occupants who suffered incapacitating injuries are unknown. (See table 3.)

Table 2--Fatalities and injuries of exterior passengers by year.

Injury	1975	1976	1977	1978	1979	Total
Fatal	213	241	259	229	270	1,212 1/
Incapacitating	167	150	190	159	171	837
Non-incapacitating evident	118	130	140	165	160	713
Possible	49	99	64	68	60	340
None	154	125				279
Unknown		1	5	7	1	14
Total	701	746	658	628	662	3,395 2/

1/ For 1975-1975 FARS data, it was possible to identify 214 fatalities out of 1,212 who fell out of the cargo area or off the vehicle exterior.
2/ This total reflects all passengers for whom data forms were submitted. There were 2,142 uninjured passengers for whom data forms were not submitted.

Table 3--Fatalities and injuries of occupants where seating position is unknown.

Injury	
Fatal	747
Incapacitating	739
Non-incapacitating evident	560
Possible	202
Injured, severity unknown	9
None	96
Unknown	4
Total	2,357

The ages of the occupants riding in the open cargo area or on the vehicle exterior who became fatalities are shown in table 4. Almost 70 percent of these persons were age 22 or younger. Also, the age 22 and younger passengers suffered 77.3 percent of the incapacitating injuries.

Table 5 shows the number of fatal accidents based on the first collision event in the crash sequence. There were 4,645 fatal accidents in which occupants either were involved in an overturn crash or fell from the vehicle.

Table 4—Fatalities and injuries of cargo area passengers by age.

Age	Total Passengers	Fatalities	Cumulative Percentage	Incapacitating Injuries	Cumulative Percentage
Under 16	1,511	445	36.7	377	45.0
16	221	69	42.4	70	53.4
17	206	73	48.4	52	59.6
18	160	71	54.3	38	64.2
19	163	62	59.4	46	69.7
20	95	40	62.7	21	72.2
21	124	49	66.7	23	74.9
22	84	35	69.6	20	77.3
23	66	32	72.3	14	79.0
24	63	22	74.1	11	80.3
25-29	170	80	81.4	41	85.2
30-34	113	54	85.1	25	88.2
35-39	81	33	87.9	18	90.3
40-44	63	28	90.6	17	92.3
45-49	55	32	92.8	11	93.7
50-54	41	20	94.5	11	94.9
55-59	32	17	95.9	7	95.8
60-64	16	12	96.9	2	96.1
65-69	11	7	97.4	2	96.3
70 and over	21	15	98.7	4	96.8
Unknown	99	16	100.0	27	100.0
Total	3,395	1,212 1/		837	

Table 5--Fatal accidents involving pickup trucks by first event.

First Event	Fatal Accidents	
	Total	Percentage
Collision with motor vehicle	19,227	51.4
Collision with pedestrian	4,383	11.7
Collision with fixed object	6,992	18.7
Noncollision overturn	3,931	10.5
Noncollision passenger fell from vehicle	714	2.0
Other	2,148	5.7
Total	37,395	100.0

1/ For 1975-1975 FARS data, it was possible to identify 214 fatalities out of 1,212 who fell out of the cargo area or off the vehicle exterior.

In addition, the FARS data show that 70 percent of the fatal accidents occurred on the straight sections of roads.

Table 6 shows the locations at the time of an accident of fatally injured persons who were ejected. As can be seen, persons riding outside the vehicle experienced a higher percentage of fatalities. This is not surprising since passengers who ride outside the cab have neither structural protection nor restraint systems in case of an accident. Occupants in the vehicle have available restraints for protection if they choose to use them. However, the FARS data reveal that only 2 percent of all the drivers and only 1.37 percent of all the cab passengers were known to have used restraints. The 1979 FARS data show that 28.7 percent of the occupants who used restraints became fatalities while 42.1 percent who did no use them became fatalities. For 37.9 percent of the occupants, restraint use was unknown.

Table 6--Fatalities by riding position.

	Percentage of Fatalities			
	Not ejected	Totally ejected	Partially ejected	Unknown
Drivers	56.6	27.1	4.7	11.6
Cab Passengers	51.4	34.9	4.0	9.7
Exterior passengers	45.8	47.4	0.5	6.3
Unknown	37.8	37.9	1.3	23.0

Table 7 shows the number of fatalities by State. Only one State, Vermont, has not had a fatality as a result of this type of accident.

HAZARDS OF RIDING IN AN OPEN CARGO AREA

To define more accurately the hazards created by passengers riding in the cargo area of pickup trucks, the Safety Board first reviewed accident data to determine what type of person becomes a victim as a result of this practice. The FARS data show that each year an average of 242 passengers become fatalities and 167 suffer incapacitating injuries. As shown in table 4, almost 70 percent of the victims are 22 or younger. The four accident case studies previously cited in this study involved drivers and passengers who were 19 or younger. Young people often gather in groups for transportation to social or sporting events or on pleasure trips. A pickup truck can accommodate and transport a larger number of persons at one time than an automobile when the cargo area is used. In the accidents cited, the average number of persons in the rear cargo areas was eight.

It should be noted that fatal and/or serious injuries are not necessarily accompanied by catastrophic damage to the vehicle involved. In the Los Angeles accident, the truck sustained minor damage yet one person in the cargo area was killed and two were seriously injured.

Vehicle Handling

A hazard associated with carrying occupants in the cargo area is the effect of the load on vehicle handling. Since passengers in the rear are unrestrained, they are free to move around or ride on the fenders, hood, roof, or edge of the cargo enclosure. Passenger movements can affect vehicle handling performance because they can result in a shifting of weight or a sudden change in the vehicle's center of gravity. Normal cargo or hard goods usually are tied down or secured to the cargo bed in some way to

Table 7--Fatalities by States.

State	Fatalities
Alabama	13
Alaska	6
Arizona	67
Arkansas	16
California	170
Colorado	34
Connecticut	5
Delaware	1
Florida	77
Georgia	31
Hawaii	7
Idaho	6
Illinois	26
Indiana	10
Iowa	18
Kansas	18
Kentucky	20
Louisiana	25
Maine	7
Maryland	13
Massachusetts	7
Michigan	27
Minnesota	11
Mississippi	17
Missouri	34
Montana	15
Nebraska	10
Nevada	16
New Hampshire	5
New Jersey	10
New Mexico	49
New York	28
North Carolina	32
North Dakota	3
Ohio	19
Oklahoma	19
Oregon	26
Pennsylvania	30
Rhode Island	1
South Carolina	23
South Dakota	6
Tennessee	20
Texas	139
Utah	19
Vermont	--
Virginia	17
Washington	21
West Virginia	15
Wyoming	10
Total	1,212 1/

1/ For 1975-1975 FARS data, it was possible to identify 214 fatalities out of 1,212 who fell out of the cargo area or off the vehicle exterior.

alleviate these problems. For example, in the Los Angeles accident, the driver of the pickup truck stated that after she swerved to avoid a board in the road, she could not control the vehicle because of the shifting weight of the persons in the cargo area. In the Virginia accident, the cargo area occupants were thrown about as the vehicle "fishtailed" after the tire blew out. The shifting weight of the occupants and the vehicle's raised center of gravity from an altered rear suspension contributed to the inability of the driver to control the vehicle after the tire blew out.

Lack of Occupant Protection

The most obvious and dangerous hazard associated with riding in the open cargo area is the lack of occupant protection. There is no surrounding structure to protect passengers in the event of a rollover. Federal Motor Vehicle Safety Standard 208 (49 CFR 571.208) requires manufacturers to install occupant restraints only at each designated seating position, and there are no designated seating positions in the area. When the vehicle overturns or gyrates violently, the unrestrained passengers can be thrown out or injured. The FARS data show that 10.5 percent (3,931) of the fatal accidents involving pickup trucks were overturn accidents.

The lack of occupant restraints can also result in serious, if not fatal injury, even if the vehicle does not turn over. Depending on the type of crash, the occupants in the cargo area can be propelled to the front or rear or from side to side and collide with other occupants or the side metal walls of the vehicle cargo area. The FARS data revealed that 43 percent (3,864) of the fatalities and 50 percent (4,132) of the incapacitating injuries occurred in head-on crashes and 37 percent (3,306) of the fatalilties and 36 percent (3,114) of the incapaciting injuries occurred in angle collisions.

The use of occupant restraints that are installed to the metal floor and side walls of the cargo area, without accompanying seats to absorb crash forces, would probably cause serious if not fatal injury. The installation of seats, of course, would defeat the purpose of a cargo-type vehicle.

Persons ejected from the cargo area are likely to strike a hard surface such as pavement, barriers, or trees. Also, since the FARS data show that 70 percent of the pickup truck accidents occur on the road, it is likely that those ejected will be run over by following vehicles. In the Virginia accident cited in this study, passengers who were ejected onto the main roadway would have been run over except for the expert driving of several professional truckdrivers who were able to steer around them.

Of the accidents investigated by the Safety Board and the State of Virginia in which the vehicles overturned, the fatality ratio of passengers in the open cargo to those in the cab was almost 4 to 1.

Cargo tops or roofs, which are usually purchased and installed by a vehicle owner, may prevent ejection but probably would not offer much protection against injury. They are usually constructed of aluminum or fiberglass and are attached to the side rails of the cargo bed with bolts. The tops serve to protect the cargo area from rain, snow, and wind. Even if the vehicles involved in the accidents cited in this study had had cargo tops, the Safety Board believes that they would not have offered substantial protection to the occupants of the cargo area. Data were not available to permit an assessment of these tops in the accident environment.

ACCIDENT COUNTERMEASURES

Fatalities and injuries resulting from riding in the open cargo area of pickup trucks involve a system composed of a driver, a vehicle, and the passengers. The States and various safety-oriented organizations need to direct countermeasures at all these elements of the system.

State Laws

Every State except one reported fatalities resulting from passengers riding in the cargo area of pickup trucks. Fourteen States had 25 or more fatalities, California had 170 fatalities, and Texas had 139. Since the number of fatalities in each State is related to the number of people and vehicles in that State, local weather, vehicle mileage, etc., comparisons between States are not meaningful without data to permit the establishment of rates. It is apparent, however, that this type of accident occurs almost everywhere in the United States. Therefore, each State should be concerned with corrective measures to eliminate such accidents.

The accidents discussed in this study occurred in California, Maryland, Massachusetts, Virginia, and Nebraska. Of these States, only California has a law pertaining to unlawful riding, 10/ which states:

> (a) No person driving a motor vehicle shall knowingly permit any person to ride on any vehicle or upon any portion thereof not designed or intended for the use of passengers.
>
> (b) No person shall ride on any vehicle or upon any portion thereof not designed or intended for the use of passengers.
>
> (c) Subdivisions (a) and (b) shall not apply to any employee engaged in the necessary discharge of his duty or in the case of persons riding completely within or upon vehicle bodies in space intended for any load on the vehicle.

A New Jersey statute 11/ states that:

> No person shall ride on, and no operator shall knowingly allow a person to ride on, a street car or vehicle, or on a portion thereof not designed or intended for the conveyance of passengers. This section shall not apply to an employee engaged in the necessary discharge of a duty.

These and other State laws on this subject exclude passengers engaged in a work activity from the unlawful riding prohibition. The Safety Board recognizes the need for this exception and consequently has directed its recommendation to nonwork-related occupants. However, the Board still does not believe that the transporting of large numbers of workers in open cargo type vehicles to job sites is advisable. Where the law is precise and nonwork-related passengers are excluded from riding in the cargo areas, there may be no need for revision of such a law.

10/ West's Annotated California Codes, Vehicle Code Sections 16000 to 22449, Official California Vehicle Code Classification, Vol. 66A, Section 21712, p. 486; West Publishing Co., St. Paul, Minnesota, 1971.

11/ New Jersey Statutes Annotated, Title 39, Motor Vehicles and Traffic regulation, 39:1 to 39.5D; Section 39:4-69, p. 359; West Publishing Co., St. Paul, Minnesota.

However, there are two problems noted by the Safety Board. First, where no law exists to prevent nonwork-related passengers from riding in the cargo area, the Safety Board would urge the enactment of such a law. Second, some States may need to revise existing laws in order to remove possible ambiguous interpretations. The California law in fact allows riding in the cargo area (see part c). Also, the New Jersey statute can be interpreted either to allow passengers to ride in the cargo areas or to prohibit riding in the rear cargo area. It is not clear whether the cargo area is considered a prohibited area under this law.

The New York law, 12/ while allowing passengers to ride in cargo areas, is more definitive concerning the safety aspects of such riding:

> 1. No operator of any motor vehicle commonly known as an auto truck shall operate such auto truck, nor shall the owner thereof permit it to be operated, for a distance in excess of five miles, while there is standing therein or thereon any person or persons in excess of one-third of the number of persons therein or thereon:
>
> a) Unless suitable seats are securely attached to the body of such auto truck;
>
> b) Unless side racks of at least three feet in height above the floor of such auto truck are securely attached; and
>
> c) Unless it shall have attached thereto a tail board or tailgate which is securely closed.
>
> The provisions of this subdivision shall not apply to persons or corporations operating an agency or agencies for public service, who or which are subject to the jurisdiction, supervision, and regulations prescribed by or pursuant to the public service law nor to their agents or employees when engaged in the business of such persons or corporations.
>
> 2. No operator of any motor vehicle commonly known as an auto truck shall operate such auto truck, nor shall the owner thereof permit it to be operated, in excess of five miles, while there are in excess of five persons under eighteen years of age in the body of such truck unless at least one person over eighteen years of age also rides in the body of said truck.

This law restricts travel distance, standing, suitable seats, the height of side racks, the tailgate, and the number of persons by age. However, it still allows passengers to ride in the cargo area under other circumstances.

The National Committee on Uniform Traffic Laws and Ordinances in 1975 identified six States which ban riding on any part of a vehicle that is not designed or intended for passenger use. Eleven states prohibit riding on the outside part of a vehicle such as the running board, fender, hood, top, bumper, etc.

12/ McKinney's Consolidated Laws of New York, Annotated; Section 1222, p. 248, Book 62A, Edward Thompson, Brooklyn, New York, 1970. See also 1981 Pocket Supplement for change to number 2, p. 81.

Model Legislative Guidelines

Following its investigation of the Crofton, Maryland, accident, the Safety Board determined that model guidelines might assist States in formulating legislation which would control the use of cargo areas of vehicles for passenger conveyance. Accordingly, the Safety Board recommended on September 6, 1979, that the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO):

> Establish model guidelines for prohibiting passengers from riding in open-cargo areas of vehicles that are not being used for work-related purposes. (H-79-40)

Since the Board's recommendation was made after the NCUTLO's last full meeting in August 1979, it could not be acted on. The NCUTLO subcommittee on traffic operations was to meet in February 1981 and determine whether the Board's recommendation would be put on the agenda for the NCUTLO's next full meeting in August 1981. These meetings were never held because of budget constraints. 13/ The subcommittee may meet in the fall of 1981 and again consider placing the Board's recommendation on the agenda in preparation for a full meeting in August 1982.

In 1979, the Administrative Committee of the NCUTLO authorized its staff to write a model law regarding riding in the cargo area of pickup trucks and have the model law voted upon by the full committee by mail ballot. When adopted, the model law would be made available to the States in a much shorter time. At present, the NCUTLO does not have sufficient funds to carry out this program and must rely on contract funds or outside contributions from other interested parties.

The Uniform Vehicle Code (UVC) is a specimen set of motor vehicle laws designed to be a comprehensive guide or standard for State motor vehicle and traffic laws. 14/ It reflects the need for uniformity in traffic regulation throughout the United States, and is used as a contemporary guide for use by State legislatures. The Model Traffic Ordinance (MTO) is a specimen set of motor vehicle ordinances for a municipality and is consistent with the recommended State laws in the UVC. Its provisions are designed as a guide for municipalities to follow in reviewing their traffic ordinances or considering the development or revision of a model traffic ordinance. The NCUTLO is the custodian of the UVC and the MTO and is responsible for revising and publishing both documents.

MTO Section 10-2, Unlawful Riding states:

> No person shall ride on any street car or vehicle upon any portion thereof not intended for the use of passengers. This provision shall not apply to an employee engaged in the necessary discharge of a duty, or to persons riding within truck bodies intended for merchandise. 15/

There is not a corresponding section on unlawful riding in the UVC. When the recommended model guidelines are written by the UCUTLO, Section 10-2 in the MTO should be revised and a similar section should be added to the UVC.

13/ The NCUTLO's 1979 report noted that only 19 states and the District of Columbia contributed financial support.

14/ Uniform Vehicle Code and Model Traffic Ordinance revised - 1968. National Committee on Uniform Traffic Laws and Ordinances, Arlington, Virginia 22203.

15/ Ibid, in Model Traffic Ordinance, page 19.

SAFETY ORGANIZATIONS

The NHTSA functions as a major research arm of the Department of Transportation and funds many research, demonstration, and communications projects aimed at reducing death and injury on our nation's highways. States, other Federal agencies, universities, private research groups, consultants, and the NCUTLO have received funds for safety projects. The participation of the NHTSA in the development of a model law to prohibit riding in open cargo areas would be in keeping with the agency's safety objectives.

The insurance industry, with its vested interests in safety, has always strived to reduce accidents and their related fatalities and injuries. The Insurance Institute for Highway Safety (IIHS) is an independent research organization founded by the nation's motor vehicle property and casualty insurers through their three principal trade associations and a number of individual companies. The IIHS has conducted or funded numerous research, demonstration, and communications projects concerning the human, vehicle, and highway aspects of highway crash losses. In the area of laws pertaining to safety, the IIHS has been concerned about alcohol, habitual traffic offenders, motorcycle helmet and headlamp use, roadside hazards, seatbelt use, and fuel tank standards. Supporting the development of a model law to prevent fatalities and injuries associated with riding in the open cargo areas of vehicles would be consistent with the goal of the IIHS to prevent human and economic harm.

The Motor Vehicle Manufacturers Association (MVMA) sponsors basic research programs in such areas as emissions, energy, safety, and noise, where knowledge and information are needed to address issues affecting the motor vehicle industry. The major part of the MVMA research programs support independent researchers working under gifts, grants, or contracts. The MVMA has shown a continuing interest in all aspects of motor vehicle safety which has included the study of pedestrian safety, passenger protection, and injury severity reduction. The hazards associated with riding in the cargo areas of pickup trucks are in the area of passenger protection. Because of the MVMA's wide range of safety interests and its concern for passenger safety, the MVMA's support of the development of a model law would be a significant contribution.

Although vehicle manufacturers do not represent that the cargo areas of pickup trucks are suitable for carrying passengers, they could provide several valuable services toward the resolution of this problem. Currently, there is no information on the vehicle that cites the danger of riding in the cargo area. A reminder, such as the printed stickers on gas caps about using "unleaded gasoline only," in plain view of passengers might deter some persons from riding there. An additional reminder would be useful if placed in the vehicle owner's manual. In that way, at least the owner of the vehicle (who drives the vehicle most often) will be reminded not to carry passengers in the cargo area.

The National Safety Council, chartered by an Act of Congress, is a public service organization that furnishes leadership in safety. It provides safety services and materials to meet the needs of industry; insurance companies; associations; traffic and transportation; home, farm, and community safety organizations; government departments' schools; and individuals. Because of its ability to reach large segments of the public, the Safety Council could be effective in informing the public of the hazards of riding in the open cargo areas of vehicles. For example, since many teenagers and young adults are involved in these types of accidents, they should be made aware of these hazards early in their driving careers. The Safety Council could disseminate this information to high school driver education instructors for inclusion in driver education programs.

CONCLUSIONS

1. An average of 242 persons per year are killed and 167 persons are injured as a result of riding in the rear cargo area of pickup trucks.

2. Fatalities and injuries associated with riding in the open cargo area of vehicles may be understated in this study because the preaccident seating positions of 149 fatalities and 147 injured passengers were not identified in the data.

3. Almost 70 percent of the persons killed in such accidents are 22 years old or younger.

4. Passengers riding in the cargo area or on the vehicle exterior experienced the greatest percentage (35.7 percent) of fatalities.

5. There were 4,645 fatal accidents in which occupants either were involved in an overturn crash or fell from the vehicle.

6. Fatal ejection of passengers riding outside the cab is greater than that of passengers in the cab.

7. The National Highway Traffic Safety Administration has determined that the chance of being killed is 25 times greater when a person is ejected from a car.

8. Forty-nine of the 50 States have had accident fatalities as a result of persons riding in the cargo area of pickup trucks, with 14 States having had more than 25 fatalities.

9. In rear cargo areas, there are no surrounding structures that might afford same protection, and since there are no designated seating positions, occupant restraints are not required by law; consequently, passengers riding in the rear area are unprotected.

10. In the four accident investigations cited in this study, the ratio of fatalities in the open cargo area to those in the cab was almost 4 to 1.

11. Shifting weight in a cargo area may cause handling problems and result in an accident, as indicated in one of the Safety Board's accident investigations.

12. The Safety Board believes that the Fatal Accident Reporting System accident data and the additional accident investigations conducted by the Board and other agencies demonstrate the need for legislation by the States to prevent passengers from riding in the cargo area of nonwork-related vehicles.

13. The development of model guidelines might encourage States to enact legislation which would prevent passengers from riding in the cargo areas on nonwork-related vehicles and could assist them in formulating such legislation.

14. The National Highway Traffic Safety Administration, the Insurance Institute for Highway Safety, and the Motor Vehicle Manufacturers Association should provide support to the National Committee on Uniform Traffic Laws and Ordinances in its development of model guidelines to prevent passengers from riding in the cargo area of a pickup truck.

15. The National Committee on Uniform Traffic Laws and Ordinances should revise the model guidelines concerning riding in the cargo area of a pickup truck in the Model Traffic Ordinance and should add model guidelines to the Uniform Vehicle Code.

16. There may be a safety benefit in requiring the posting of information on pickup trucks advising against riding in the open cargo area.

17. There may be a safety benefit in requiring the inclusion of information in the pickup trucks owner's manuals advising against riding in the open cargo area.

18. Many States do not have laws that prevent passengers from riding in the cargo area of pickup trucks and the laws of some of the States which do address the issue are not precise.

20. The hazards of riding in the cargo area of vehicles should be made known to the public and should be brought to the attention of high school driver education instructors.

RECOMMENDATIONS

As a result of this study, the National Transportation Safety Board reiterated its recommendation that the National Committee on Uniform Traffic Laws and Ordinances:

> Establish model guidelines for prohibiting passengers from riding in open cargo areas of vehicles that are not being used for work-related purposes. (Class II, Priority Action) (H-79-40)

and further recommended that the National Committee on Uniform Traffic Laws and Ordinances:

> Revise Section 10-2 of the Model Traffic Ordinance and add a section to the Uniform Vehicle Code which effects the provisions of the model guidelines developed for Safety Recommendation H-79-40. (Class II, Priority Action) (H-81-60)

The Safety Board further recommended:

--to the National Highway Traffic Safety Administration:

> In cooperation with the Insurance Institute for Highway Safety and the Motor Vehicle Manufacturers Association, support the National Committee on Uniform Traffic Laws and Ordinances in the development of model guidelines for legislation prohibiting passengers from riding in open cargo areas of vehicles that are not being used for work-related purposes. (Class II, Priority Action) (H-81-61)

--to the Insurance Institute for Highway Safety:

> In cooperation with the National Highway Traffic Safety Administration and the Motor Vehicle Manufacturers Association, support the National Committee on Uniform Traffic Laws and Ordinances in the development of model guidelines for legislation prohibiting passengers from riding in open cargo areas of vehicles that are not being used for work-related purposes. (Class II, Priority Action) (H-81-62)

--to the Motor Vehicle Manufacturers Association:

In cooperation with the the National Highway Traffic Safety Administration and the Insurance Institute for Highway Safety, support the National Committee on Uniform Traffic Laws and Ordinances in the development of model guidelines for legislation prohibiting passengers from riding in open cargo areas of vehicles that are not being used for work-related purposes. (Class II, Priority Action) (H-81-63)

--to the Motor Vehicle Manufacturers Association and the Automobile Importers of America, Inc.:

Encourage their members to provide an effective reminder to passengers not to ride in the open cargo area of a vehicle. (Class II, Priority Action) (H-81-64)

Encourage their members to include information in the vehicle owner's manual concerning the hazards of riding in the open cargo area of a vehicle. (Class II, Priority Action) (H-81-65)

--to the National Safety Council:

Disseminate information to the public concerning the hazards of riding in the open cargo area of a vehicle. (Class II, Priority Action) (H-81-66)

Disseminate information to high school driver education officials concerning the hazards of riding in the open cargo area of a vehicle. (Class II, Priority Action) (H-81-67)

--to the Governors of the 50 States:

Review existing laws and revise as necessary to prohibit passengers from riding in the cargo area of a vehicle, except during work-related activities. (Class II, Priority Action) (H-81-68)

If no such law exists, enact legislation to prohibit passengers from riding in the cargo area of a vehicle, except during work-related activities. (Class II, Priority Action) (H-81-69)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JAMES B. KING
Chairman

/s/ PATRICIA A. GOLDMAN
Member

/s/ G. H. PATRICK BURSLEY
Member

ELWOOD T. DRIVER, Vice Chairman, and FRANCIS H. McADAMS, Member, did not participate.

August 11, 1981

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