STATUS REPORT
INSURANCE INSTITUTE FOR HIGHWAY SAFETY
Vol. 36, No. 10, November 15, 2001

Whether large trucks are less hazardous depends on which crash death rates you look at

Biggest problem is still for people in passenger vehicles

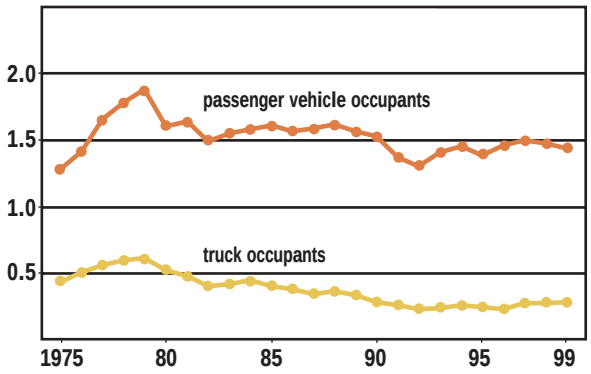
Trucking industry officials say the trend is positive, pointing out that large truck crash death rates per mile traveled have come down. This fact has attracted some attention in light of recent regulatory proposals that would, among other things, change the hours truckers would be allowed to drive (see *Status Report*, October 21, 2000; on the web at www.highwaysafety.org). But the decline in the per-mile death rate doesn't tell the whole story. "Different pictures of truck safety emerge depending on what measures you use," says Institute

Two views about whether the safety of large trucks is improving

PER MILE: Deaths in large truck crashes per 100 million truck miles

Measured per mile, occupant deaths in large truck crashes are decreasing (above). But when deaths are measured per capita (below), truck crash deaths aren't any less of a problem now than 25 years ago. In either case (per mile or per capita), the burden is greatest for passenger vehicle occupants in crashes with large trucks.

PER CAPITA: Deaths in large truck crashes per 100,000 population



researcher Stephen Lyman. "Truck safety has improved, but not in all respects, and more can be done."

A new Institute study takes stock of U.S. trends, using a range of indicators to examine deaths in large truck crashes during 1975-99. Occupant death rates were calculated per capita, per licensed driver, per registered truck, and per mile driven.

What emerges is that the overall public health burden of large truck crashes hasn't improved since 1975. In 1999, 4,663 passenger vehicle and large truck occupants died in large truck crashes — a rate of 1.71 per 100,000 population. Back in 1975, the toll was 3,673 occupant deaths at a rate of 1.70 per 100,000.

The trucking industry points to a different measure. Total truck mileage has increased almost 150 percent since 1975. More trucks are on the road. Yet overall occupant deaths per mile traveled have dropped almost 50 percent. In other words, for every mile driven by a truck half as many people are dying in truck crashes.

"It's because of the rise in mileage that the public health burden of large truck crashes hasn't lessened, even though deaths per mile have dropped," Lyman says.

The decline in per-mile death rates in large truck crashes has been greater among truck *(continues on p.6)*

Don't permit interstate truck drivers who are younger than 21, Institute advises

The Institute strongly opposes a proposal to lower the minimum age requirement for drivers of large trucks. "Research consistently has found that young truck drivers have very high crash risks relative to older truck drivers, including strikingly elevated risks for involvement in fatal and serious injury crashes," says Institute senior researcher Elisa Braver. Yet the Truckload Carriers Association (TCA) has petitioned the Federal Motor Carrier Safety Administration for a pilot program to permit drivers younger than 21 to operate large trucks across state lines.

For a number of reasons, the Institute objects:

1. TCA says there are "no crash data for commercial drivers under age 21," but Braver points to ample research from studies of young drivers legally permitted to operate trucks within state boundaries or in other countries. Studies in the United States and Australia report fatal crash rates four to six times as high for young truckers compared with older drivers. Similar increases have been observed for crashes resulting in serious injuries or property damage.

2. TCA's proposal would require training of young drivers, which TCA says "has never before been a precondition for commercial licensing." However, numerous studies have shown the limited efficacy of driver training in reducing crash risks (see *Status Report*, May 19, 2001; on the web at www.highwaysafety.org).

3. TCA and others argue that younger truck drivers can carry out their duties responsibly because, after all, the military relies on 18-20 year-olds to operate trucks and weapons systems. Yet research published last year indicates that soldiers younger than 21 are hospitalized for motor vehicle injuries at about five times the rate of soldiers older than 40. The Center for Army Lessons Learned reported that during Desert Storm and Desert Shield "young truck drivers often traveled up and down main supply routes at hazardous speeds. This accounted for several unnecessary deaths." These findings aren't surprising, Braver points out, "given the well-documented risks that are seen with other young drivers."

4. TCA's proposal is viewed by some as a form of graduated licensing. But this isn't a good comparison, Braver says. Graduated licensing for young passenger vehicle drivers is designed to reduce the high crash risk of people who already are part of the driving population, while TCA would introduce a new group of high-risk drivers into the ranks of long-haul truckers.

5. The Institute questions the validity of the data that would be generated from the pilot program. To produce valid data, there would need to be a comparison group with similar travel patterns, an adequate sample size, thorough and objective methods of data collection, and a valid plan for statistical analysis. TCA's petition provides no evidence that any of these essential criteria would be met.

'Click It or Ticket' expands beyond North Carolina

A safety belt campaign that has prompted record numbers of North Carolinians to buckle up since 1993 expanded this year to seven more southeastern states.

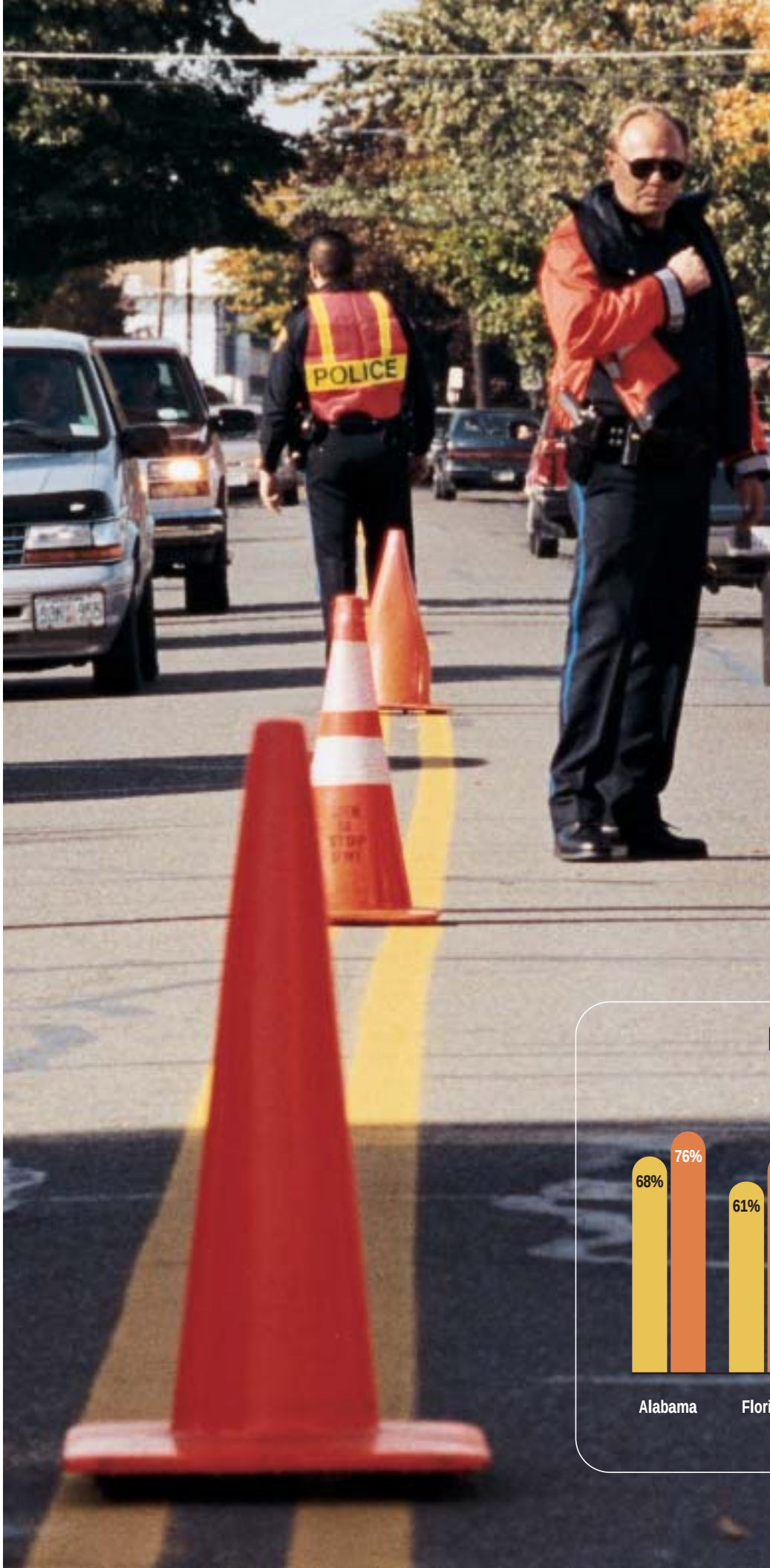
Support from auto insurers helped launch "Click It or Ticket" more than eight years ago (see *Status Report*, March 7, 1998; on the web at www.highwaysafety.org). It was the first statewide program to feature highly publicized enforcement of a belt use law, resulting in a jump in the buckle-up rate from 65 to 80 percent in the program's first year. North Carolina's safety belt use rate rose as high as 84 percent in subsequent years.

"Click It or Ticket" has continued in North Carolina, one of only a handful of U.S. states to maintain a belt use rate of 80 percent or more, and now other states are following the "Click It or Ticket" model. South Carolina adopted the program in November 2000, and in May 2001 six more states — Alabama, Florida, Georgia, Kentucky, Mississippi, and Tennessee — joined North and South Carolina for a coordinated campaign.

This multistate effort, the first of its kind, increased belt use 9 percentage points, from 65 to 74 percent, across the region in just under a month. Funding for the event came from the National Highway Traffic Safety Administration and the Air Bag & Seat Belt Safety Campaign.

U.S. Transportation Secretary Norman Mineta commends the program, saying the participating states are responsible for more than 4.5 million new belt users.

Tried-and-true model: The spreading success is exactly what "Click It or Ticket" was intended to achieve, says Institute chief scientist Allan Williams. "The idea behind the program always was to create a model that other states could use," Williams says. "The approach worked in North Carolina, which is why it's still being used. Now other states are seeing it can work for them."



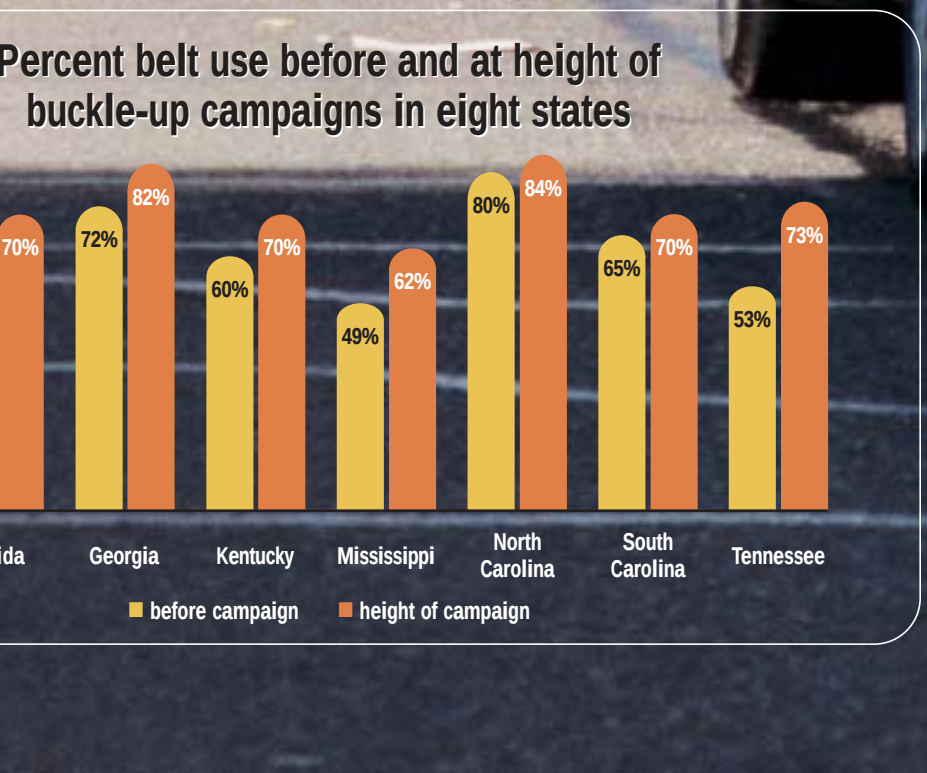
Publicity adds weight to enforcement: "Click It or Ticket" works because it combines stepped-up enforcement such as checkpoints and special safety belt patrols with publicity that has an enforcement message. "Many people will buckle up simply because it's the law. For those who don't, the threat of a ticket can provide the motivation," Williams explains. "That's why it's so important to publicize the enforcement and make it visible to motorists."

The idea behind 'Click It or Ticket' always was to create a model that other states could use. Now Alabama, Florida, Georgia, Kentucky, Mississippi, South Carolina, and Tennessee are following the model.

More than 26,000 checkpoints or patrol events were conducted throughout the Southeast during the recent buckle-up effort. To alert drivers to the intensified enforcement, public service announcements and about $3.5 million in paid advertisements were aired both before and during the campaign.

States with lowest rates improve most: Among the eight participating states, belt use increased most in Mississippi and Tennessee where use rates before the start of the program were lowest. But gains were recorded in all eight states, according to observational surveys conducted before and at the height of the campaign.

The highest belt use rates, both before and after the campaign, were in Alabama, Georgia, and North Carolina, the three states with standard (or primary) safety belt laws. The other five states have secondary laws, under which drivers can be ticketed for not using a belt only if they've been pulled over for another violation.



(continued from p.3) occupants. "To the extent that overall truck safety has improved, passenger vehicle occupants haven't benefited as much," Lyman says. Truck occupant death rates per mile fell 67 percent between 1975 and 1999. Among passenger vehicle occupants, the death rate in large truck crashes fell less — 43 percent.

The problem is the physics involved when a passenger vehicle collides with a large truck. The occupants of the smaller, lighter vehicle have far less chance of surviving. In two-vehicle crashes involving a large truck and a passenger vehicle, 98 percent of the deaths occur among passenger vehicle occupants.

"More could be done to protect truck drivers as well as the people who are sharing the road with them," Lyman says. "Potential countermeasures include changing large trucks by modifying the front ends to make them more compatible with passenger vehicles. We also need measures that are focused on drivers of both cars and trucks to, for example, increase safety belt use, reduce fatigue among truck drivers, and reduce alcohol involvement among the passenger vehicle drivers."

For a copy of "Occupant deaths in large truck crashes in the United States: 25 years of experience" by S. Lyman et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington VA 22201.

WOMEN DRIVERS
aren't riskier; they're in more fatal crashes these days because they're driving more

More women are driving today than a few decades ago, and they're driving more miles. Their crashes have gone up as well — the number of female drivers in fatal crashes has risen 60 percent since 1975, while male drivers' crash involvements have declined 10 percent. So while women accounted for fewer than one in five drivers in fatal crashes in 1975, they account for more than one in four today.

Women haven't become riskier drivers. They're simply driving more, which has increased their exposure to crashes.

"There's some speculation that women are driving more aggressively, making them more crash-prone," says Susan Ferguson, the Institute's senior vice president for research. "Actually, their fatal crash rates haven't increased since the mid-1970s, if you factor in the number of women driving and their amount of travel."

Canada's Traffic Injury Research Foundation and the Institute recently studied trends in fatal crashes involving male and female drivers from 1975 to 1998. Data are from the federal government's Fatality Analysis Reporting System, an annual census of all fatal traffic crashes in the United States. The study also examines whether changes in exposure — the number of licensed drivers and their annual mileage — could account for the crash trends.

Licensing and mileage turn out to be the critical factors. Since 1975, there's been a 55 percent increase in the number of women licensed to drive. Meanwhile, the population of male drivers has grown 32 percent.

Annual mileage per driver also has increased at a faster rate among women, who on average drove 71 percent more miles a year in 1995 than they did in 1977. This compares with a 24 percent mileage hike among men.

Taking these increases into account, it's clear that women haven't become any more crash-prone. Fatal crash rates per 100,000

Changes in fatal crash involvements, by driver gender, 1975-98

		involvements	change
MEN	1975	45,084	—
	1985	44,290	– 2%
	1998	40,360	– 9%
WOMEN	1975	9,356	—
	1985	12,031	+ 29%
	1998	14,937	+ 24%

Fatal crash involvements are increasing among women while they're decreasing among men (above). This is accounted for by the fact that women are driving much more, while men aren't increasing their mileage as much. On a per-mile basis, fatal crash involvement rates for both men and women are declining (right).

Drivers in fatal crashes per 100 million miles, 1977-95

female drivers have been stable since the mid-1970s. Per-mile rates have declined about 40 percent, the same as for men.

"Whatever the factors are that have been lowering the overall driver fatality rates per mile, women and men are benefiting equally from these factors," Ferguson points out.

The characteristics of crashes also suggest that women aren't engaging in riskier driving behavior. There have been decreases since 1975 in the percentages of female (and male) drivers in fatal crashes who weren't using their safety belts, who were drinking, or who had previous crashes or convictions on their records.

Important gender differences still exist. Male drivers' fatal crash rates per mile are about 1.8 times those of women — a difference basically unchanged from 25 years ago. Men also are more likely to be in crashes involving a single vehicle and crashes that occur at night and on weekends. Men are less likely to use their safety belts and more likely to have been drinking prior to their crashes. They're also more likely than women to have suspended licenses or previous convictions.

For a copy of "Trends in fatal crashes involving female drivers, 1975-1998" by D. Mayhew et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington VA 22201.

STATUS REPORT

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

1005 N. Glebe Rd., Arlington, VA 22201
703/247-1500 Fax 247-1588
Internet: www.highwaysafety.org

Vol. 36, No. 10, November 15, 2001

On the inside

ISSN 0018-988X

The Insurance Institute for Highway Safety is an independent, nonprofit, scientific and educational organization dedicated to reducing the losses — deaths, injuries, and property damage — from crashes on the nation's highways. The Institute is wholly supported by automobile insurers:

Alfa Insurance
Allstate Insurance Group
American Express Property and Casualty
American Family Insurance
American National Property and Casualty
Amica Mutual Insurance Company
Amwest Insurance Group
Auto Club South Insurance Company
Automobile Club of Michigan Group
Baldwin & Lyons Group
Bituminous Insurance Companies
Brotherhood Mutual
California Insurance Group
California State Automobile Association
Chubb Group of Insurance Companies
Church Mutual
Colonial Penn
Concord Group Insurance Companies
Cotton States
Country Insurance & Financial Services
Erie Insurance Group
Farmers Insurance Group of Companies
Farmers Mutual of Nebraska
Fidelity & Deposit
Foundation Reserve Insurance Company
Frankenmuth
The GEICO Group
General Casualty Insurance Companies
General Electric Financial Assurance
GMAC Insurance Group
Grange Insurance
Harleysville Insurance Companies
The Hartford
Idaho Farm Bureau
Instant Auto Insurance
Kansas Farm Bureau
Kemper Insurance Companies
Liberty Mutual Insurance Group
Merastar
Mercury General Group
MetLife Auto & Home
Middlesex Mutual
Montgomery Insurance Companies
Motor Club of America Insurance Company
Motorists Insurance Companies
MSI Insurance Companies
National Automobile & Casualty
National Grange Mutual
Nationwide Insurance
North Carolina Farm Bureau
Oklahoma Farm Bureau
Old Guard Insurance
OneBeacon Insurance
Oregon Mutual Group
OrionAuto
Palisades Safety and Insurance Association
Pekin Insurance
PEMCO Insurance Companies
The Progressive Corporation
Prudential Financial
Response Insurance
Rockingham Group
Royal & SunAlliance
SAFECO Corporation
SECURA
Shelter Insurance Companies
State Auto Insurance Companies
State Farm Insurance Companies
The St. Paul Companies
Tokio Marine
USAA
Virginia Farm Bureau
Virginia Mutual Insurance Company
Yasuda Fire & Marine of America
Zurich North America