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# Editorial

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Welcome to the May 2011 issue of *Transport*.

In this issue we have five papers on a range of subjects from studies in various parts of the world. Whilst it is unintentional for this issue, I detect something of a sustainability theme running through these papers. Perhaps that is symptomatic of current times and awareness. I hope you find something of interest in these and it may be that an idea or output can assist you in your own work.

For railway networks, it is necessary to model the deterioration of track geometry to enable the effective planning of track maintenance and renewal. The optimum allocation of resources and timing of interventions is complex due to the number of variables, and their interaction, that influence track condition. In the first paper (Guler *et al.*, 2011) a statistical method of analysis is presented with multiple parameter inputs, including fine detail from track recording vehicles. The analysis provides a broader overview of route condition over longer lengths than provided from the vehicle data. Trends are identified to enable predictions to be made for optimised timing of selective remedial work, be that either routine maintenance or more significant renewal.

As roads become ever more congested, it is important to understand the factors that influence decisions relating to the choice of mode for trips by pupils to and from schools. Research on this topic is presented in the second paper (Alemu and Tsutsumi, 2011) relating to high school students in Okinawa, Japan. A model has been developed combining various parameters using data from a survey of students. A link between school and work travel patterns is identified. The paper concludes that there is a need for transport planners and bus service providers to give special consideration to school trips when developing policies and service provision.

The use of geographic information systems is presented in the third paper (Gundogdu, 2011) as an effective way of analysing road traffic accidents on a linear and point basis on a wide area scale. Through this method lengths of road, as well as specific locations, with a poor safety record are identified. Methods for more detailed analysis are presented to examine historical accident records with predictive techniques to identify existing and potential future accident 'hot spots'. Layers of data are added to digitised maps to identify common or connected factors causing an accident cluster. Thus, appropriate and effective accident-reduction interventions at the identified locations can be considered.

The need for sustainable solutions is leading to further exploration into the use of innovative materials and applications for surface transport infrastructure. The fourth paper (Neocleous *et al.*, 2011) in this issue focuses on the use of concrete pavements as an alternative to asphalt. The use of steel fibres from discarded vehicle tyres and recycled aggregates in the concrete mix, combined with use of roller compaction, are discussed and the study results presented. The conclusion is that construction cost, time and energy consumption can all be reduced through use of such materials and techniques.

The sustainability theme continues in the last paper. This paper (Akbulut *et al.*, 2011) considers the use of volcanic aggregates in asphalt mixes to address the need to find new local sources of aggregate to meet the increasing demand for transport infrastructure. Local sources reduce the need for transport over long distances with attendant higher costs, time delays and wear and tear on roads remote from the construction site. Volcanic aggregate samples from two locations in Turkey were tested for their suitability for use in bituminous pavement layers. The samples were subjected to a number of widely used tests and the results are presented. Based on limited sampling, the conclusion is that such materials provide an acceptable alternative aggregate, with application dependent on the properties of the specific rock source.

Thank you to the authors of these papers for providing an insight into their studies in these areas.

The editorial advisory panel has a wide membership with expertise in the transport field across all modes. Our aim is to include papers on as wide a range of subjects as possible within the constraints of the space available. We are always willing to consider high-quality papers for publication and we look forward to further submissions to inspire thought, debate, innovation and continuous improvement.

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