Driver Distraction
Number 28, 2011

1 **A human-centred approach to the design of in-vehicle information systems: a case study in usability assessment**
Mitsopoulos-Rubens, E, Trotter, M and Lenne, MG
European Conference on Human Centred Design for Intelligent Transport Systems, 2nd, 2010, Berlin, Germany, Humanist Publications, Lyon, France, pages 369-378.

Online [accessed 28 April 2011]. Click here to view

The potential of in-vehicle information systems (IVIS) to cause driver distraction highlights the need to ensure that IVIS design never compromises driver safety. This paper examines the human-centred approach, using as a case study the design of three music selection systems and processes.

2 **Are child occupants a significant source of driving distraction?**
Koppel, S, Charlton, J, Kopinathan, C and Taranto, D
Accident Analysis & Prevention, 2011
Volume 43, Number 3, pages 1236-1244

This observational study used an instrumented vehicle to study the activities of children aged 1 to 8 in cars, and the level to which they may be a source of distraction for the driver. Findings related to non-child occupant activities are also identified and discussed.

3 **Attentional competition between tasks and ITS implications**
Hoel, J, Jaffard, M and Van Elsande, P
European Conference on Human Centred Design for Intelligent Transport Systems, 2nd, 2010, Berlin, Germany, Humanist Publications, Lyon, France, pages 575-581

Online [accessed 28 April 2011]. Click here to view

Driving is a complex activity. This study used in-depth accident analysis to identify attentional issues of driving - inattention, factors competing for attention, and distraction, and provides a statistical analysis of which is more dangerous. In showing attention defects linked to human failure at safe driving, it also assists in defining the qualities of safe ITS systems.

4   **Car telephone use and road safety: an overview prepared for the European Commission**
Final Report
Jeanne Breen Consulting, 2009

Online [accessed 7 April 2011]. Click here to view

This report investigates the relationship between the rise of mobile communication devices both hand-held and hands-free available to drivers, and the effect on driving performance. Survey results from Europe, United States and Australia are cited, together with policies on the use of mobile phones in vehicles.
The report provides a range of recommendations for future action and research.

5   **Cell phone conversing while driving in New Zealand: Prevalence, risk perception and legislation**
Hallett C, Lambert, A and Regan, M
Accident Analysis & Prevention, 2011
Volume 43, Number 3, pages 862-869

A study of driver risk perception, attitudes towards legislative measures, and level of prevalence, of mobile phone usage whilst driving, that was conducted in New Zealand using an online survey.

6   **Combining cognitive and visual distraction: less than the sum of its parts**
Liang, Y and Lee, JD
Accident Analysis & Prevention, 2010
Volume 42, Number 3, pages 881-890

In this simulator study, driving without distraction was compared to visual distraction, cognitive distraction, and combined visual and cognitive distraction. Findings relating to vehicle control and hazard detection are highlighted.

7   **Concentration problems behind the wheel**
SWOV Fact Sheet
August, 2010
SWOV, Leidschendam, the Netherlands

Online [accessed 8 April 2011]. Click here to view

Summary of current knowledge relating to driver concentration issues, effects on driving performance and crash rates, and countermeasures.

8   **Curbing distracted driving: 2010 survey of State safety programs**
Vermette, E
Governors Highway Safety Association (GHSA) 2010

Online [accessed 5 April 2011]. Click here to view

A state of play document, reporting the findings of a 2010 national survey in the United States. The survey was designed to further knowledge on distracted driving education and enforcement programs and projects being implemented at State level.

9   Distracted drivers in school zones: a national report
Grabowski, JG, Goodman, S
Safe Kids USA, Washington, DC, 2009

Online [accessed 29 March 2011]. Click here to view

Report of the findings of an observational study conducted at 20 schools across 15 American states. Over 40,000 cars were observed travelling in active school zones, with one in six drivers showing signs of distraction, and high distraction rates noted for both male and female drivers.

10   Distracted driving and driver, roadway, and environmental factors
Singh, S
Report number DOT HS 811 380, 2010
United States. National Highway Traffic Safety Administration (NHTSA),

Online [accessed 4 April 2011]. Click here to view

Data from NHTSA's National Motor Vehicle Crash Causation Survey (NMVCCS) was used in this study to examine in-vehicle distraction and non-driving cognitive ability as associated factors. Included in the findings are that conversing with a passenger was the most common source of in-vehicle distraction from internal sources, while inattentiveness was the most prevalent factor among the non-driving cognitive activities.

11   Distraction.gov
Official US Government website for distracted driving
US Department of Transport
Online [accessed 28 April 2011] Click here to view

Reports, news, statistics, State laws, campaign tools, information on the 2010 Summit on distraction, and videos of those affected by "distraction" road deaths, are just some of the features of this dynamic site.

12   Driving and telephoning: Relative accident risk when using hand-held and hands-free mobile phones
Backer-Grondahl A and Sagberg, F
Safety Science 2011
Volume 49, Number 2, pages 324-330

In this study with a sample of over 4,000 drivers involved in crashes during 2007, crash risk when using hand-held and hands-free mobile phones was examined, and compared with a similar study from 1997. Included is the finding that crash-involved hand-held phone users deemed at fault were more inclined to attribute the crash to phone use, than were at-fault crash-involved hands-free users.

13   Individual differences in driver inattention: the attention-related driving errors scale
Ledesma, R
Traffic Injury Prevention 2010
Volume 11, Number 2, pages 142-150

The reliability and validity of the Attention-Related Driving Errors Scale (ARDES) was examined in this South American study, using a sample of over 300 drivers.

14   **Minimising in-vehicle distraction: PRAISE (Preventing Road Accidents and Injuries for the Safety of Employees)**
Research Report number 5
European Transport Safety Council, Belgium

Online [accessed 4 April 2011]. Click here to view

A report on in-vehicle distraction minimisation produced as part of a wider European project on vehicle-related injury prevention for employees. Summarises recent research and issues with specific in-vehicle devices, and discusses countermeasures at the workplace, national and international level.

15   **Mobile phone use: a growing problem of driver distraction**
World Health Organisation, Geneva, 2011

Online [accessed 29 April 2011] Click here to view

A call to establish data collection systems to more accurately measure the extent of problem of driver distraction due to phone use is one of the recommendations of this report from the World Health Organisation.

16   **Mobile phone use and engagement in other distracting activities: an observational survey of Melbourne drivers**
Young, KL, Rudin-Brown, CM and Lenne, MG
Human Factors Team, Monash University Accident Research Centre, Melbourne, Victoria
Road Safety Research Policing and Education Conference Proceedings 2010

Online [accessed 11 April 2011] Click here to view

This 2009 Australian study identified a range of driver, vehicle and location characteristics associated with distracted behaviours by drivers, including vehicle type, driver age and time of day.

17   **Texting while driving: psychosocial influences on young people's texting intentions and behaviour**
Nemme, HE, White, KM
Accident Analysis & Prevention, 2010
Volume 42, Number 4, pages 1257-1265

This study from Queensland aimed to address a gap in current research, where no differentiation had been made between sending and reading text messages as separate driver behaviours.

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