



NTSB National Transportation Safety Board

Office of Highway Safety

Highway Vehicle Event Data & Video Recorders

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Accident Tractor

- Not equipped with a crash event data recorder (EDR)
- No EDR requirements for highway vehicles
- Unknown impact forces



Available Data

- Approach and impact speed
- Use of cruise control
- Lack of braking
- Higher level of science and precision

Crash Event Data Recorders

- Provide comprehensive account of events that occur during a collision
- Necessary to improve vehicle compatibility, crashworthiness, and occupant protection strategies
- Critical data remain unavailable



Driver Inattention / Distraction

- 80% all crashes, 65% near-crashes
- 2008: 5,870 fatalities; 515,000 injuries
- May be underestimated
- Difficult to quantify
- Requires objective data



Video Event Recorders



- Capture the human element
- Use has significantly increased
- Exterior and interior audio/video
- Data before, during, and after events
- Private, public, and commercial use
- \$495 per system, \$30-40 per month

Video Event Recorders (VER)

- Effective “proactive” driver behavior modification tool
- Reduced claims by 30% - 90%
- FMCSA VER study
 - Reduced safety-related events by as much 52%
 - Reduced “severe” safety-related events by as much as 59%

Video Event Data

- Provide real-world driver behaviors
- Instrumental in the determination of driver attention
- Valuable in determining speed, lane placement, signal use, lighting, steering, perception reaction time, and occupant kinematics

Highway EDR Recommendations

1997: H-97-18 & H-97-21

1998: H-98-23 & H-98-26

1999: H-99-53 & -54

2002: H-02-35

2004: H-04-26

2008: Reiterated H-99-53 & -54

2009: Reclassified H-99-53 & -54

2010: H-10-7 supersedes H-99-53

EDR-Related Activity

- 2002 NHTSA Truck & Bus EDR Group
 - *“EDRs have the potential to greatly improve truck, motorcoach and school bus safety”*
- 2004 FHWA CMV EDR Report
 - EDR requirements to facilitate the reconstruction of CMV crashes
- 2010 SAE Recommended Practice
 - Established minimum standards for Heavy Vehicle EDRs



Summary

- Critical data continue to be unavailable
- EDRs – would advance the research in vehicle crashworthiness, compatibility, and occupant protection strategies
- VERs – effective “proactive” driver management, providing real-world driver performance data critical to advanced driver assistance technologies



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