

Thinking inside the box: a credible asset to road safety?

David Southcott

david.southcott@bbmmjv.com

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Aim:

To explore the benefits of Event Data Recorders in relation to road safety

Objectives:

- Focus on the data that can be gathered at the collision investigation stage
- Explore the benefits in relation to the 'E's commonly referred to in road safety
- Address the concerns with the devices
- Where are we now?
- The future?

Disadvantaged at Reconstruction?



<http://www.1001crash.com/index-page-description-accident-concorde-lg-2-crash-164.html>



http://www.thewestonmercury.co.uk/news/m5_crash_couple_we_said_our_last_goodbyes_1_1122645

Data Gathering

- Speed
- Acceleration / Deceleration (Driver's use of pedals)
- Braking (The various stages)
- Indicators, Headlights
- Steering movements
- Etc



<http://www.carblackbox.co.uk/>

Engineering



<http://www.burnham-on-sea.com/police-30-7-05.shtml>

- Enhanced knowledge for car design
- Understanding the environmental factors
- Increased data for Collision Prevention Studies
- Ascertain driver reaction to road infrastructure
- 'Real Life' data

Education

- Targeted campaigns based on behaviour
- Segregation of groups by driving style
- Monitoring of education effects on driving
- Localised/Personalised campaigns
- Near Miss identification – a chance to intervene?



<http://www.roadsafetygb.org.uk/news/2095.html>

Enforcement



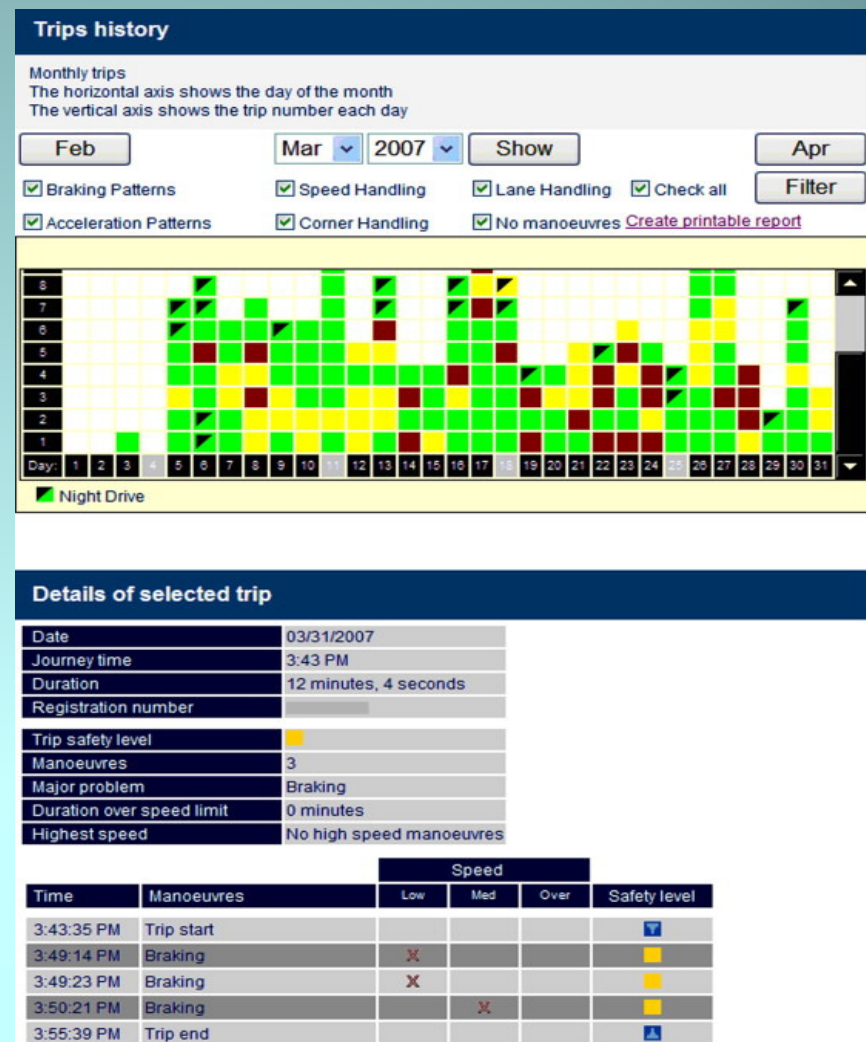
<http://www.pistonheads.com/news/default.asp?storyId=19873>

- Speed
- Seat Belts
- Mobile Phones
- Inconsiderate / Dangerous Driving
- Traffic Signal Offences

Engagement / Evaluation

/ Encouragement

- Driver self-evaluation
- Reward 'safe' driving
- Engage and encourage 'safe' driving (positive feedback)
- Engagement across all disciplines
- Focus on driving for business



E - Systems

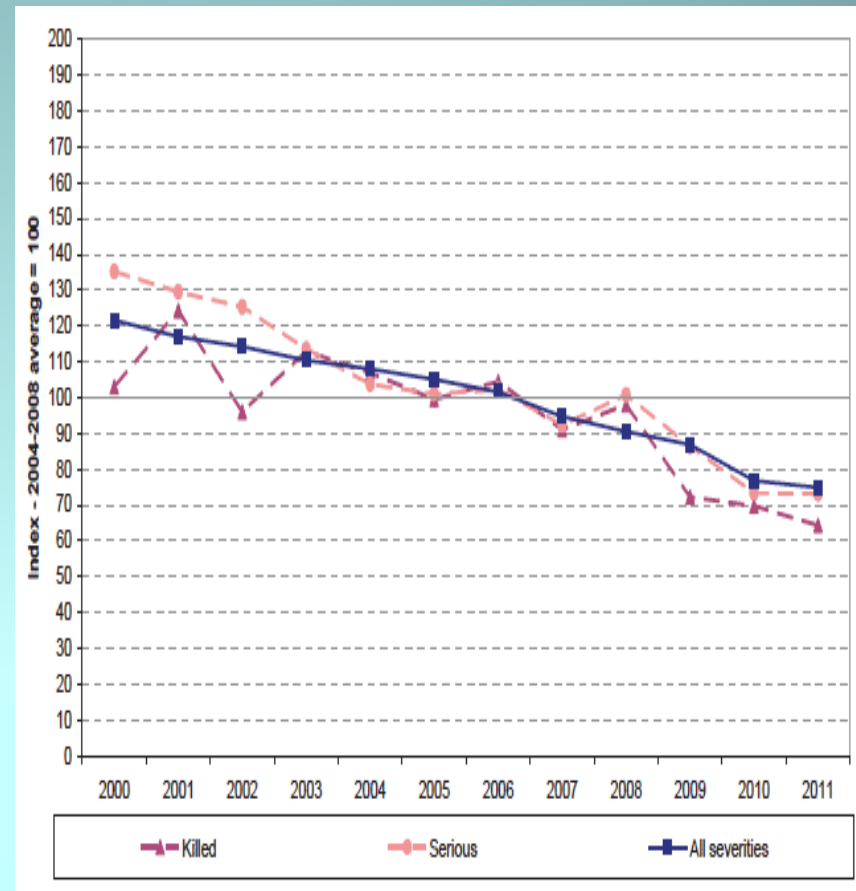


<https://www.media.volvocars.com/global/enhanced/en-gb/Media/Preview.aspx?mediaid=45730>

- Vehicle trains
- Parking assist
- Sign detection
- Cruise control
- Collision avoidance systems

Evidence

- Engineering – Post Opening Project Evaluation (POPE)
- Education – Driver behaviour changes
- Enforcement – Reduction in offences
- Engagement – User surveys / questionnaires



<http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j245189-07.htm>

Additional Positives

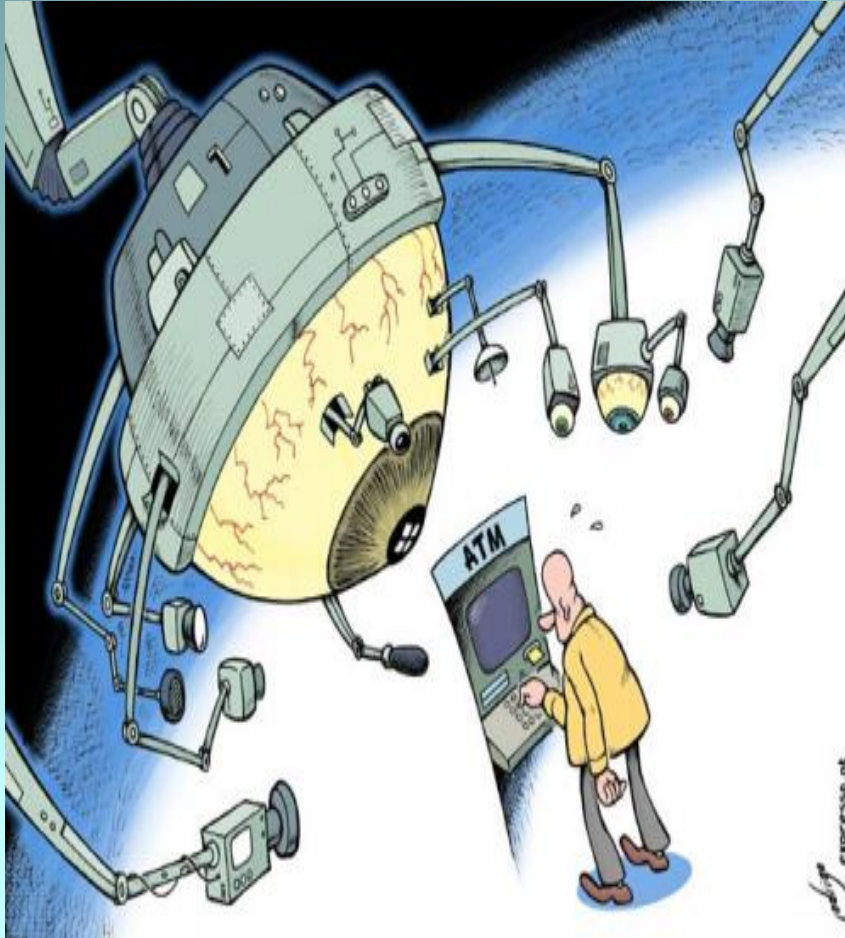
- Cheaper Insurance
- Environmental
- Reduced costs to society
- Crime – stolen vehicles, 'fraudulent' collisions
- Green and Red claim disputes

"The other car collided with mine without giving warning of its intention."

"A pedestrian hit me and went under my car"

"No one was to blame for the accident but it would never have happened if the other driver had been alert."

Negatives



- Invasion of Privacy?
- Big Brother Society
- Blame Culture
- Data Protection
- Tampering / Failure

http://www.toonpool.com/cartoons/Big%20Brother%20is%20Watching%20us_56189

Current Capabilities

- Category One

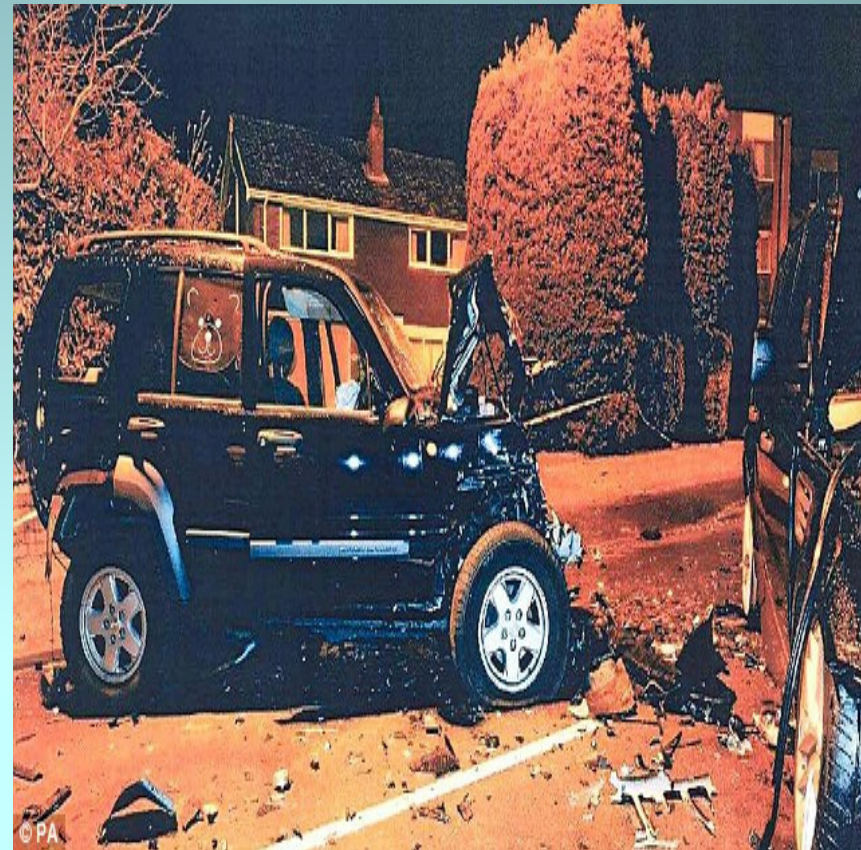
- Activates on deployment of airbag
- Approximately 5 – 10 seconds of before incident data
- Reconstruction only
- Basic data recorded
- Present already in some vehicles

- Category Two

- Real time recordings
- Video and GPS capabilities
- Prevention and Reconstruction
- Comprehensive data sets available
- Voluntary uptake

Conviction

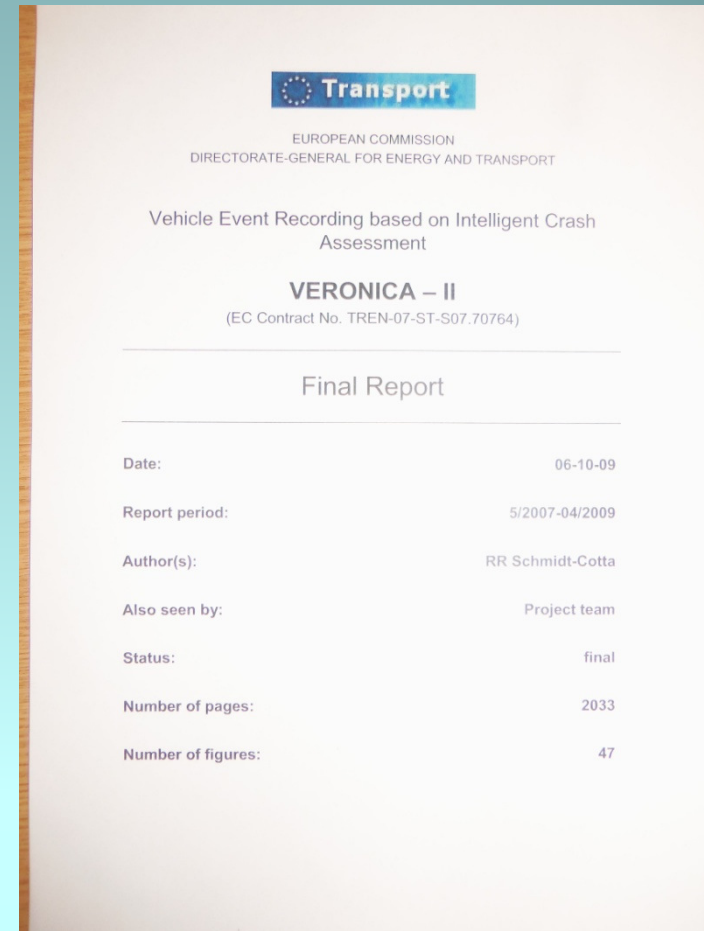
- November 2006
- Event Data Recorder from Airbag Retrieved
- Speed limit 30mph
- Speed lost in crash 42mph
- Offenders actual speed **72mph**



<http://www.dailymail.co.uk/news/article-2105501/Cerys-Edwards-6-left-paralysed-brain-damaged-speeding-teen-driver-gets-5m-payout.html>

EU Involvement

- Title: 'Vehicle Event Recording based on Intelligent Crash Assessment' (203 pages)
- Published October 2009
- Compulsory Uptake
- Considers issues with privacy and data handling
- Covers legislation



http://ec.europa.eu/transport/road_safety/projects/doc/veronica2_final_report.pdf

The future?

- Short Term

- Compulsory installation of first device in all new cars
- Voluntary uptake of second device

- Medium Term

- First device becomes installed in all cars
- Compulsory installation of second device in all new cars

- Long Term

- Driverless vehicles

Conclusion

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Questions and Answers

References

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- <http://www.carblackbox.co.uk/>
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- http://ec.europa.eu/transport/road_safety/projects/doc/veronica2_final_report.pdf
- <http://libraryeuroparl.wordpress.com/2012/11/29/event-data-recorders-edrs/>
- <http://www.comparethebox.com/blog/aa-drivesafe-insurance/>
- <http://www.dailymail.co.uk/news/article-554249/How-cars-black-box-trapped-speeding-Rich-List-heir-left-baby-paralysed-Range-Rover-crash.html>