

Amid the privacy issues surrounding event data recorders (EDR), Kathleen Konicki, director of associate safety at Nationwide Insurance, advocates the use of EDRs to measure crash events and improve fleet safety.

Nationwide Insurance Equips Ford Fleet with 'Black Boxes'

By Chad Simon

AT A GLANCE

In the aftermarket, event data recorders can be configured by fleet managers to record only desired information. EDRs typically measure the following driving behaviors leading up to an accident:

- Seat belt use.
- Throttle position.
- Velocity change.
- Abrupt braking.
- Steering wheel angle.
- Accelerator pedal position.

Event data recorders (EDR) — a device used to measure accident parameters or an invasion of driver privacy?

A recent manslaughter case in Northern Kentucky in which a man was pulled over by police then sped off, led to a pursuit that resulted in the officer's fatal crash. Prosecution is attempting to retrieve EDR information from the suspect's vehicle to help convict him at trial.

However, some attorneys argue that data collected from EDRs (also called

"black boxes") may invade a driver's privacy if he or she is not aware of the EDR's presence in the vehicle. One attorney says black boxes are an infringement of a person's Fifth Amendment rights against self-incrimination.

Kathleen Konicki, director of associate safety at Nationwide Insurance Co. in Columbus, Ohio, is a proponent of fleet EDR use. She says that for three years, Nationwide's fleet of 5,900 Ford passenger cars, minivans, and SUVs have been equipped with black boxes.

"The overriding objective was to try to understand the relationship between crash forces and bodily injury," says Konicki. "We also wanted to study whether or not there was in fact a 'halo effect' for fleet car drivers. In other words, did they change their driving behaviors because there was a black box in their car?"

Who are the Major Players?

General Motors was the first to use the original equipment manufacturer (OEM) black box in its vehi-

cles, says Konicki. Since the early 1990s, black boxes have been installed in GM vehicles in association with the airbag system. Most GM vehicles today are equipped with EDRs, she says.

Ford has only been involved in the EDR market for the past few years, and DaimlerChrysler still does not overtly play in that field, says Konicki. According to a recent Associated Press article, 15 percent of the nation's 200 million passenger vehicles today are equipped with black boxes.

Nationwide Insurance Uses an Aftermarket Black Box

Manufacturer EDRs measure driver performance and behavior leading up to an accident, including seat belt use, throttle position, velocity change, abrupt braking, steering wheel angle, and accelerator pedal position. In the aftermarket boxes, data can be configured by the fleet manager to record only desired information.

According to Konicki's recent National Association of Fleet Administrators (NAFA) Fleet Management Institute (FMI) presentation, law enforcement agencies, insurance companies, lawyers, judges, vehicle manufacturers, and officials of the National Highway Traffic Safety Administration (NHTSA), National Transportation Safety Board (NTSB), and Insurance Institute for Highway Safety are all interested in accessing the information collected from EDRs, with a vehicle owner's permission.

Independent Witness, Inc., (IWI) the maker of Nationwide's aftermarket EDR of choice, provides accurate, court-admissible velocity change information — the primary data point Nationwide's fleet administrators were interested in studying, says Konicki. IWI's black box is the only one currently available on the market that meets the JS211 standard, a technical specification that certifies performance, she explains.

Konicki predicts a 30-50 percent reduction in frequency of crashes among drivers whose vehicles are equipped with black boxes.

"I think driver perception is that we are monitoring behavior when in fact we're not because the box only truly records crash forces," she says. "Because that perception is there, I think they tend to drive a little more carefully."

Nationwide Insurance has had approximately 100 accidents involving vehicles in which black box information was retrieved and downloaded, says Konicki.

By downloading crash data, the company populates a database to draw relationships between crash forces and other parameters, including bodily injury and material damage.

"Each one of those incidents has



The use of black boxes in Nationwide's fleet has been well received by the company's drivers, says Kathleen Konicki.

told us something different because every set of circumstances surrounding a crash is unique to that event," says Konicki.

Black Box Benefits and the GPS Misconception

The use of black box technology can help provide information about the mechanics and forces of accidents that previously have only been modeled based on accident reconstruction, says Konicki.

"Knowing the actual crash forces and the result in terms of material damage and bodily injury will be helpful in reconstructing accidents and understanding those dynamics."

A common misconception surrounding black boxes is that they are similar to global positioning systems (GPS), which unlike EDRs, constantly monitor driver behavior and location.

EDRs, which record only data associated with a crash or an event — not the crash itself — and GPS can work in conjunction with one another, says Konicki, but independently, they are two entirely different tools.

Driver Privacy

Surprisingly, the use of EDRs in

Nationwide's fleet has been well received by the company's drivers.

"We structured the introduction of the program in a way that explained to drivers that we were interested in the research that the objective data we were about to obtain through looking at their crashes would provide," says Konicki. "Once they understood the research we were doing and what we were trying to learn, drivers were very supportive."

Yet to be verified is whether certain EDR data elements can be used against a company for negligent entrustment of a high-risk driver with a tainted electronic history of accidents and/or traffic violations. However, because any information surrounding a crash is "discoverable" in litigation, either the plaintiff's counsel or defense counsel can subpoena records and data pertaining to the particular incident, according to Konicki.

Rather than commenting in general on the black box/driver privacy issue, Konicki's stance is that the issue should be viewed individually on a case-by-case scenario. "There are many factors that impinge on the privacy issue that have to be taken into consideration."

For instance, responding to an incident last year in Santa Monica, Calif., in which an 86-year-old driver mistakenly stepped on the gas instead of the brake, plowing through a farmers' market, killing 10 people and injuring 63, NTSB investigators recently concluded that if a black box had been installed inside the vehicle, they would have been able to gain a greater understanding of the driver's actions. As a result, NTSB officials are pushing for EDR installation in all vehicles.

Other Methods of Accident Management

In addition to installing EDRs in its vehicles, Nationwide abides by a 15-component fleet safety program in which, Konicki admits, that some methods are more effective than others.

"I don't know that I can isolate EDRs as being the most significant contributor," she says. "In other words, several of the things we do have made a significant difference in our fleet-loss profile, and EDRs have augmented our existing program."

The 15-component fleet safety program consists of quarterly motor vehicle record (MVR) checks, a disciplinary action system for accumulation of moving violations and preventable accidents, an extensive driver education program, commitment and support from the top of Nationwide's organization, and consistently enforced, clear-cut policies and procedures.

The Future of EDRs

The future is cloudy surrounding the use of event data recorders. Konicki sees the EDR issue splitting in different directions — one path for fleet and the other for the general public. For fleet, she believes EDRs provide a "real operating expense reduction opportunity" causing fleet managers to outfit their fleets, if the cost is not prohibitive. The privacy issue is sidelined because the vehicles belong to the company and not the driver. In the general public, however, the privacy issue has yet to be resolved.

Speaking from her experience using EDRs, Konicki feels the benefits outweigh the costs, and the return on investment is rapid, depending on fleet size and overall operating expense. ☐