

# STATUS REPORT

INSURANCE INSTITUTE  
FOR HIGHWAY SAFETY

Vol. 39, No. 4, March 27, 2004

Some of us need a  
**REMINDER**

**More and more automakers  
are reminding us to buckle up**

Safety belt use on U.S. roads approaches 80 percent, up from fewer than 20 percent in the early 1970s. But what about the holdouts, those who are hard to convince to buckle up? Ford was first among automakers to try to reach these motorists by going beyond the safety belt reminder systems required in all passenger vehicles. Now, spurred by the National Highway Traffic Safety Administration (NHTSA), virtually every automaker is going beyond the sound-and-light warning



that's required if a driver's safety belt isn't fastened. This warning is brief. NHTSA isn't allowed to require any sound persisting longer than eight seconds.

"It's easy to ignore such a brief warning," says Institute chief scientist Allan Williams, "and under current federal law it isn't possible for NHTSA to require longer warnings that might prove more effective."

But automakers may install any kind of reminder they want. The first voluntary system, a chime-and-light sequence that persists in intervals for up to five minutes if a driver doesn't buckle up, was introduced in 2000 model Fords.

"Call it benevolent nagging. The chime Ford uses isn't unpleasant, and it keeps on reminding you for five minutes. When we evaluated this system we found it produces a modest but important increase in belt use," Williams says (see *Status Report*, Feb. 9, 2002; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)).

Based in part on the Institute's evaluation of Ford's reminder system, NHTSA Administrator Jeffrey Runge urged all automakers in February 2002 to "consider voluntarily adding inexpensive, but effective, buckle up reminder systems" and to do so "as quickly as possible." Now reminders are in most 2004 model passenger vehicles.

**All reminders aren't alike:** There's variation among automakers in terms of the kinds of belt reminders they're using and how many models they're equipping. Audi, Ford, Hyundai, Porsche, and Volkswagen say they're putting reminders with intermittent lights and chimes in all 2004 passenger vehicles. Other manufacturers report lesser percentages. The loudness, urgency, sequence, and duration of the lights and chimes vary somewhat. General Motors adds a text message instructing drivers to buckle up.

Less elaborate reminders are in Infiniti, Lexus, Nissan, Saab, Scion, and Toyota models (except Toyota Prius). A light stays on, but no chime persists beyond eight seconds (the Prius does have a persistent chime).

In contrast, enhanced reminders aren't in any Hummers or models made by Isuzu, Land Rover, Mini, Mercedes, Subaru, or Volvo.

"Lights-only reminders haven't been evaluated yet, but the systems with audible warnings are almost certainly going to be more effective because a repeating chime or other sound is harder to ignore," Williams says.

**Idea of enhanced reminders isn't new:**

In the early 1970s when only about 20 percent of drivers were buckling up, NHTSA tried several approaches to improve the situation. First there was a mandatory 60-second buzzer light in cars without automatic restraints (virtually no cars back then had such restraints). Starting with 1974 models, cars without automatic restraints couldn't be started if front-seat occupants weren't belted.

The buzzer-light reminder wasn't effective, Institute research found, but ignition interlocks did work. A separate Institute study found 59 percent of drivers using their belts in cars with interlocks, while the use rate was only 28 percent in cars with buzzer lights.

The problem was that many motorists didn't like interlocks. Public outcry against them led Congress to prohibit NHTSA from requiring them. Congress also told the agency it couldn't require any audible signal exceeding eight seconds.

"Nowadays motorists apparently don't object so much to being reminded. Maybe interlocks still wouldn't be accepted, but reminders of the type Ford pioneered seem to be okay," Williams says. The Institute surveyed Ford owners, most of whom said they like their reminders. Almost half said they buckle up more often because they're being reminded (see *Status Report*, June 16, 2003; on the web at [www.highwaysafety.org](http://www.highwaysafety.org)).

**Belt reminders in Europe, too:** No requirement forces automakers to equip cars in the European Union with any kind of reminder (Sweden does require them). Although belt use rates exceed 90 percent in many European countries, reminders still are needed because use rates in serious crashes are lower. And now there's a powerful incentive to install reminders because doing so can boost a vehicle's consumer safety rating.

The European New Car Assessment Program rates passenger vehicles based primarily on performance in front and side crash tests. Since 2002 points may be added to a

## REMINDERS IN 2004 MODELS

### Light & chime:

<b>Acura</b> (63% of sales)	MDX & TL
<b>Audi</b>	All models
<b>BMW</b> (23% of sales)	5, 6, & 7 series
<b>DaimlerChrysler</b> (50% of sales)	Chrysler Crossfire Chrysler Pacifica & Sebring Dodge Durango Dodge Ram pickup Dodge Stratus & Viper Jeep Liberty
<b>Ford</b>	All models
<b>Honda</b> (70% of sales)	Accord & Insight Pilot & S2000 Civic except hatchback
<b>Hyundai</b>	All models
<b>Jaguar</b> (80-90% of sales)	X-Type XJ series
<b>Kia</b> (21% of sales)	Amanti & Spectra
<b>Lincoln</b>	All models
<b>Mazda</b> (40% of sales)	B-series pickup Mazda 3 & Tribute
<b>Mercury</b>	All models
<b>Mitsubishi</b> (90% of sales)	All except Montero Sport
<b>Porsche</b>	All models
<b>Suzuki</b> (28% of sales)	XL-7 only
<b>Toyota</b>	Prius only
<b>Volkswagen</b>	All models

### Light, chime, & text message:

<b>General Motors</b> (50% of sales)	Cadillac Escalade Chevrolet Avalanche Chevrolet Silverado Chevrolet Suburban Chevrolet Tahoe GMC Denali & Sierra GMC Suburban & Yukon
---	---

### Light only:

All Infiniti, Lexus, Nissan, Saab, Scion, Toyota (except Prius) models

### No enhanced reminder:

AM General (Hummer), Isuzu, Land Rover, Mini, Mercedes, Subaru, Volvo

Note: Sales estimates reflect percentages of all models sold by the manufacturer.



vehicle's crash test score for a belt reminder. The score then is translated into a star rating. To get the extra points, an audible reminder has to come on when a vehicle reaches a specified speed for a short distance and stay on for at least 90 seconds or until the driver buckles up.

The addition of reminders meeting these criteria has enhanced the star ratings of the Mercedes C class, BMW X5, Peugeot 807, Saab 9-5, and Volkswagen Touran (four to five stars, the highest rating). The Jeep Liberty's rating was bumped from three to four stars.

Some automakers are exploring or using more elaborate systems. Saab, for example, tested one that gets louder and more persistent with increases in speed and distance since the vehicle was started. A similar system is in some Volvos sold in Europe.

**National Academy of Sciences weighs in:** Responding to a request from the U.S. Congress, a committee of the National Academy of Sciences has surveyed developments in both the United States and Europe and issued a set of findings and policy recommendations about reminder systems. The first finding is that the reminders of four to eight seconds that are required in the U.S. market have "proved ineffective." Other approaches should be pursued to increase belt use "without being overly intrusive."

In the short run NHTSA should "encourage the industry to develop and deploy" reminders similar to Ford's, the committee recommended, so every new vehicle has "as standard equipment an enhanced belt reminder system for front-seat occupants with an audible warning and visual indicator

that are not easily disconnected." NHTSA should speed the installation of reminders in rear as well as front seats. In the longer run Congress should change the statutes that prohibit NHTSA from requiring reminders lasting more than eight seconds. A proposal to do this is before Congress.

The committee didn't call for Congress to lift the prohibition on requiring ignition interlocks but did say entertainment interlocks might be an option. These would keep unbelted drivers from listening to the radio, for example, or playing CDs.

Williams, who served on the committee, says "the options are wide. Next is to find out how effective the various types of reminders are in increasing belt use, which ones work best, and which might not work at all. This will tell us where to go with the technology."

## **N.C. families heed teen driving restrictions, even though police say enforcement isn't a high priority**

Teenagers and their parents in North Carolina indicate they know about the state's graduated licensing system. For the most part, they report adhering to the restrictions imposed on beginning drivers. These are the results of a new survey of 900 teenagers and parents conducted for the Institute by the University of North Carolina Highway Safety Research Center.

The state's graduated licensing system, introduced in 1997, includes a restriction on nighttime driving that begins at 9 p.m., earlier than in most states (see *Status Report*, May 10, 1997; on the web at [www.highway-safety.org](http://www.highway-safety.org)). In 2002 North Carolina legislators added a passenger restriction. When teenagers first get their licenses, they cannot drive with more than one passenger younger than 21 unless the passengers are related to the driver.

More than 90 percent of both parents and teens knew about the night driving restriction. Almost all of those who knew about it (98 percent of parents and 96 percent of teenagers) correctly reported that it begins at 9 p.m. However, 10 percent of the teens said they had driven during the hours of restriction without their parents' knowledge. Fifteen percent said they had violated the restriction with parental approval. More than 80 percent of parents (continues on p.6)



## **It didn't work: giving parents in Tennessee more information didn't increase their involvement in the licensing process**

Educational materials that provide tips on how to become more involved in teaching teenagers to drive are appreciated by parents, but the parents don't seem to change what they actually do. This is the main finding of an Institute study of parental practices as their teenage children go through Tennessee's graduated licensing process.

The graduated system in Tennessee requires teenagers to hold their learner's permits for at least six months before they can earn an intermediate or restricted license. During the six-month learning period, teenagers must complete a minimum of 50 hours of supervised driving practice. Ten of the hours must be at night.

For the study, parents of teenagers who were applying for learner's permits were divided into three groups. One group received welcome letters by mail with minimal advice about the need to supervise practice driving sessions and establish rules about vehicle use after earning a license. Another group of parents got a more detailed letter along with a booklet of advice on how to plan and undertake practice sessions of progressive difficulty. The booklet also provided a written contract, to be signed by both parents and teens, regarding additional driving restrictions after the learner stage. A third group of parents got both the booklet and a card in the mail every other month. The cards encouraged parents to provide practice driving time and set driving limits. The cards also gave advice on how to choose safer vehicles for their children to drive.

Telephone interviews were conducted with at least 500 parents from each group approximately 13 months after their children obtained learner's permits. Although parents overwhelmingly thought the booklets and reminder cards were helpful and said these materials should continue to be provided, the researchers found no discernible effects on any measure of parental involvement during the learner stage. Nor were there any measurable changes in the teenagers' driving behaviors.

Parents reported similar amounts of supervised driving across all groups. There were no differences in reported planning of practice sessions or the number of parents who reported having a contract with their children governing driving restrictions, both of which were recommended. Parents across all three groups reported similar numbers of crashes for their children.

For a copy of "Tennessee's novice driver safety project: a program to increase parental involvement" by N.K. Chaudhary et al., write: Publications, Insurance Institute for Highway Safety, 1005 N. Glebe Rd., Arlington, VA 22201, or email [publications@iihs.org](mailto:publications@iihs.org).



(continued from p.4) and teenagers said they knew about the passenger restriction, and only 4 percent of parents reported allowing their children to drive with more than one teenage passenger in the car. But the teens themselves gave a somewhat contradictory response. Nineteen percent of them said their parents had allowed them to drive with more than one teenage passenger. Twenty percent of the teenagers said they had violated the passenger restriction without their parents' knowledge.

"Parents have a much easier time enforcing the night driving restriction compared with the restriction on passengers," says Arthur Goodwin, lead author of the survey report. "It's harder to monitor whether a teenager is out driving with passengers in the car than it is to notice whether the car is gone after 9 p.m."

Perceptions varied concerning the amount of police enforcement of graduated licensing restrictions. The majority of parents and more than one in four teenagers had no knowledge or beliefs about whether enforcement was being conducted. Among teens who had opinions, about 60 percent thought the night driving restriction was commonly enforced. Forty percent thought the passenger restriction was being enforced.

Teenagers who had violated these restrictions expressed little concern about being detected. But the majority said they do drive more carefully to avoid the attention of police.

To get a sense of what law enforcement officers think about the state's licensing restrictions, the researchers conducted informal interviews with 20 officers in 5 communities across North Carolina. Most of them expressed strong support for the graduated licensing system. At the same time, the officers indicated that enforcing this law isn't a priority. None of the jurisdictions had an enforcement program specifically aimed at drivers who are subject to restrictions under graduated licensing.

"Even though this study suggests that enforcement is perceived to be unlikely, graduated licensing has been effective in North Carolina," says Institute chief scientist Allan Williams. "Crashes among teenage drivers have been reduced, and increased enforcement could produce further reductions."

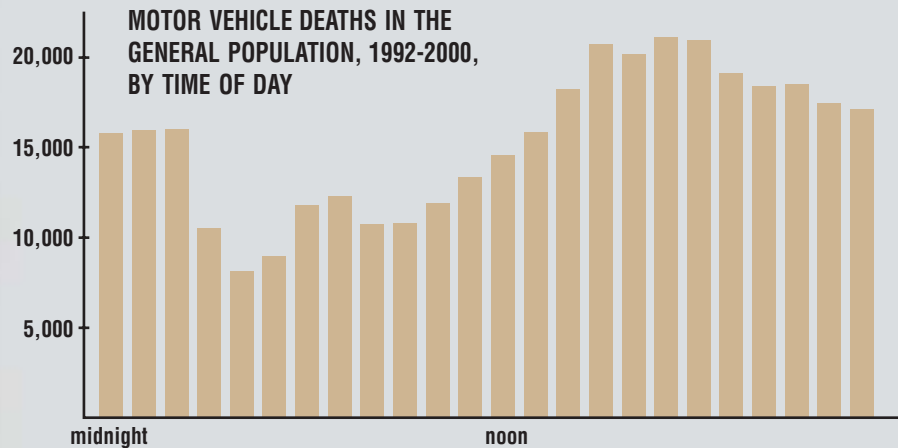
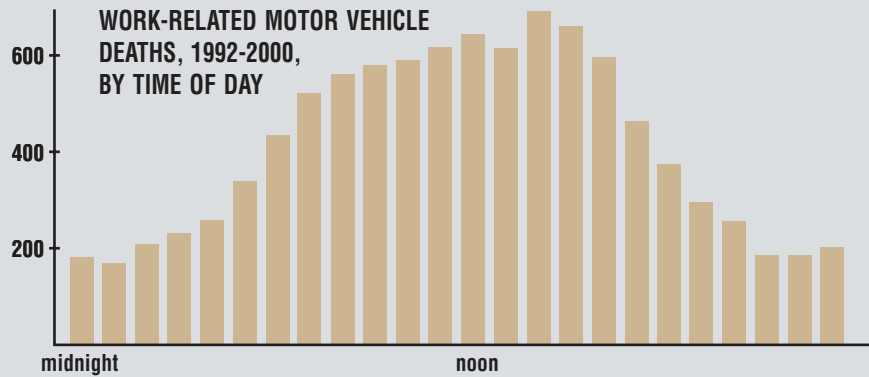
For a copy of "Graduated driver licensing restrictions: awareness, compliance, and enforcement in North Carolina" by A.H. Goodwin and R.D. Foss, write: Publications, Insurance Institute for Highway Safety, 1005 N. Glebe Rd., Arlington, VA 22201, or email [publications@iihs.org](mailto:publications@iihs.org).



## Crashes are the leading cause of death on the job; they account for almost one of every four fatalities in the workplace

Motor vehicle crashes are the leading cause of work-related death from injury in the United States, according to the National Institute for Occupational Safety and Health (NIOSH). Crashes accounted for about 23 percent of all on-the-job deaths during 2000.

Nearly 12,000 workers died in crashes between 1992 and 2000. During this time the number of workers who were fatally injured in crashes increased almost 20 percent — from 1,135 deaths in 1992 to 1,347 in 2000. A total of 1,471 occurred in 1999, the highest total during the 9-year span.



**Most work-related deaths in motor vehicle crashes occur during the day, peaking around midday, while deaths in the general population start increasing in the late afternoon and stay elevated until the early hours of the morning.**

Not surprisingly, death rates were highest for workers whose daily job activities included driving or riding in a motor vehicle. For example, the on-the-job death rate among truck drivers (17.7 per 100,000 workers) was at least 7 times the rate for any other occupational group.

Single-vehicle crashes accounted for about half of work-related vehicle crash deaths. This is similar to the pattern in the general population. But the patterns differed by time of day. Most workplace crash deaths during 1992-2000 occurred in the middle of the day, while in the general population crash deaths peaked toward the end of the workday and into the early evening.

“Mandatory use of seat belts is the single most important driver safety policy that employers can implement and enforce to reduce the number of workers killed or injured in crashes on the job,” NIOSH says. In 1990 the Occupational Safety and Health Administra-

tion (OSHA) proposed a belt use requirement for workers on the job, but then the agency changed its mind. In 2002 the Institute petitioned OSHA to issue such a mandate, but the agency has rejected this petition twice (see *Status Report*, Jan. 11, 2003 on the web at [www.highwaysafety.org](http://www.highwaysafety.org)).

“The NIOSH report clearly supports the Institute’s petition, and this is one more reason OSHA ought to rethink its denials,” says Institute chief operating officer Adrian Lund.

In its report NIOSH urges employers to plan their delivery schedules to allow workers to obey speed limits and stay within federally mandated limits on driving hours. The report further urges employers to choose fleet vehicles with the highest possible safety ratings.

For a copy of “Work-related roadway crashes: challenges and opportunities for prevention” by S.G. Pratt, go to [www.cdc.gov/niosh/docs/2003-119](http://www.cdc.gov/niosh/docs/2003-119).

# STATUS REPORT

INSURANCE INSTITUTE  
FOR HIGHWAY SAFETY

NON-PROFIT ORG.  
U.S. POSTAGE  
PAID  
PERMIT NO. 252  
ARLINGTON, VA

1005 N. Glebe Rd., Arlington, VA 22201  
Phone 703/247-1500 Fax 247-1588  
Internet: www.highwaysafety.org  
Vol. 39, No. 4, March 27, 2004

## On the inside

- Persistent reminders to buckle up** are becoming familiar in vehicles sold in the United States and Europe .....p.1
- 2004 models with reminders** that persist beyond what's required .....p.2
- North Carolina's graduated licensing** restrictions: are teenagers complying? .....p.4
- Tennessee parents** don't increase their involvement in the licensing process when prompted to do so .....p.5
- More workers die in crashes** than from any other cause, NIOSH reports .....p.6

Contents may be republished with attribution.  
This publication is printed on recycled paper.

1 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 auto insurers:

- 21st Century Insurance
- AIG Agency Auto
- Alfa Insurance
- Alfa-Virginia Mutual Insurance Company
- Allstate Insurance Group
- American Express Property and Casualty
- American Family Mutual Insurance
- American National Property and Casualty
- Amica Mutual Insurance Company
- Auto Club Group
- Auto Club South Insurance Company
- Bituminous Insurance Companies
- California State Automobile Association
- Capital Insurance Group
- Chubb Group of Insurance Companies
- Concord Group Insurance Companies
- Cotton States
- Country Insurance & Financial Services
- Erie Insurance Group

- Farm Bureau Financial Services
- Farm Bureau Mutual Insurance Company of Idaho
- Farmers Insurance Group of Companies
- Farmers Mutual of Nebraska
- Frankenmuth
- The GEICO Group
- General Casualty Insurance Companies
- GMAC Insurance Group
- Grange Insurance
- Harleysville Insurance Companies
- The Hartford
- Indiana Farm Bureau Insurance
- Liberty Mutual Insurance Group
- Mercury Insurance Group
- MetLife Auto & Home
- Michigan Insurance Company
- Middlesex Mutual
- Montgomery Insurance Companies
- MSI Insurance Companies
- Mutual of Enumclaw
- National Grange Mutual
- Nationwide Insurance
- Nodak Mutual Group
- Norfolk & Dedham
- North Carolina Farm Bureau

- Oklahoma Farm Bureau
- Oregon Mutual Group
- OrionAuto
- Palisades Insurance
- Parkway Insurance
- Pekin Insurance
- PEMCO Insurance Companies
- Preserver Group
- The Progressive Corporation
- Response Insurance
- Rockingham Group
- Royal & SunAlliance
- SAFECO Property & Casualty
- Samsung Fire & Marine Insurance Company
- S.C. Farm Bureau Mutual Insurance Company
- SECURA
- Shelter Insurance Companies
- Sompo Japan Insurance Company of America
- State Auto Insurance Companies
- State Farm Insurance Companies
- Tokio Marine
- USAA
- Virginia Farm Bureau Mutual Insurance
- West Bend Mutual Insurance Company
- Zurich North America