Editorial

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The April issue of *Transport* provides our readers with a number of high-quality research papers, the findings from which have the potential for immediate practical application. The issue reflects the diversity of our authors and the broad range of topics addressed by *Transport*. The effect of climate on road infrastructure is considered in our first two articles. UK-based water specialists and environmental scientists (McSweeney *et al.*, 2016) reflect on the potential impacts of climate change on the future requirement to salt to keep the UK's roads free from ice. Methods of reducing the amount of ice forming on our roads in the first place are the subject of our second paper by highway engineering researchers from the UK industry and academia (Wright *et al.*, 2016). Authors from universities in China describe research on improving the prediction of real-time traffic flow (Yao *et al.*, 2016) and provide an analysis of the factors affecting driver injury in roadwork zones (Weng *et al.*, 2016). Finally, academic researchers from Spain (García-Pastor *et al.*, 2016) describe a methodology for assessing the true economic impact of improving quality attributes for operators of public transport.

This issue of *Transport* is complemented by a discussion of a recent paper on railway track drainage and by two book reviews of railway and highway texts written by well-respected Greek authors.

The lead paper, by McSweeney *et al.* (2016), investigates the potential impact of predicted climate change on the £150 million annual cost of the UK's winter maintenance programme. The focus of their study is on the uncertain, or marginal, nights when temperatures are close to freezing and when winter maintenance managers need to use their expert opinion to decide whether salting is required. The study uses data from across England together with data provided by the United Kingdom Climate Projections 2009 (UKCP09) weather generator to infer near-term predictions of temperature. The importance of the work is that the methodology can provide information for road administrations, such as Highways England, so that future severe weather can be planned for and appropriate resources allocated. Our second paper, by Wright *et al.* (2016), complements the lead article, exploring as it does the potential of chemical modification to the surface layer of a road pavement to prevent ice and snow adhesion. Wright *et al.* (2016) elegantly marry theoretical modelling with a novel experimental procedure to assess a number of technologies whose integration into road surfaces could potentially lead to economic, environmental and safety benefits for winter maintenance service providers and road users.

An improved model for predicting real-time traffic flow is the focus of the paper by Yao *et al.* (2016). The model uses both historical and current travel data to infer real-time traffic flows. The authors demonstrate their model using data obtained from global positioning system (GPS) equipment fitted to taxis.

Weng *et al.* (2016) provide our fourth paper, which is an assessment of the different factors which may contribute towards the severity of injuries of drivers involved in accidents occurring in short- and long-term roadwork zones in China. Short-term work zones (i.e., those of duration of less than 3 d) in China are implemented using simplified traffic control procedures compared to long-term work zones. The hypothesis of the paper, therefore, is that the factors which contribute towards injury severity may be different in short- and long-term work zones and that identifying these differences can support the need for different policies and guidelines for the two types of work zones in order to reduce injuries and fatalities.

Our final paper is associated with the development and trial of a methodology to determine the economic impact on bus operators of improving service quality. García-Pastor *et al.* (2016) develop a methodology based on an activity-based costing approach and they demonstrate the methodology, using headway as a measure of service quality, for a bus contract in Madrid. The authors argue that the approach is more accurate than more simplistic procedures currently used and that it can provide transport service providers with a means of identifying efficient investment through targeting areas of service improvement which have the greatest customer impact for the least cost.

Following the five peer-reviewed papers, this issue of *Transport* includes a forthright discussion (Rushton *et al.*, 2016) of a study by Rushton and Ghataora (2014) which addressed the design for efficient drainage of railway track foundations. Adequate drainage is recognised as vital for ensuring the performance of both road pavements and railway track, but it is still for some reason often overlooked.

This edition is completed by authoritative opinions on the merits of two books, written by well-known authors, both aimed at the university student and the practitioner alike. The first review is of a new weighty book addressing the subject of various aspects of highway engineering and the second evaluates the latest edition of a very popular book on railway management and engineering.

Enjoy the April edition of *Transport*.

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