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Editorial

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Welcome to the August 2013 issue of *Transport*. This issue contains six papers grouped around the theme of pavement engineering and in particular asphalt pavements.

The first paper, entitled 'An introduction to asphalt pavement design in the UK' (Brown, 2013), is an invited state of the art review by Professor Stephen Brown, OBE, of the University of Nottingham. Professor Brown is a world authority in this area and in his paper he has brought together his long experience of leading development in this field to present an essential primer for any engineer that needs to understand the basic principles of asphalt pavement design. This paper, coupled with his 36th Rankine Lecture paper 'Soil mechanics in pavement engineering' (Brown, 1996), makes essential reading for anyone new to the topic or in need of a refresher. These two papers in combination also now provide an extensive source of references for further detailed reading in the subject.

Professor Brown rightly highlights the importance of material characterisation coupled with appropriate design modelling and maintenance management within pavement engineering. This is essential to ensure adequate pavement life and service; and leads appropriately into the remaining papers in this issue that cover these aspects.

Pavement engineers need to have a good understanding of material performance under repeated loading to facilitate pavement design. The second paper, by Khan *et al.* (2013), presents a set of laboratory results that show how the deformation of asphaltic materials develops over time and can be modelled via assessment of the propagation of fatigue using X-ray tomography. Two of the co-authors of this paper, Professors Collop and Airey, have also been influential in much of the recent work cited in the first paper.

The evaluation of pavements using non-destructive techniques for performance evaluation is also described in Professor Brown's paper. The third paper in this issue (Cülfik and Yildirim, 2013), presents a field study of the performance of overlays of concrete pavements evaluated using a seismic technique. This work is timely as the evaluation of the performance of overlays of concrete pavements is a complex and challenging area of the discipline.

Following the recent winters all who use the UK road network are aware of the deterioration of our highway pavements evidenced by the increased number of pot holes and cracks that can be seen when travelling. The fourth paper (Burrow *et al.*, 2013) demonstrates quite clearly from a case study in Cyprus how important it is to have a robust maintenance management system and the risk of false economy of cutting back on routine and preventative pavement maintenance.

However, any pavement management model is only as good as the input parameters and this is highlighted in the fifth paper (Evdorides *et al.*, 2013). The authors investigate the variability of pavement condition data and the impact this has statistically on the reliability of the pavement maintenance models used.

Finally, as users of road pavements we often forget those who live adjacent to our highways and the affect the road surface and the traffic noise generated may have on nearby residents. The final paper (Yu and Lu, 2013) is a study of the effect of pavement noise from various asphalt pavement types and offers some information on how selection of appropriate pavement surfaces may reduce environmental impact on a highway's neighbours.

The journal's editorial panel hopes that you will find this themed issue useful as a future reference source, and in particular recommends the first paper as required reading for anyone working in the field of pavement engineering.

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