

Award-winning papers in 2017

Papers published in *Transport* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Friday 8 October 2018, ICE president Robert Mair presented awards to the following papers published in *Transport* in 2017. The editorial panel nominated their best papers and an awards committee chaired by Nigel Wright allocated the awards.

Safety in Construction Medal

The Safety in Construction Medal, for the best paper on measures taken to safeguard the health and safety of the construction team, user and public, was awarded to Thornes *et al.* (2017).

Abstract

In 2012, the World Health Organization's International Agency for Research on Cancer (IARC) reclassified diesel engine exhaust and related ambient air pollution to be carcinogenic and associated with increased mortality from lung cancer. This could have critical consequences for both public and occupational health in enclosed railway stations where ventilation is often inadequate. Recent policies encouraging a shift to public transport, along with increasing passenger and train numbers,

have led to a variety of co-benefits, including improved health and well-being from increased walking and cycling. This paper considers the unintended consequences of a reduction of air quality in crowded enclosed railway stations and concludes with a number of possible interventions to ensure that public health is not affected, especially by air pollution from stationary diesel trains. Pollution from electric trains can also lead to poor air quality due to the production of metal-rich ultrafine particles from brake linings, friction between wheel and rail, and from overhead pantographs. Current occupational health standards are not suitable for enclosed railway stations and need to be reconsidered in the light of the IARC findings. More measurements of the levels of particulates and nitrogen dioxide in enclosed railway stations need to be undertaken and published.

Rees Jeffreys Award

The Rees Jeffreys Award, presented for the best paper on highway engineering, was awarded to Dennis and Pullen (2017).

Abstract

There is a critical lack of affordable transport services linking villages to markets, healthcare and other facilities in rural areas of sub-Saharan Africa, which significantly restrains rural development. A key factor is the severe constraint on profitability of services due to the high operating costs of conventional vehicles operating at relatively low speeds on rural roads. This paper argues that there is a need to consider lower-speed alternatives



Winners of the Safety in Construction Medal Alice Hickman and John Thornes with ICE president Robert Mair



ICE president Robert Mair (centre) with Emily Dennis, daughter of Ron Dennis, and Keith Pullen, winners of the Rees Jeffreys Award



Peter Underwood receives the William Webb Prize from ICE president Robert Mair

based on motorcycles. It shows that motorcycle-based vehicles such as trailers and three-wheelers can carry loads up to 1 t on rural roads when geared down to an appropriate speed. The operating costs of these vehicles are shown to be around half those of conventional vehicles, greatly increasing the potential for setting up profitable transport services.

Further development is needed to show that motorcycle-based vehicles can be used safely and profitably to help rural people improve their livelihoods and facilitate rural development.

William Webb Prize

The William Webb Prize, awarded for the best paper on a non-highways transport scheme, was awarded to Waterson *et al.* (2017).

Abstract

Rail trespass and risk-taking behaviours are particularly high among 16–25 year olds. The aim of the research described in this paper is to understand how the communication of safety information to these groups can be improved. The study involves focus groups with 117 young people and 43 interviews with stakeholders drawn from the rail industry alongside professionals involved in working with young people. Participants in the focus groups are shown a set of four safety videos which describe the dangers of trespass. The findings demonstrate a number of misconceptions about the dangers and legality of trespass among young people (e.g. lack of awareness of electrocution dangers). Material which includes emotional, 'real-life' information in the form of safety narratives is judged to be the most effective in communicating trespass risks. The study also underlines the importance of combining and integrating technical, educational and community-based efforts to reduce trespass.

REFERENCES

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