

Active Traffic Management (ATM)

The ATM vision

Imagine... the year is 2007, the place Birmingham, the time is 06:30 on a crisp November morning. Somewhere out there, you are on your way to work.

At the nearby "Integrated Control Office", experienced operators are monitoring the region. A few years back the build up of traffic might have perturbed them, but ATM has evened the odds. The clock shows 06:45 and traffic levels are now noticeable. "Variable Speed Limits" come into play on overhead gantries, followed in perfect step by the "Access Management System" on the slip road. The control systems are centrally co-ordinated along with the traffic lights on the local road network to avoid disruptions.

The early morning build up continues, and at 07:15 the operators are alerted to the requirement for extra capacity. They initiate a robust procedure to temporarily allow drivers onto the hard shoulder. In the background the system continues to "watch" the road, one "eye" looking at safety and the other "eye" looking at performance. High visibility electronic message signs light up with pictograms and text, offering information about conditions for the rest of the Birmingham Box, and predicted journey times to critical locations. Drivers are given continuous protection by a combination of speed limits and automated lane control signals. Emergency services are promptly informed about a stalled vehicle in the outside lane, and "normal service" is resumed once more. The TCC* is kept posted about the situation over the web, and sets a diversion strategy in place to relieve pressure on this section. By 11:00 traffic has subsided, but the ATM system continues to watch for any changes.

For years the letters "ATM" have been synonymous with the proverbial "hole in the wall", but in the true spirit of sustainability the acronym takes on a whole new meaning. Active Traffic Management is a proactive and innovative approach to tackling congestion in a flexible, co-ordinated, and efficient

manner. Alongside the TCC Project, ATM forms a fundamental part of the Highways Agency delivery programme over the coming few years.

Groundwork

Over the last eighteen months TRL has specified and evaluated a range of potential "operational regimes" for this ATM environment. Some of the proposed traffic management techniques will be familiar to drivers, while others will be a new experience in terms of changes to the driving environment. However, ATM is a versatile and integrated solution, aimed at tackling specific problems identified at the chosen location. TRL has also developed a robust methodology for assessing the impacts of ATM.



Pilot Study

The M42 J3a-7 forms an important part of the regional network, with arterial links into Birmingham and access to major attractions such as the NEC and Birmingham Airport. This location was recommended by TRL as a primary candidate for the £40M ATM Pilot.

Earlier this year, Mouchel was appointed as the managing consultant for the scheme, and TRL is now working as a key part of this consortium for the next six years. The work programme will draw on skills and innovation from across the company, including mathematical modelling, virtual reality simulation, safety assessment, and data analysis. In summary, TRL is making an important contribution towards the success of a £200M investment by the Highways Agency in Active Traffic Management and the TCC.

Contact: Ian Burrow 0956
enquiries@trl.co.uk

**A key part of strategic traffic management is making sure that drivers get timely and relevant information. Birmingham forms the focus for another important milestone – the National Traffic Control Centre (TCC).*

TRL Publications: June - August 2002

This information, plus a lot more (including abstracts of these reports) is available from TRL's website at: www.trl.co.uk

Reports

- TRL532 A study of lower back strain injuries resulting from road accidents £25
- TRL534 Condition indicators in footway maintenance £25
- TRL538 Development and drawings of the TRL pedestrian legform and upper legform impactors £200
- TRL540 EU Statement of Principles for HMI: final report £40
- TRL541 Accuracy of data from MIDAS outstations £30
- TRL542 In-depth accident causation study of young drivers £25
- TRL543 The influence of cannabis and alcohol on driving £25
- VR1 Foamix: pilot scale trials and design considerations £40

TRL Journal of Research 2002 - Vol 5. Number 1 (£25)

The TRL Journal of Research is produced three times a year and is a selection of articles published in journals and conferences by TRL Researchers (Annual subscription (£50))

Guidance for Safer Temporary Traffic Management £35

TRL Annual Research Review 2001 £30

TRL Reports and Published Papers 2001 £30

HR6 Equestrian use of trunk road structures: a study of key issues for riders £20

Incident on 28 February 2001 at Little Heck railway bridge, between Junctions 34 and 35 of the M62 Motorway £5 (plus £2 p&p)

Current Topics in Transport

- CT41.3 Concrete road design and construction update (2000-2002) £20
- CT56.2 Fuel consumption and alternative fuels consumption update (1999-2002) £20
- CT100.2 Vehicle tyres - design & safety update (2000-2002) £20
- CT103.2 Intelligent vehicle highway systems (IVHS) update (2000-2002) £20
- CT130.1 Rubber in bituminous pavements update (1998-2001) £20
- CT131.1 Transport in developing countries: planning and investment update (1999-2002) £20
- CT139.1 Local transport planning update (2000-2002) £20
- CT140.1 Highway safety auditing update (1999-2002) £20
- CT146.1 Transport information and the internet update (2000-2002) £20

To order TRL Reports or Current Topics, contact the Publications Unit:
Janet Brown ☎0134 or Anne Tunbridge ☎0783
info@trl.co.uk

Library Membership Schemes or Full Retrospective Searches, contact:
Sarah Groombridge ☎0146
info@trl.co.uk

TRL Website: www.trl.co.uk

Seat belt manual

Between 750,000 and 880,000 people died in road crashes globally in 1999, according to TRL estimates. 85% of these deaths occurred in developing and transitional countries, where seatbelt wearing rates are low. The Federation Internationale de l'Automobile (FIA) Foundation has commissioned TRL to develop a manual for increasing seatbelt wearing rates in developing and emerging nations. This will provide policy makers and key stakeholders with the knowledge and tools to plan, develop, implement and evaluate a scheme for increasing the wearing of seatbelts at a national level, and should prove instrumental in reducing death and injury.



Unrestrained front and rear seat passengers from a 1980 TRL test, part of the research which led to seatbelt legislation in the UK

Seatbelt wearing has both humanitarian and socio-economic benefits. Studies have demonstrated that economically active young males form the largest group of road traffic casualties. Injury or death in this group, leading to the loss of their salary from the household income, can cause hardship, and in the worst cases result in an insufficient supply of funds for the family to provide adequate education, food, sanitation and healthcare. On a national scale, seatbelt wearing has benefits for the economy in terms of reductions in accident and injury costs.

The manual will not only advise on the harmonisation of seatbelt construction and fitting standards, but will examine proven effectiveness of monitored and evaluated enforcement, education, incentive and publicity campaigns from around the world. It will also highlight how to create an enabling environment through the drafting of legislation, and outline key responsibilities and funding requirements.

The FIA Foundation and TRL have surveyed many developed and developing countries to determine the current situation. Technical assistance is also being sought from the police, seatbelt and vehicle manufacturers, health and education departments and road safety councils. TRL would welcome contact from any of these bodies/organisations wishing to highlight working practice in their field of work or those with an interest in increasing seatbelt usage in their country/state.

Contact: Darren Divall 0280
enquiries@trl.co.uk

Speed and accidents – let’s put the record straight!

There is a vast amount of evidence demonstrating the strong link between vehicle speed and road accidents. So why does material keep appearing in the media suggesting the effect is small?

The issue is so important we feel it is time to reiterate the true position. In the 1990s a number of police forces conducted a limited trial of an experimental accident reporting system. The results were reported clearly in TRL Report 323 but they have frequently been misquoted.

Speed increases the impact of many of the factors which contribute to accidents. For example, “aggressive driving” or “driving too closely” are both much worse at speed. Such factors were recorded in the system separately from speed; but speed plays a big part in their effect on accidents. The system also allowed speed to be recorded in its own right. The total effect of speed on accidents is obviously the sum of both types of factor.

Misunderstandings in the press appear to have resulted in two ways. First, speed identified as a separate factor in its own right was present in 15% of accidents, not the 7.3%, or lower figures, that are often wrongly quoted. Secondly, the 15% is only one part of the total effect of speed on accidents. When allowance is made for all of the other speed-dependent factors, the contribution is, we believe, much greater.

This means that speed is far more important in causing accidents and increasing their severity than the misquoted figures suggest. Importantly, other TRL studies have *directly* examined the relationship between speed and accidents. These are summarised in TRL reports 421 and 511. They avoid the inevitably subjective judgements associated with studies of contributory factors which, for example, involve estimating what an appropriate speed is in each situation.

- Studies of *individual drivers* have examined how drivers’ speed choice affects their likelihood of accident involvement. Accident records of more than 10,000 drivers were related statistically to their observed speeding behaviour. These showed clearly that accident risk rises the faster a driver travels: at 25% above the average speed, a driver is about 6 times as likely to have an accident than a driver travelling at the average speed. (see graph)
- *Road-based* studies looked at how speeds on a given road affect accidents occurring there. Several hundred thousand observations of vehicle speed on almost 300 roads of different types were related statistically to the numbers of accidents on those roads. These showed clearly that the faster the average speed of traffic on a given type of road, the more accidents there are. Injury accidents rise rapidly as average speed increases, if all else remains constant.

TRL Contacts

INFRASTRUCTURE

Director - David Powell ☎ +44 (0)1344 770492

SAFETY & ENVIRONMENT

Director - Tim Gamon ☎ +44 (0)1344 770009

TRANSPORTATION

Director - Nigel Eastwood ☎ +44 (0)1344 770065

INTERNATIONAL

Director - Stuart Colwill ☎ +44 (0)1344 770821

GENERAL ENQUIRIES

☎ +44 (0)1344 770007 ✉ enquiries@trl.co.uk

TRL SCOTLAND

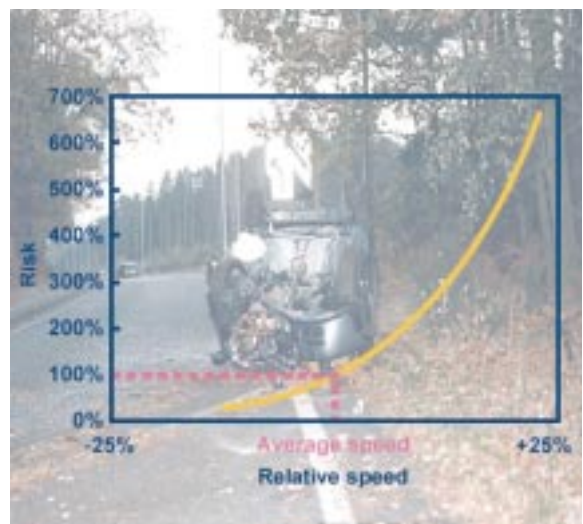
Mike Winter

☎ +44 (0)131 455 5182

Fax: +44 (0)131 455 5188

Redwood House, 66 Spylaw Road
Edinburgh, EH10 5BR

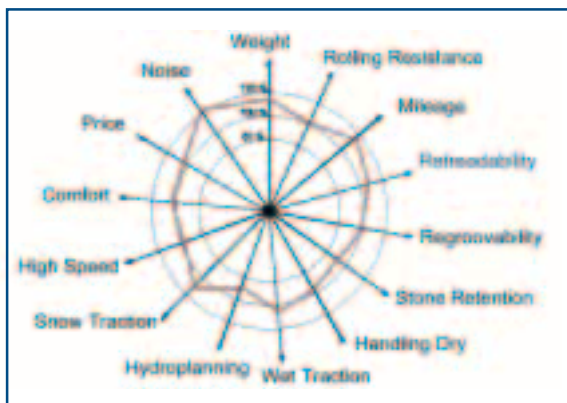
Many ‘before and after’ studies of measures which slow traffic and result in substantially fewer accidents have also been reported. These measures include, for example, traffic calming schemes in 20mph zones – where injury accidents were more than halved (TRL Report 215).



These studies together provide extremely robust evidence of how speed affects accidents. They are large-scale studies, of real traffic on real roads, involving rigorous statistical analyses. The conclusions are unambiguous. Remember, 10 people die and 100 are seriously injured on our roads *per day*. Improvements in driver behaviour have the potential to cut these statistics dramatically; reducing drivers’ speeds will play a vital part in this.

Contact:
Marie Taylor 0304 or
David Lynam 0434
enquiries@trl.co.uk

TRL and tyres



Whilst TRL may be best known for its work on vehicles and road surfaces, the picture would not be complete without consideration of the tyres that link the two. Modern tyres are complex items designed to carry a vehicle, laden with goods or passengers, as safely and as comfortably as possible. In addition they need to be able to cope with the stresses of vibration, load, speed and braking whilst lasting for a long time, with minimal environmental impact. All of these often conflicting requirements require careful optimisation.

TRL has a long involvement in tyre research. Current work includes:

- Primary NCAP braking assessments which are partly dependent on tyre performance.
- DfT work which has included an assessment of the grip and noise generated by truck and car tyres and more recently factors, including tyre characteristics, that may limit improvement to truck braking performance.
- Accident investigation work conducted by TRL's Investigations & Risk Management Group

TRL also explores in detail the environmental issues created by tyres:

Air Pollution

Road transport is one of the most important sources of airborne particles and it is generally assumed that fuel combustion is their primary formation mechanism. However, there are a number of non-exhaust processes which can also generate particles, including tyre wear, brake wear, road surface wear, and the resuspension of road dust by traffic. In the European Commission's PARTICULATES project, TRL is characterising non-exhaust particles, including those from tyres, and developing emission factors for them.

Noise Pollution

In August, the European Commission published the Directive on Tyre Noise. Much of the groundwork for this Directive was carried out at TRL which provided considerable support for (the then) DTLR during the negotiations. TRL has already started work on the revision of the test method and a recent Tyre/Road noise project generated considerable data which is already being used in negotiations in both Brussels and Geneva. Work is continuing on

improving the understanding of tyre noise through TRITON (a TRL developed vehicle for measuring tyre/road noise) for the Highways Agency, the European Commission and others.

Sustainable Waste Management

Waste management is an important issue throughout the Tyre Industry. Stockpiles, illegal disposal and previous problems from uncontrolled tyre fires have made tyres one of the most important wastes for control in the UK. A lack of consistent and available information for the whole Tyre Industry has hindered understanding of issues that need to be resolved to



improve sustainability throughout the tyre sector. To address this problem a 'mass balance' of the tyre industry was undertaken by TRL, Viridis and ETRA, with funding from Biffaward, the results of which will be launched shortly – see box below.

In addition, Viridis, with support from TRL is developing technical guidance for the use of post-consumer tyres in civil engineering applications. This report takes the recommendations of the Tyre Mass Balance study further, providing real solutions to the tyre waste problem. The project is being funded by Biffaward under the Landfill Tax Credit Scheme, with support from ICE. The study will produce a guidance document, and will be launched in Spring 2003. TRL/Viridis now recommends a National Strategy to enable implementation of these sustainable solutions and to promote cooperation between stakeholders, government and regulators.

Contact: Steve Phillips 0765, enquiries@trl.co.uk

Tyre Waste and Resource Management – A Mass Balance Approach: One Great George Street, London SW1 3AA - Tuesday 15 October

A free half-day seminar is being held to launch this groundbreaking study that investigated resource flows throughout the tyre industry and has established the current situation regarding the manufacture, use, reprocessing and disposal of tyres within the UK. The work identifies current and future challenges and recommends options to achieve more sustainable management.

Contact Mary Treen, email: mtreen@trl.co.uk
Tel 01344 770514

Expanding capabilities in crash investigation

TRL's Investigations and Risk Management (IRM) Group is a world leading multi-disciplinary team undertaking independent road crash investigations. In the UK the Group, operating from TRL's Crowthorne site and a recently opened office in Worcester, offers clients a comprehensive range of services including crash reconstruction, computer simulation, incident visualisation, analysis of CCTV footage, forensic investigation of component failures, tachograph chart analysis and other related services. Overseas, an office in Australia provides services in crash and liability investigations, highway maintenance and risk management.

TRL regularly employs three dimensional (3D) laser scanning technologies to assist in rapid data collection and surveying of incident scenes, where volatile information requires swift and accurate recording. TRL's experts have been refining the use of this technology in investigation and have assisted at a number of major transport incidents and crime scenes.

TRL has been involved in a number of cases to determine which of the unrestrained occupants in a crashed vehicle was driving. Typically, a simulation is developed for the collision sequence to determine the forces and accelerations acting on the accident-involved vehicles. This information is then used to simulate the associated occupant motions, which can be used to match contact points between the occupants and the vehicle's interior, and identify likely ejection paths.

Accurate 3D environment models can be transferred to TRL's driving simulator suite, allowing investigators and others to "drive" through scenes and experience what it was like to have been one of the drivers involved in the incident.

Working from poor CCTV footage, TRL has reconstructed a night time motorway accident. Firstly, a three dimensional model of the roadway environment was generated using 3D laser scan information. The position of each vehicle was then identified using individual video frames and the known camera position. An animation of the incident was then developed, which could be viewed from any angle, including each driver's perspective.



What the technology can do—scanner collects survey data to produce 3D scan. Scan is used to build 3D environment for visualisation of accident reconstruction

In road accidents, this rapid acquisition of data has the potential to help achieve a faster clean-up rate and restoration of free traffic flow to the network. Furthermore, investigators and other interested parties, can walk, drive or fly through and take measurements of the incident scene within the generated 3D computer models, long after clean up operations are complete.

Sophisticated reconstruction software systems are used for simulation of road crashes, enabling detailed analysis of a wide range of properties relating to the interaction between vehicles, humans and environments. TRL's reconstruction experts are able to incorporate detailed terrain models, captured using the 3D laser scanning equipment, into incident simulations. In single vehicle incidents, this can be used to examine the potential for vehicular loss of control due to variations in vehicle properties such as under-inflated tyres and excessive vehicle load or highway topography due to undulations or potholes.

In road safety where the scanning system can be used to assist in the design and visualisation of various highway improvement schemes. Recently, staff worked in Asia, where they were engaged in a study to improve the safety of a 55km section of road.

Laser scanning technology has also been utilised in the preservation and visualisation of major crime scenes. In such cases the team has constructed complex three dimensional scene models from laser scan data which allow the visualisation of witness positions/routes and visual perspectives to be demonstrated and animation of proposed incident sequences/scenarios.

The application of rapid spatial data capture using laser scanning systems is also being developed in the areas of security and contingency planning through the TRL's Police Advisory Unit. This work aims to provide detailed 3D modelling for scene/site appreciation, operational planning and tactical briefing.

Contact: Iwan Parry 0881, enquiries@trl.co.uk

Using pulverised-fuel ash

Sustainable construction has many benefits beyond important environmental savings. For industry, powerful economic incentives to use secondary materials exist as a result of government policy. These include the tax on material sent to landfill, the aggregates levy and the tightening of planning consents on industrial by-product disposal sites. However, the construction industry is hampered in its efforts to move towards a more sustainable approach by a number of factors. One of these is existing specifications.

TRL and the University of Newcastle were asked by the UK Quality Ash Association (UKQAA) to review the current Specification for Highway Works (MCHW 1 and 2) with regard to the use of pulverised-fuel ash (PFA) as general fill. PFA is a by-product from the production of energy from coal-fired power stations and the amount produced in the UK is significant. The UKQAA estimated that in 1997 around 6 million tonnes was generated. Although the material has a long history of use as a general fill in earthworks from the 1940's onwards, the requirements of the highway works specification from 1986 onwards have decreased the amount of PFA used for this purpose.

TRL's review of the existing requirements covers such aspects as compaction, dry density, moisture content and design/safety parameters. The result is a new approach to the specification of PFA as proposed in the recently published TRL Report 519. The new approach is set within the context of the existing specification, so that it can be easily incorporated. By making the requirements less exacting and more in line with those applied to other materials, like natural soil, the changes encourage the greater use of PFA in general fill, whilst ensuring the continued construction of stable earthwork structures.



PFA compaction during construction of the A52 trunk road.
Photo courtesy of UK QAA

TRL Report 519 "Specification of pulverised-fuel ash for use as general fill" is available from the TRL Library.

Contact:
Mike Winter 0131 455 5182
enquiries@trl.co.uk

Huntingdon Railway Viaduct



Huntingdon Railway Viaduct is a post tensioned concrete box bridge, managed on behalf of the Highways Agency by Carillion URS. The bridge carries the busy A14 dual carriageway across a local road and the East coast mainline railway. Concerns over the bridge's post-tensioning system have led to intensive monitoring, inspection and more recently strengthening works. Inspection and remedial work to the post-tensioning tendons can only be done from within the boxes, but no access points were created at the time of construction. In order to gain access to the boxes, holes have had to be cut through the soffit of the bridge. Cutting holes through highly stressed reinforced concrete is not straightforward and Carillion URS, working in conjunction with Atkins needed to ensure that the high pressure water jetting used to form holes would not result in damage to the structure. TRL was awarded a contract by Costain Ltd, the principal contractor for the strengthening works, to monitor the strain around the access holes as they were cut. Using eighteen vibrating wire strain gauges and two thermocouples per hole, TRL monitored each of the nineteen access holes before, during and after formation.

Vibrating wire strain gauges were originally developed by TRL (then TRRL) in the 1960s, and their robustness and reliability make them ideally suited to applications such as this. The gauges use the well established principle that strain changes in a tensioned wire will change the frequency of vibration of the wire. By measuring the frequency of vibration of the plucked wire it is possible to deduce the change in strain of the concrete. An effective shielding system was developed by Costain Ltd to provide additional protection to the gauges during the water jetting process.

Over half a million strain readings were measured and processed. TRL was able to advise the client of the strain behaviour as it was happening, and forewarn them of potential problems so that they could modify the water jetting process as and when necessary. All nineteen holes were cut without damage to the bridge. With the hole formation phase complete, the main strengthening work is now in progress.

Contact: Mike Hill 0911
enquiries@trl.co.uk

Contracts recently won

For Department for Transport

- Bus passenger information - a literature review and stakeholder research, looking at the financial return from investing in electronic passenger information systems in buses.
- 4th Survey of Cycle Helmet Wearing Rates.

For the Office of the Deputy Prime Minister

- Sustainable Residential Environments - working with lead partners WSP, TRL and David Lock Associates to undertake research looking at the difficulties in delivering the recommendations for sustainable residential environments contained in PPG3 on housing.

For the Highways Agency

- Close Following of Vehicles.
- Incorporation of EC Concrete Pavement Standards into the Specification for Highway Works.
- Examination of Construction Data on M25, Junctions 23 to 24.
- Biodiversity Enhancements of the Network.

For Scottish Executive

- Tourist Motorway Signing – Phase 2.
- Evaluation of wide, single carriageway trunk roads, with an alternating central overtaking lane.

Other contracts

- Civil Engineering Application of Tyres; Development of Best Integrated Transport Options to Waste; both for Viridis.
- Pavement Surveys and Investigations on the A43 and A5 for URS-Carillion in Managing Agents Contract Area 8.
- Transport and Nature Conservation Toolkit for English Nature.
- Installation of instruments and monitoring of the use of stress absorbing layers behind the abutments of an integral bridge at Mount Pleasant Flyover (Hull) for Alfred McAlpine Civil Engineering.
- North West Bognor Home Zones - a data collection, engineering and design Home Zone Challenge Award project working with Lacey Hickie Caley, urban designers.
- Orpington Pedestrian Access Review – a pedestrian audit.
- Bromley Cycle Audit and Town Centre review.
- Bracknell Forest Borough Council – a project investigating initiatives for personalised travel planning.
- Advice to Scottish Road Maintenance Condition Survey for Perth & Kinross Council.
- A92 Side Road Inspection for FaberMaunsell Limited.

The Motorway Achievement

The creation of the UK motorway network in the second half of the twentieth century led to a dramatic improvement in personal mobility and underpinned sustained growth in the economy. Research carried out at TRL and elsewhere made a major contribution to this achievement.

In 'Frontiers of Knowledge and Practice', the first of three volumes to be published by the Motorway Archive Trust, the editors have drawn on contributions from eminent participants in the motorway programme to provide a set of first hand accounts of the problems encountered and the steady improvement achieved through incorporation of research and feedback from practice into Department of Transport standards and specifications. The result is a wide ranging and lively account of the role of research in the creation of the motorway network, from early beginnings in the 1950s when quality of construction and durability were major considerations to the present day when congestion and adverse socio-environmental effects present the greatest challenges.



For further information or to order a copy of 'Frontiers of Knowledge and Practice' contact: Thomas Telford Customer Services, Tel: 020 7665 2464, Email: customerservices@thomastelford.com



Dr Ian McCrae has been appointed to a new Air Quality Expert Group to help the government tackle air pollution in the UK. The information and advice provided by the group will help the government in deciding how best to implement policies on air pollution, including its Air Quality Strategy. Ian's appointment, made by DEFRA (Department for Environment, Food & Rural Affairs) and the equivalent departments of the devolved administrations, signifies his extensive research at TRL into surface transport exhaust emissions and their impact on air quality.

Further information on the group can be found on their website at: www.defra.gov.uk/environment/airquality/aqeg/index.htm

Autumn Conferences 2002

Performance Infrastructure Seminars

TRL Crowthorne

TRL's series of one-day seminars on pavement and structural engineering has been extended to provide a comprehensive guide to the design and maintenance of Performance Infrastructure. Divided into 8 half-day seminars they will focus on Sustainability in Construction (Wednesday 16 October); Surfacing Techniques, Monitoring and Assessment of Pavements (Wednesday 13 November); Road Foundations and Design of Pavements (Wednesday 11 December) and Design and Assessment of Structures (Wednesday 8 January 2003).

Sustainable Construction in Practice

UK Roadshow

The aim of this Roadshow is to deliver practical information on sustainable construction. It will cover such topics as Protection of Controlled Water, Ensuring Compliance with Waste Legislation, Alternative Materials and Recycling, Specifications and Quality Control, Waste Minimisation and Environmental Management Systems.

The Roadshow will be visiting 10 locations around the UK, beginning in London on Tuesday 29 October and moving to Exeter, Cardiff, Portsmouth, Cambridge, Warwick, Manchester, Durham, Edinburgh and Belfast. Target audience includes practising engineers in SMEs, local and national government officers, consultants, small sub-contractors and material producers.

For full details and a booking form for either of these events, contact Mary Treen: email mtreen@trl.co.uk Tel: 01344 770514

Tyre Waste and Resource Management – A Mass Balance Approach – See page 4

FORWARD – Forum for Waste and Resources Research and Development

Regent's College, London, NW1 4NS

Tuesday 22 October sees the launch of FORWARD, organised by Viridis. This free one day event will look at current initiatives and plans including two national projects: WASTENET, a web-based portal to access national Research and Development databases and secondly, a publication identifying national R & D waste research priorities.

For further information contact Tamara Lucas email: tlucas@trl.co.uk Tel 01344 770044

CONTRAM Forum

IEE, Savoy Place, London WC2R 0BL

This CONTRAM Forum on Monday 4 November will look at potential links with TRANSYT and GIS, and an update on the latest developments including the DIADEM variable demand model. For non-licence holders the charge is £50 whilst current licence holders are entitled to two free places.

For full details and a booking form contact Mary Treen as above, or via licensing agent Mott MacDonald (cdw@mm-winc.mottmac.com Tel: 01962 893164)

Strategic Transport Modelling Seminar

TRL Crowthorne

TRL will be running its annual strategic transport modelling seminar on Thursday 7 November. Topics will include recent developments in the Transport Policy Model (TPM) and Strategic Transport Model (STM), and presentations on recent applications.

To book a free place contact Glyn Rhys-Tyler email: grhys-tyler@trl.co.uk Tel :01344 770543

Traffic Software Workshops

TRANSYT

Two 2 day Workshops
22-23 & 24-25 October 02

OSCADY

Two 2 day Workshops
12-13 & 14-15 November 02

For details contact TRL's Software Bureau 0758
Softwarebureau@trl.co.uk

Two new Chief Research Scientists



Chris Baughan is appointed Chief Research Scientist, Safety & Environment with an overall remit for promoting science within this area. His 25-year career has provided an unparalleled breadth of expertise covering the fields of road user safety, traffic noise and environmental appraisal methodology. His most recent work includes a major study of the practical driving test and driver licensing systems, which will influence future DfT policy on novice driver safety, and a forthcoming report on the effectiveness of porous asphalt in reducing noise nuisance. His appointment reflects his active involvement in a wide range of research and will see him promoting innovation and developing TRL and TRF self-funded research to maintain and improve TRL's science and engineering capability.



David Lynam becomes Chief Research Scientist, Road Safety, *honoris causa*, in recognition of his pre-eminent position in road safety research. His knowledge ranges over the whole road safety field, with particular experience in road safety engineering, safety targets and plans, speed management and child safety. His achievements, both nationally and internationally, are demonstrated by his involvement in the setting of national casualty targets for 2010, and his 3-year chairmanship of FERSI (Forum of European Road Safety Research Institutes). Most recently, his role as Research Coordinator for EuroRAP (European Road Assessment Programme), which gives safety ratings to UK and European roads, has placed him at the forefront of another important road safety initiative.