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EC project '2 BE SAFE' briefing note for Deliverable 18

Experimental studies on powered two-wheeler visual conspicuity.

Author A Weare, A Parkes
Pages 7
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Optimising the returns from modern asphalt surfacings - Sub-Task 3 - Rolling resistance of asphalt surfacings

Road pavements are currently designed, specified and constructed such that their surfaces deliver adequate ride quality and skidding resistance but designs do not specifically take into account the rolling resistance of the surface. In order for this to become possible in the future, the pavement factors affecting rolling resistance need to be determined, along with how practical it would be to change these factors, during maintenance or construction, and to what extent they affect rolling resistance. As part of this research, the effect of pavement surface texture on rolling resistance has been investigated using TRL's accelerated Pavement Test Facility (PTF) and the results of this work are presented within this report. The PTF offers a controlled environment in which to traffic real pavements and this has been instrumented with bespoke equipment to record all forces, angles, temperatures etc. needed to measure rolling resistance. The PTF has been used to determine differences in rolling resistance on pavement strips of a selection of trial surfaces constructed with a range of texture depths that could otherwise be considered identical. The different texture depths were achieved by using a range of aggregate sizes in a proprietary thin surfacing. The results showed that small differences in the coefficient of rolling resistance between the surfacings could be measured in repeated passes of a loaded heavy vehicle wheel and that rolling resistance increased with increasing texture depth.

Author E Benbow, G Crabb, A Gleeson, J Iaquinta, R Lodge and A Wright
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Specification for Low Temperature Asphalt Mixtures

Low temperature asphalts, classified as warm mix asphalt, half-warm mix asphalt and cold mix asphalt, are increasingly being used, but most of the current specifications are written around hot mix asphalt. The types of specification that are used for hot mix asphalt are discussed and a series of documents drafted to cover low temperature asphalt mixtures are attached as appendices. The appendices are modelled on the current European standards, supporting national guidance documents and the Specification for Highway Works clauses. It is intended that the availability of these documents will encourage greater use of low temperature asphalts until the standard specifications have been updated to explicitly incorporate these environmentally friendly materials

Author J C Nicholls (TRL), H Bailey (TRL), N Ghazireh (Lafarge Tarmac) and D H Day (Nynas)
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Prospective Study into Harmonised Train Accident Precursors Analysis and Management

The aim of this study was to identify accident precursors that are theoretically sound and reasonably practical to implement at an operational and management level. This study: 1) Identified accident precursors and constructed generic fault trees to display graphically the accident precursors for six key accident types. 2) Gained insight into the accident precursors reported and monitored at NSA, IM and RU level across member states, to understand current practice and the motivations behind it. 3) Identified a harmonised set of accident precursors that might be used for safety management at EU, NSA, RU and IM levels, by combining the theoretical accident precursor fault trees and the actual, practical understanding of accident precursor reporting and monitoring. It may be informative for NSAs, RUs and IMs to consider precursors identified as being large contributors to risk, and precursors gathered by other NSAs, RUs and IMs. Provisional definitions for high risk precursors are suggested. The careful selection of CSIs is critical to ensuring that they do not distort performance or detract from other activities that contribute to improving safety. When considering how precursors might be used, a clearer distinction might be required between precursors used for regulatory purposes and precursors used for safety management purposes. To facilitate precursor monitoring and increase its value, there is a need to ensure that there is a good 'safety culture' across the rail industry. The use of precursors for operational reasons is vital to the proactive management of safety. Railway stakeholders across Europe are keen to share best practice with each other in this field, and ERA should make the most of this by continuing to work constructively and appropriately with stakeholders to develop a more harmonised European railway system.

Author C Fowler, S Tong, K Fernández-Medina, K Thompson, J Scoons and B Lawton
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Prospective Study into Harmonised Train Accident Precursors Analysis and Management Appendix B - Fault trees

Author C Fowler, S Tong, K Fernández-Medina, K Thompson, J Scoons and B Lawton
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Rental customer survey 2012

This study reports on surveys of UK residents who make personal car rental trips in the UK. Details of 3,947 rentals were received from 3,700 customers. This study showed that rental is used by a wide range of people for a diverse variety of purposes, interacting in a complex way with both one-off travel decisions and longer strategic choices. Although a significant proportion of renters reported that public transport was one of the options they would have considered for their trip if rental had not been available, it was also notable that, on average, rental customers make more frequent trips by public transport, cycling and walking than the average British car licence holder. Moreover, for 35% of rentals made, people

reported that the only other option they would have considered was using another car or van (via getting a lift, borrowing a vehicle etc). On average, rental vehicles are relatively efficient and well-maintained compared to private cars, and used with relatively high vehicle occupancies. Meanwhile, the greatest impacts of rental may be on decisions about car ownership. A third of those renting cars live in households that don't own a vehicle. 26% reported that they are less likely to buy a(nother) vehicle in future, compared with 10% who reported they are more likely to do so. 15-24% reported that, in the past, the opportunity to rent has meant that they delayed vehicle ownership or owned fewer household vehicles than they otherwise would have done (compared with only 3% reporting at least one of the opposite effects).

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