

THE EFFECTS OF ROAD WEATHER AND DRIVER INFORMATION SYSTEMS ON ROAD USER ACCIDENTS

Marilyn Burtwell

TRL Limited, Old Wokingham Road, Crowthorne, Berks RG45 6AU, UK

Tel: +44 1344 770214/Fax: +44 1344 770748 Email: mburtwell@trl.co.uk

and

Adrian Runacres

TRL Limited, Old Wokingham Road, Crowthorne, Berks RG45 6AU, UK

Tel: +44 1344 770891/Fax: +44 1344 770894 Email: arunacres@trl.co.uk

Effective snow and ice control is a vital service provided by European highway authorities in order to ensure, as far as possible, that road users can travel safely and with minimum disruption in cold and severe climatic conditions. However, it is important that the winter maintenance service is provided at an affordable price and that Best Value is achieved with minimum environmental impact, minimum traffic disruption and with high standards of safety.

The demand for improvement in snow and ice control continues to be driven by the increasing need for the safe and efficient transportation of freight and people, both nationally and internationally, in conjunction with the environmental and other policies affecting highways.

European Commission project, COST Action 344: Improvements to snow and ice control on European roads and bridges, started in April 1999, is a three-year project with participation from eighteen European countries. TRL is representing the UK Highways Agency who is responsible for the maintenance and operation of English Trunk Roads.

A driver's speed of reaction to changing road and traffic conditions and the level of driver concentration can be variable. Driver warning systems such as road signing, leaflets and media communications combined with intelligent transport systems (ITS) have the potential to enhance driver safety particularly when visibility is reduced. Thus, ITS technologies have a great potential for improving winter maintenance operations and accident prevention under severe weather conditions. This potential is being investigated with the aim of integrating existing and evolving ITS applications into an efficient winter maintenance management system.

The UK has a particular interest in accident causation and its analysis. It's governments are firmly committed to reducing accident numbers and have aggressive policies in place to achieve this aim. It is only when the causes of accidents are properly understood that remedial measures can be efficiently targeted. However, it also appears that accident analysis could provide a useful input to a method of auditing the performance of UK Maintaining Agents and Contractors. In order to determine whether and how this can best be achieved, a recent research project has examined the variation of winter weather related accidents across the English Motorway and Trunk Road network. Because of the great diversity shown in UK regional climates and traffic flows, it is essential that these variations be accounted for in any audit methodology, so that each Agent and Contractor is assessed in a fair and equitable manner.

For the road users, more effective management of winter operations could lead to a reduction in traffic delays and accidents. The implementation of Best Value including best practice could provide the means to measure the performance of the winter maintenance service within various road administrations.