OVERVIEW OF BLACK BOX TECHNOLOGY

Presented by:

Kevin Clinton
Head of Road Safety
RoSPA

IN-VEHICLE MONITORING TELEMATICS

- **Telematics (black boxes) increasing rapidly in the UK**
- **Capture real, naturalistic driving behaviour over a long period and substantial mileages**
- **About 1% of the 26 million cars on UK roads use it Insurance industry aiming for 10% and ½ million policies sold in next 2 years***
- **Gender Directive (21 Dec 2012) a major incentive**

* Source = Insurance Telematics Summit 2012

RESEARCH FINDINGS: YOUNG DRIVERS

- Can significantly reduce risky driving behaviours
- Especially, among higher risk young drivers
- But effect on crash rates, conviction rates and insurance claims not yet quantified
- More likely to improve driving when the feedback is viewed by parents
- But some parents reluctant (scared?) to view feedback

RESEARCH FINDINGS: YOUNG DRIVERS

- PAYD insurance reduced speeding by 14% (2011)
- "Safety-relevant events" fell by 76%, mostly with higher risk young drivers (2007)
- In-Vehicle Data Recorder (with web feedback to young drivers and parents) resulted in "substantial decrease" in risk ratings. But male ratings increased when feedback stopped (2010)
- Sharp acceleration & braking fell by 12% - 43% (depending on type of feedback); failure to wear seat belt fell by 90%; Risk ratings fell, but only when parents viewing feedback (2010)

RESEARCH FINDINGS: YOUNG DRIVERS

Young Drivers believe the technology could:

- Help them improve their driving
- Help restrain their tendency to drive too fast
- Help them to resist peer pressure when driving
- Improve their self-confidence with positive feedback

They like that it is:

- Based on objective data, not parental opinion
- Offers opportunities to discuss what took place and explain the circumstances

RESEARCH FINDINGS: YOUNG DRIVERS

- Do not like idea of being monitored
- Feel the technology does not address important factors, such as keeping a safe distance
- Feel the feedback highlights problems, not solutions
- Want the feedback to cover ‘real’ safety issues
- Think internet access or email will be difficult for their parents
- Think cost is a barrier for parents

RESEARCH FINDINGS: PARENTS

- Want to monitor children's driving during high risk period; as it could help them be involved in their children's driving
- But respect their children's privacy and are concerned it could affect their relationship
- Are concerned how the data may be used
- Don't know how to use the technology to improve their children's driving
- Tempted to remain "purposely ignorant" of their children's driving

RESEARCH FINDINGS: AT-WORK DRIVERS

- Accident rates fell by 20% in 11 fleets , but effect varied, with some showing small, statistically insignificant, increase
- Study following 1 driver found a 82% reduction in “events”
- Case studies of different companies found accident rates fell by between 15% and 26%. Cost savings of 25%
- In trials with USA ambulances, significant drop in speeding but no increase in response times; significant increase in seat belt use & 20% reduction in maintenance costs
- Crash rate in van fleets fell by 38%; driver risk ratings by 33%
- Safety-event rates fell by 37% and 52% in 2 truck fleets

FEEDBACK AND REMEDIAL ACTIONS

Feedback

- Driving improves when feedback is given, but almost no detail about the nature of the feedback, how it's delivered and how it is 'received'.
- Can be immediate & in-vehicle and/or retrospective & online (emails, web, Apps)

Remedial Actions

- No research about how the data analysis is used to inform remedial actions, such as driver education, informing driver training needs, or changing driving tasks (e.g, journey routes)

NOTE ABOUT THE RESEARCH

- Most of the young driver research is from countries (e.g., USA, Israel) with Graduated Driver Licensing
- Some of the devices were Accident or Event Data Recorders
- Some of the devices were not typical of the devices used in the UK (e.g., some also had cameras)

FEEDBACK AND REMEDIAL ACTIONS

Need to develop best ways to:

- Provide feedback (access, content, presentation, level of detail)
- Help drivers to understand it and use it positively
- Help parents understand and feel able to use it positively (e.g., in discussions with their children)
- Help employers understand it and use it positively (e.g., discussions with drivers, prioritise & inform training, review driving tasks and management procedures)

NEXT STEPS: DATA

- Privacy — Who has access? Security (against hacking)
- Use — Can the data be used against the driver?
- Standards — Will help provide consistency and some privacy protection. Make data portability easier
- Portability — Can a driver use their data when seeking alternative insurance quotes?

NEXT STEPS: DELIVERY

Black Box (Retro-fitted)

Positive: Accurate and reliable; tamper-proof (ish)

Negative: Expense and inconvenience of fitting, and removing (if required)

App

Positive: Much cheaper & more convenient

Negative: Less accurate and reliable; not tamper-proof; not everyone has a smartphone

Original Equipment

Positive: Cheaper, convenient, reliable, tamper-proof

Negative: Will take donkey's years

NEXT STEPS: RoSPA

- RoSPA :
  - ✓ Working with MyDrive & several insurance companies in UK and Ireland
  - ✓ Working with RoADAR and MyDrive to develop the baseline of good driving
  - ✓ Running Black Box and Young at Work Drivers pilot in Scotland
  - ✓ Introduced new trophy in MORR Awards for use of technology to cut work-related road accidents
  - ✓ Producing a Literature Review and Policy Paper, and other materials on “Road Safety and Black Box Technology”

CONCLUSION

In-vehicle monitoring technology:

- Has very strong potential to reduce road casualties
- Can reduce risky driving behaviours and (at least among at-work drivers) crash rates

CONCLUSION

To take full advantage, we need to:

- Understand how best to provide feedback and to use the data to inform remedial actions
- Develop guidance for parents on how to use the feedback
- Confirm best delivery methods
- Help employers understand the benefits of, and cope with the barriers to, using the technology
- Develop data standards