



STATUS

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CONTRARY TO EXPECTATIONS,

senior drivers aren't causing more crashes than they used to. Nor are they dying more often in crashes, even though they hold onto their licenses longer. In fact, the rate of fatal crashes per licensed driver 70 and older declined from 1997 to 2008. Rates of less

severe crashes reported to police officers went down, too.

These declines weren't anticipated. Nine years ago Institute researchers, noting the growing proportion of the US population represented by people 65 and older, expressed concern about the risk (see *Status Report*, Sept. 8, 2001; on the web at iihs.org). Older people's high crash rates when they drive, together with their increase in driving, indicated a problem might be emerging. But it hasn't emerged, at least not yet.

The explanation isn't simply that an ailing economy is reducing crashes, deaths, and injuries. This is true as far as it goes, but the economy is influencing miles driven and crash rates among people of all ages. It doesn't explain the disproportionate decrease in the crash rates of older drivers versus middle-age people during 1997-2008.

At least a partial explanation may be that older people are policing themselves. The ones who need to curtail driving, or stop altogether, may be doing so on their own (see *Status Report*, Dec. 27, 2008; on the web at iihs.org). A new Institute study points to state licensing policies that can reinforce these self-imposed limitations.

Older versus middle age: About 28 million people in the United States were 70 and older in 2008. About 78 percent of them had driver's licenses, up from 73 percent of 24.4 million older people in 1997. At the same time, fatal passenger vehicle crashes per licensed driver in this age group fell about 37 percent, a new Institute study reveals. The most dramatic decline was among drivers 80 and older,

whose fatal crash rate went down by almost half. In contrast, the rate among drivers 35-54 years old dropped 23 percent.

"If the crash trends of drivers 70 and older had mirrored the experience of middle-age drivers, we estimate that about 10,000 additional older drivers would have been in fatal crashes during 1997-2008," says Anne McCartt, Institute senior vice president for research and an author of the new report. Most of the additional deaths would have been among drivers 80 and older.

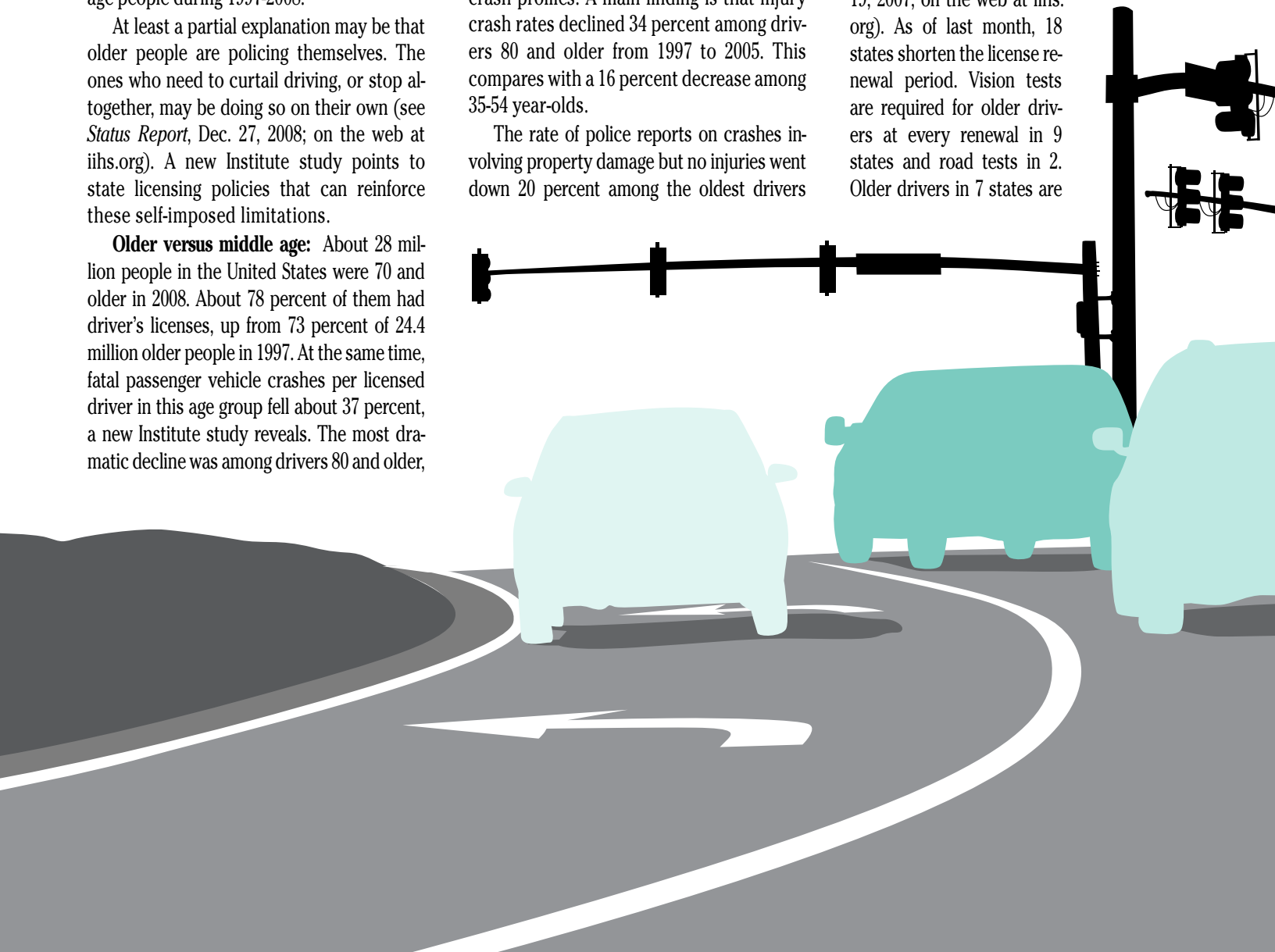
Crash risk and odds of survival: To separate the possible contributions of crash risk versus surviving a crash once it happens, Institute researchers focused on collisions of all severities in 13 states that provide a reasonably representative sample of the US population of older drivers and crash profiles. A main finding is that injury crash rates declined 34 percent among drivers 80 and older from 1997 to 2005. This compares with a 16 percent decrease among 35-54 year-olds.

The rate of police reports on crashes involving property damage but no injuries went down 20 percent among the oldest drivers

while staying about the same among people 35-54 years old. At the same time, the odds of an older person surviving a crash are on the increase. Researchers calculate that a driver 70 or older is about 3 times as likely as someone 35-54 years old to sustain a fatal injury in a crash. This ratio, based on 2005 data, is down from 3.5 in 1997.

"Trends for older drivers are improving both ways," McCartt explains. "Seniors are less likely to get into police-reported crashes in the first place, and they're less likely to die from their injuries when they do crash. This isn't what we expected, given driver demographics and other influences."

Licensing provisions for older drivers: States can impose restrictions as drivers age, and some jurisdictions have been doing it for years (see *Status Report*, March 19, 2007; on the web at iihs.org). As of last month, 18 states shorten the license renewal period. Vision tests are required for older drivers at every renewal in 9 states and road tests in 2. Older drivers in 7 states are



prohibited from renewing licenses by mail or electronically. To compare licensing provisions among all 50 US states, go to iihs.org/laws.

Programs in Iowa identify potentially unfit drivers and administer road tests. The license of a driver who doesn't pass the test may be suspended, although more often the result is a restricted license that prohibits driving at specified times or places.

Institute researchers interviewed more than 500 people 70 and older in Iowa shortly after they renewed their licenses, finding those with state-imposed driving restrictions older and generally more impaired in terms of vision and physical mobility than drivers who didn't have to take the road test or who passed it. Many of the drivers with restricted licenses already were limiting their own driving at night and on high-speed roads.

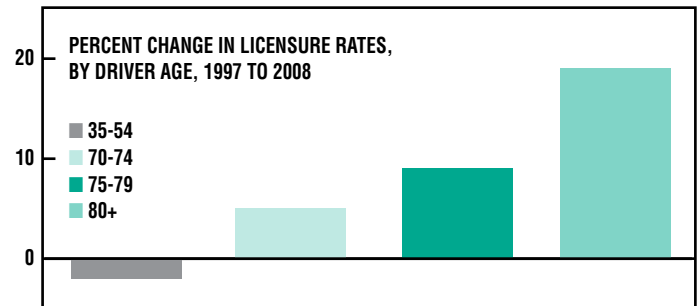
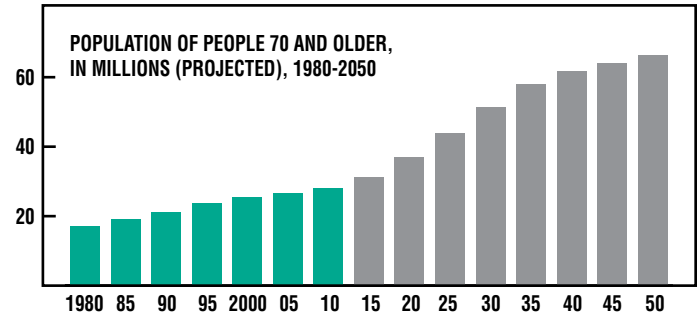
Six-month follow-up interviews revealed that most restricted drivers were in compliance. They had decreased their weekly mileage more than unrestricted drivers and reduced driving at night and on high-speed roads.

"With or without state action, it looks like older people are doing a good job of addressing their own driving abilities," McCartt says. "This may be a reason we're not seeing the increases in older driver crashes and crash deaths that were anticipated a few years ago."

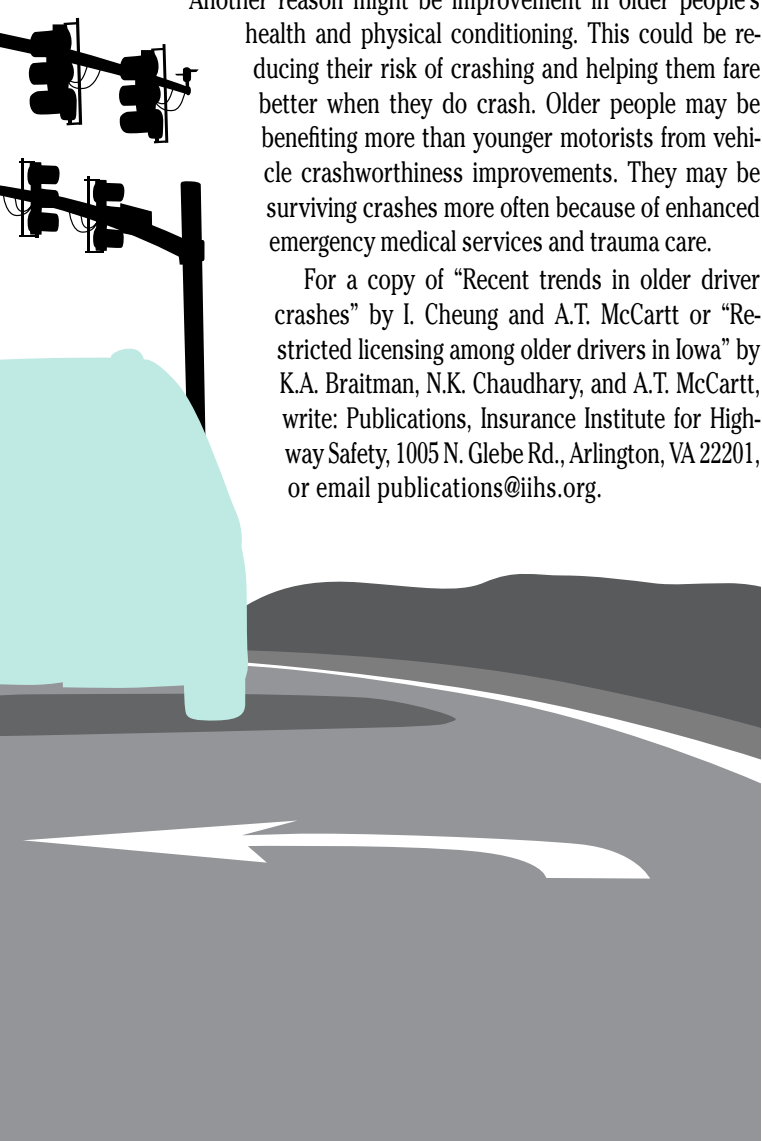
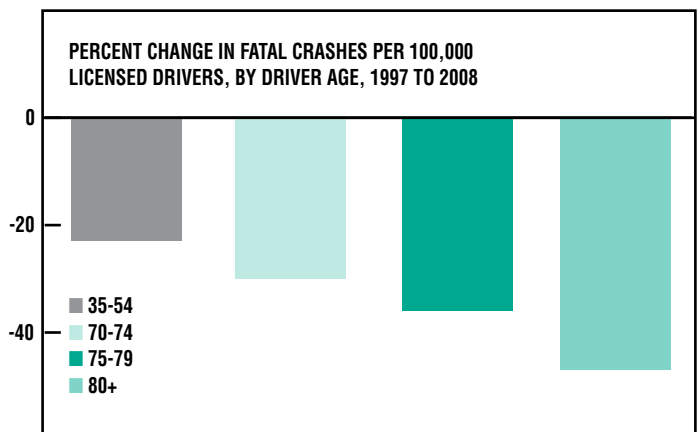
Another reason might be improvement in older people's health and physical conditioning. This could be reducing their risk of crashing and helping them fare better when they do crash. Older people may be benefiting more than younger motorists from vehicle crashworthiness improvements. They may be surviving crashes more often because of enhanced emergency medical services and trauma care.

For a copy of "Recent trends in older driver crashes" by I. Cheung and A.T. McCartt or "Restricted licensing among older drivers in Iowa" by K.A. Braitman, N.K. Chaudhary, and A.T. McCartt, write: Publications, Insurance Institute for Highway Safety, 1005 N. Glebe Rd., Arlington, VA 22201, or email publications@iihs.org.

OLDER DRIVER TRENDS



THE POPULATION OF OLDER PEOPLE IS GROWING. PEOPLE 70 AND OLDER ARE HOLDING ONTO THEIR LICENSES LONGER THAN THEY USED TO. AT THE SAME TIME, THEIR CRASH RISK IS DECLINING MORE THAN IT IS FOR MIDDLE-AGE DRIVERS. THIS ISN'T SIMPLY BECAUSE AN AILING ECONOMY IS REDUCING CRASH RISK. IT MAY BE THAT OLDER PEOPLE ARE RESTRICTING THEIR OWN DRIVING. STATE LICENSING POLICIES CAN REINFORCE THE SELF-IMPOSED LIMITATIONS.



DWI OFFENDERS PICK INTERLOCKS OVER HOUSE ARREST

Alcohol ignition interlocks are a proven way to reduce repeat offenses for driving while intoxicated (DWI), but given a choice most offenders don't voluntarily put them in their vehicles. Even when installation is mandatory, some offenders may sidestep the requirement by agreeing not to drive at all or claiming not to have a vehicle. When the alternative is house arrest, though, convicted DWI offenders pick interlocks 7 out of 10 times. This is the main finding of a Pacific Institute for Research and Evaluation study of one New Mexico county's experience with interlocks.

The study looks at Santa Fe, where four judges agreed to a 2-year pilot to sentence all DWI offenders, including first-timers, to home confinement via electronic monitoring as an alternative to interlocks if they claimed to have no car or no intention to drive. The aim was to boost DWI offenders' use of interlocks.

At the time, the state required interlocks for all convicted multiple DWI offenders and first aggravated offenders (BACs of 0.16 percent or higher).

Interlocks prevent alcohol-impaired drivers from starting their vehicles. Drivers blow into a breath-testing unit and must register a blood alcohol reading below a preset level, which is usually well under the legal blood alcohol concentration (BAC) threshold of 0.08 percent, in order to start the vehicle. If the reading exceeds the level, the engine won't turn over.

Researchers compared Santa Fe's installation rates between June 1, 2003, and May 31, 2005, with all other New Mexico counties. During this period, 70 percent of drivers convicted of DWI in Santa Fe installed interlocks, compared with 17 percent in other counties. The finding is in line with a 2002 study of a similar program in Hancock County, Indiana.

The judges stopped using the house-arrest option in 2006 after a state court rejected this sanction. Santa Fe's interlock installation rate fell 19 percentage points in the 2 years following the program's termination. But installations rose in most other counties during the 2006-07 period after New Mexico began to require interlocks for all



convicted DWI offenders, not just those committing an aggravated offense.

New Mexico's results show that "motivating interlock installation by providing a less desirable alternative to the interlock can substantially increase the number of DWI offenders who install interlocks," the authors note.

Interlocks successfully reduce the risk that repeat offenders will commit further violations, a 1999 Institute study found. Interlock restrictions reduced the risk of committing an alcohol-related traffic violation within the first year following conviction by nearly 65 percent (see *Status Report*, Jan. 15, 2000; on the web at ihs.org).

More than half of all US states require DWI/DUI offenders to install ignition interlocks on their vehicles in order to drive during a license suspension and/or require interlocks for specified time periods before fully relicensing offenders.

In New Mexico and 12 other states, all offenders must get interlocks to legally drive during the suspension period. California applies a similar restriction to all offenders but only in 4 counties. Nine more states apply the restriction to all offenders with high BACs (usually 0.15 percent or higher) and to repeat offenders, and 6 states apply the restriction to only repeat offenders. Courts or motor vehicle departments in 18 states and the District of Columbia have the discretion to require interlocks.

Vermont and Minnesota in May adopted interlock laws, both of which take effect in July 2011. Vermont will allow DWI offenders, including first-timers, to shorten license suspension by installing an interlock. Vermont had been among the 3 states, along with Alabama and South Dakota, with no interlock laws. Minnesota's law covers high-BAC and repeat offenders.

Last month Tennessee amended its existing interlock law to authorize courts to require interlocks for high BAC offenders as part of a restricted driver's license, in addition to repeat offenders covered under the prior law. The revised law allows first offenders to voluntarily ask to drive only an interlock-equipped vehicle at their own expense, even if the court doesn't order them to use one. The law takes effect in January 2011.

"A note on the effectiveness of the house-arrest alternative for motivating DWI offenders to install ignition interlocks" by R. Roth et al., appears in the December 2009 issue of the *Journal of Safety Research*.

DRINKING AND RELATED PROBLEMS DECLINE WHEN ALCOHOL COSTS MORE

One way to deter the excessive drinking that can lead to crashes is to make purchasing alcohol more expensive. This is the main finding of a review of 72 studies worldwide that evaluated alcohol price and tax approaches to curb binge drinking, underage drinking, and alcohol-impaired driving. On average, the studies indicate that a 10 percent rise in alcohol prices would be expected to result in a drop of 3 to 10 percent in alcohol consumption along with problems associated with excessive drinking. Studies found a similar effect on deaths and injuries in alcohol-related crashes.

The Task Force on Community Preventive Services, made up of US public health and prevention experts appointed by the Centers for Disease Control, conducted the review of papers published before July 2005 with support from both the Centers for Disease Control and the US Department of Health and Human Services. The task force recommends the best practices for public health interventions.

Nearly all of the 72 studies found an inverse relationship between the tax or price of alcohol and indices of excessive drinking or alcohol-related problems, including crashes. Results were consistent among alcohol types — wine, beer, and liquor — and across countries, time periods, and study designs. Studies that looked at underage drinkers also found convincing evidence that increasing the cost of alcohol reduces consumption and problem drinking. More research is needed to determine the benefits of increasing taxes on all alcohol at once compared with selectively raising taxes on specific beverages, the task force states.

Prior studies by the group found strong evidence that ignition interlocks, sobriety checkpoints, and the legal drinking age of 21 are effective interventions to combat alcohol-impaired driving.

"The effectiveness of tax policy interventions for reducing excessive alcohol consumption and related harms" by R.W. Elder et al., appears in the February 2010 issue of the *American Journal of Preventive Medicine*.



AGENCY REJECTS RECORDER RULE FOR ALL BIG RIGS

The latest move by the Federal Motor Carrier Safety Administration (FMCSA) to tackle the problem of too-tired truckers amounts to no more than window dressing. Electronic onboard recorders that automatically track truckers' time on the road and rest breaks could reduce the problem of doc-

FMCSA is considering a wider mandate likely to focus on carriers considered high risk, such as buses, hazardous materials haulers, and new carriers.

"If the agency were committed to safety the US would have an onboard recorder rule for all carriers," says Anne McCartt, Institute senior vice president for research. "This piecemeal approach doesn't begin to address the scope of the problem."

The rule covers more carriers than initially proposed but doesn't go far enough. FMCSA estimates that nearly 5,700 interstate

and July 16, 2005; on the web at iihs.org). Investigations by the National Transportation Safety Board, which advocates recorders for all large trucks, have repeatedly found that some drivers falsify logs, and some carriers don't closely monitor their drivers' hours-of-service compliance.

FMCSA says it will flag carriers that must use recorders, but inspectors say it's easier to enforce rules that apply to all drivers. Because there's no single design standard for the devices — just a performance standard — some enforcement groups question whether the technology and training inspectors need to read and analyze recorder data will be readily available. Concerns also have been raised about technical specifications that leave open the possibility that drivers might be able to tamper with electronic logs.

The Commercial Vehicle Safety Alliance says all carriers should be subject to the requirement. This group represents motor carrier safety officials and industry representatives in Canada, the United States, and Mexico.

"We believe a universal mandate of electronic logging technology is critical so we can ensure a more reliable method of assessing compliance and enforcing hours of service," Francis "Buzzy" France, president of the alliance and Maryland State Police administrative officer, told a US Senate transportation subcommittee in April. France said the new rule doesn't go far enough to address technical considerations such as data security, driver identification, tampering, device compatibility, and a standard interface so officers can easily read data.

Last fall FMCSA agreed to begin work on a new hours-of-service rule that could allow truckers more rest. The deal is part of a settlement with Public Citizen, Advocates for Highway and Auto Safety, the Truck Safety Coalition, and the Teamsters, which sued to block work rules issued in 2003 (see *Status Report*, Feb. 14, 2009; on the web at iihs.org). FMCSA plans a final rule no later than July 2011, administrator Anne Ferro said in April.

Electronic recorders are required in big rigs in the European Union, Japan, South Korea, Brazil, and Venezuela. Work is under way in Canada toward a universal mandate.



tored paper logbooks and help curb work-rule violations that can lead to crashes. The Institute and others have repeatedly recommended recorders for all carriers. Instead, FMCSA has mandated them for just the worst habitual offenders, which account for a very small percentage of truckers.

Under the final rule issued in April, commercial truck and bus carriers must install electronic recorders fleetwide and use them for at least 2 years if violations of hours-of-service rules are uncovered in 10 percent or more of fleet records during a single compliance review. The requirement goes into effect June 2012.

carriers will be affected after the rule's first year. There were more than 600,000 interstate carriers in the United States in November 2009, according to FMCSA and the American Trucking Associations. Studies of long-distance truckers indicate work rules commonly are flouted. Drivers pressured to meet tight deadlines often doctor paper records so they will pass muster with roadside inspectors.

About a third of drivers interviewed by the Institute in 2003, 2004, and 2005 admitted to often or sometimes omitting hours from their logs. One in 5 drivers reported falling asleep at the wheel during the previous month (see *Status Report*, Oct. 7, 2006,

STABILITY CONTROL REDUCES FATAL CRASH RISK BY A THIRD, SHARPLY CUTS ROLLOVER RISK

Electronic stability control (ESC) for passenger vehicles remains one of the most effective technologies yet developed for preventing fatal crashes, especially single-vehicle rollovers. ESC helps drivers in the event of loss of control at high speeds or on slippery roads. It lowers the risk of a deadly crash by 33 percent and cuts the risk of a single-vehicle rollover by 73 percent.

These are the main findings of a new Institute study updating earlier estimates of the crash-avoidance technology's benefits. The new estimates are about 7-10 percentage points smaller than the Institute found in 2006. One reason may be differences in the way early ESC-equipped

vehicles were driven and how they were used compared with the vehicles of today.

"Sports cars and luxury models were the first to get ESC," says Anne McCartt, Institute senior vice president for research. "People tend to drive these cars faster and more aggressively than family vehicles, getting into the risky situations that lead to the loss of control crashes ESC is designed to prevent."

Lots of everyday drivers "rarely get into situations where ESC would take over," McCartt adds. "The good news is that ESC still works well when it's needed. That's why it's one of the requirements for *TOP SAFETY PICK*."

ESC could have prevented an estimated 15,600 fatal crashes in 2002-08 if all new passenger vehicles had been equipped with the technology.

First introduced in 1995, ESC helps drivers control their vehicles during high-speed maneuvers like entering curves too fast or swerving to avoid animals on slippery highways (see *Status Report*, June 13, 2006; on the web at iihs.org). Even before a driver knows there's a problem, ESC senses when a vehicle strays from the intended travel path or begins to spin out. Then the system automatically brakes individual wheels and sometimes reduces throttle to keep the vehicle under control and moving in the intended direction of travel.

In the latest study, Institute researchers examined a total of 10 years of crash data, comparing fatal crash involvement rates per registered passenger vehicle for identical models with and without ESC. Data on fatal crashes during 1999-2008 were from the Fatality Analysis Reporting System, a federal database of fatal crashes in all 50 states.

ESC reduces fatal crash risk by 49 percent in single-vehicle passenger vehicle crashes and 20 percent in multiple-vehicle crashes. Effectiveness estimates are higher for SUVs than for cars — 35 percent for SUVs compared with 30 percent for cars — but the difference isn't statistically significant. SUVs tend to have a higher center of gravity than cars, so they are more likely to get into the kinds of loss-of-control and rollover crashes that ESC helps prevent.

Many single-vehicle crashes involve rolling over, and ESC plays a big role in preventing these types of crashes. ESC was associated with a 73 percent reduction in single-vehicle rollover fatal crash involvement risk and a 59 percent reduction in single-vehicle fatal crash risk on wet or slippery roads. For the 2010 model year, ESC is standard on 88 percent of cars, 100 percent of SUVs, and 62 percent of pickups. By 2012 all new cars, SUVs, and pickups must have ESC.

For a copy of "Effects of electronic stability control on fatal crash risk" by C.M. Farmer, write: Publications, Insurance Institute for Highway Safety, 1005 N. Glebe Rd., Arlington, VA 22201, or email publications@iihs.org.



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