

EVENT DATA RECORDERS

Briefing for Rob Marris from the Slower Speeds Initiative for Vehicle Event Data Recorder (New Clause 17) amendment to Road Safety Bill,

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1. What are Vehicle Event Data Recorders?

Many cars are already fitted with an array of electronic devices — often referred to as event data recorders, crash data recorders or ‘black boxes’ — to improve crash survivability for occupants, assist maintenance, allow tracking in the case of theft and even call emergency services. One quarter of passenger car manufacturers world-wide used some form of EDR technology in 2002 (Murray 2002).

2. What could EDRs do?

EDRs associated with air-bags, for example, take readings of speed and accelerator and brake pedal positions at intervals of a few seconds and can store data on minor impacts and collisions for up to 60 days (Ward 2001).

The VEDR amendment proposes making EDR data available only in the cases of road crashes involving death and injury. Medical and legal investigators would have access to data on changes in vehicle velocity and trajectory in the seconds leading up to a crash.

3. Why is that important?

Medical

Making it available to emergency services would provide vital information for on the scene assessment and treatment of injuries and for treatment in hospital.

The data could be used retrospectively in trauma research to improve injury predictions and support decisions about service provision to improve emergency service response to crashes.

“Measured crash direction and force data can markedly improve injury prediction, algorithms, biomechanics, cost of injury research, and identification of problem injuries.” (Martinez 2003)

Legal

EDR data would provide much more accurate evidence on the standard of driving resulting in a crash. For example, driver alertness or vehicle speed can be difficult or impossible to assess accurately after a crash. Better data would help to distinguish between careless and dangerous driving and result in greater justice in charging.

Crash prevention

There is evidence that the presence of EDRs can improve driver performance. The Metropolitan Police attribute a 25% reduction in crash rate to a Safe Driving programme which includes the fitting of EDRs. West Mercia Police are to follow this example.

A Dutch study of driver response to EDRs used in several vehicle fleets estimated a crash reduction of 20% (SWOV 1997). A German study of young drivers also found that awareness that an EDR was fitted to their vehicle 'forced a change in driving habits and made them much safer' (Ward 2001).

Research

With appropriate data protection, making data available to researchers would improve understanding of vehicle crash worthiness and the potential for crash avoidance (Ferguson 2003).

EDR data would improve the quality of road crash statistics which currently rely on fairly crude investigative techniques. Moreover, as cars become increasingly equipped with electronic safety devices, the traditional sources of information, such as tyre marks, are no longer available. The information obtained could support better and more effectively targeted road safety measures.

4. Why should it be government led?

While the use of EDRs is increasing, the data accessibility is very limited due to lack of standardisation. In order to improve road safety and provide evidence to the emergency services, road safety researchers and the courts, the technology should be developed with an appropriate legal and regulatory framework which only government can provide.

By taking the lead, the UK government could set the standard to be adopted internationally.

References

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