Traffic Software News

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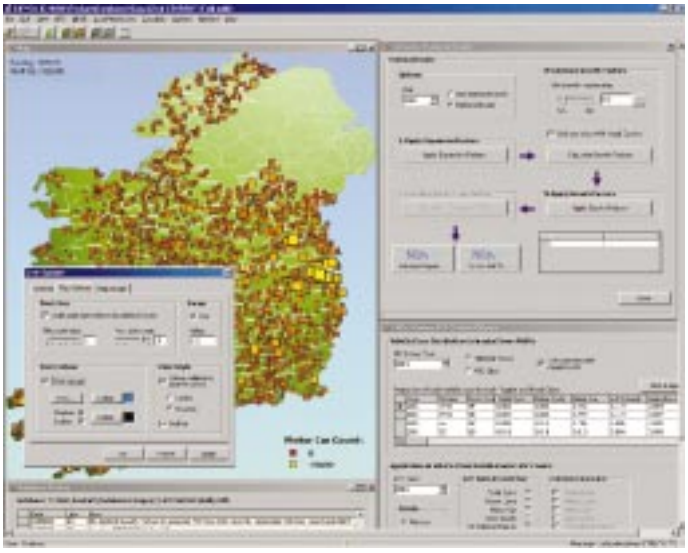
EIRVOL

A New Traffic Survey Management System for Ireland

TRL has completed the development of Ireland's new system for managing its national traffic survey programme and database. The system, named EIRVOL, was commissioned by Ireland's National Roads Authority (NRA) and Department of the Environment and Local Government, and replaces software first produced in the 1970's. EIRVOL was developed to sit in a WINDOWS environment, and enable efficient storage of traffic volume data, the effective management of Ireland's annual count programme, and automatic processing and presentation of the results. The system incorporates a revised programme of manual and automatic counts, developed by TRL for the whole network. This programme improves the frequency of counts and the accuracy of resulting estimates of travel on Ireland's roads. For these estimates, the system calculates the annual vehicle kilometres travelled by vehicle and road type, for subsequent publication by the government.



EIRVOL will provide the NRA with an automatic means of managing the complete yearly cycle of traffic counts and analysis. Its database stores data for all years for which data is available, and initially contains data for 2000 and 2001, plus partial data for years back to 1992. The system manages data for both for National Roads (motorways and trunk routes) and Non-National Roads (local roads). In total these make up about 4000 manual traffic count location sites. In addition, approximately 100 automatic (ATC) sites and their data are included.

TRL's commission included on-site training and documentation, together with final reports on measured daily traffic volumes and estimated annual vehicle kilometres travelled in Ireland in 2001. EIRVOL features include:

- Automatic generation of letters and count spreadsheets for each Local Authority. These indicate the sites to be surveyed in each future year, based on a sub-sample of the 4000 sites that is determined by the program. Spreadsheets in electronic form are sent to Local Authorities, the sites surveyed and the completed spreadsheets returned to NRA for automatic import into EIRVOL.
- ATC data validation and analysis. For any given site, data can be displayed graphically in a number of ways, making any gaps in the data easy to spot. The software can also 'patch- in' missing data.
- A Mapping facility which enables counts to be plotted, with points sized and coloured to reflect various data values.
- Calculation of Expansion Factors used to convert counts into Annual Average Daily Traffic (AADT), Growth Factors (to derive traffic growth between two consecutive years), the estimated AADT and the estimated Annual Vehicle Kilometres travelled for each link.
- The ability to view, edit and perform complex queries to tabulate data into 10 vehicle types, 2 geographical Regions and 5 Road Classes, as well as by Local Authority.
- Automatic export to Excel of final reports.

The resulting traffic data were used by TRL to review Ireland's national future year traffic growth forecasts for cars and heavy goods vehicles. TRL was assisted in the development of EIRVOL by the NRA's own staff , WSP Ireland Limited and Roger Donachie of Donachie Associates.

Graham Burtenshaw Email: gburtenshaw@trl.co.uk

Software Bureau

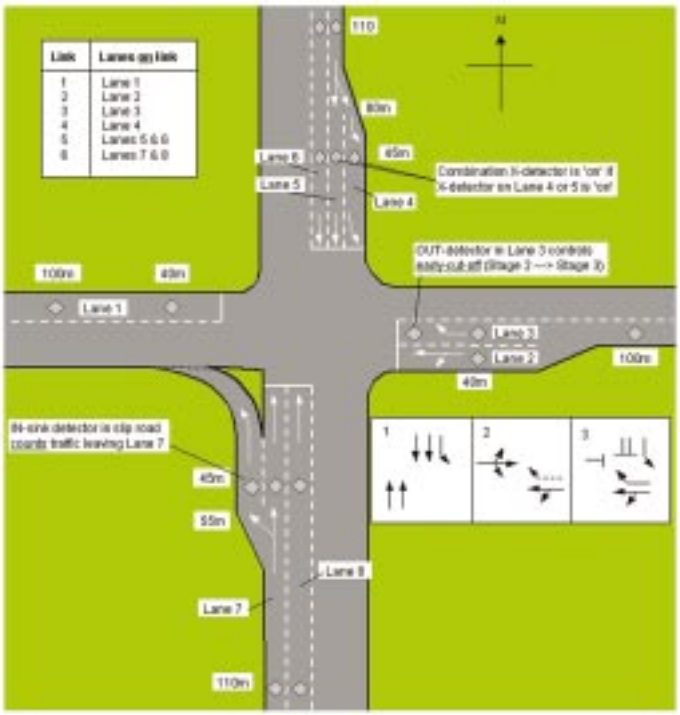
A MERRY CHRISTMAS TO ALL OUR READERS

TRL reviewing MCH1542 'Installation Guide for MOVA'

MOVA (Microprocessor Optimised Vehicle Actuation) has been developed at TRL over many years and has proven to be better than standard Vehicle Actuation (VA) in terms of efficiency, capacity and delays. Field trials have shown that an average of 13% savings in vehicle delay can be achieved, compared with standard VA control (TRL Research Report 170).

The Highways Agency (HA) has a mandatory requirement, through the Departmental Standard TD35 All Purpose Trunk Roads MOVA System of Traffic Control at Signals, to install MOVA at all trunk road signal installations.

The HA is responsible for producing and continually reviewing its MOVA policy and guidance to ensure safety and consistency in the design, installation, operation and maintenance of traffic control on Trunk road schemes. As part of this responsibility the HA publishes the 'Installation Guide for MOVA' (MCH1542(B)). The Highways Agency has commissioned TRL to review and update this guidance.



Example site showing the proposed use of colour to improve clarity

MCH1542 is intended to be a reference document for practising engineers. It concentrates on the main elements of MOVA, design, implementation, commissioning, maintenance and faultfinding. The emphasis of the document is on the practical rather than the theoretical. MCH1542(B) covers:

- MOVA operation - including control principles and facilities.
- Design considerations – including site observations and measurements, detector positioning, and data set preparation.
- Implementation – including loop specification, FAT, controller configuration and fitting MOVA hardware.
- Commissioning – including commissioning test specification, common problems, error messages and post commission validation.
- Maintenance and fault finding – including routine maintenance, operation checking, remote monitoring, assessment log and collection of historical flow data.

MCH1542(B) also includes five example sites showing detector layouts and dataset configurations. The sites range from straightforward layouts to complex multi-stage junctions.

MCH1542 was last revised in 1999. The aim of this latest review is:

- To bring MCH1542 up-to-date, including the latest MOVA developments (Version 5).
- To make the advice easier for users, particularly the less experienced, to understand and apply correctly.
- To improve and strengthen advice on estimating the benefits of applying MOVA at specific sites.

In particular, new developments such as linked-MOVA, including decisions to link or not to link, automatic stage sequence systems, and advice on the use of PUFFIN detection equipment at junctions, will be added. Advice on assessing benefits after installation, using flow/occupancy data, will also be reviewed.

The updated version of the MCH is expected by Summer 2003.

Alastair Maxwell
Email: amaxwell@trl.co.uk

New Maintenance releases:

TRANSYT 11

A new TRANSYT 11.1 release (AI/1.6) is now available.
A summary of changes are as follows:

- 'Network Security' Version (as well as normal 'stand-alone security' version) now available
- QUEPROB program now embedded within, and interactive with, TRANSYT front-end
- Node/Link number limits restored to TRANSYT 10 limits
- Improved Node data-entry screen
  - node grouping easier to set/cancel.
  - navigating through list of nodes improved
  - General layout improved
- Improved Link data-entry screen
  - Current 'Node Summary' avoids the need to look through every tab for information
  - Bus links and associated data can be specified explicitly
  - General layout improved
- Basic <PRINT> button added to GRAPH
- Default stop and delay costs updated
- Problem with CT28 when more than 4 offsets used is now fixed
- Reducing cycle-time no longer causes an error due to stage change times being too large if EQUISAT used
- Revised CYOP messages make it clearer what it is doing
- Hill-climb increment range extended downwards (larger negative numbers allowed)
- "integer out of range" error resolved in CYOP
- Updated Viewer program - Printing in Landscape mode from Win NT/2000 now possible

OSCADY 4:

A new OSCADY 4 release (AF/2.3) is now available .
A summary of changes are as follows:

- 'Network Security' Version (as well as normal 'stand-alone security' version) now available
- Vehicle storage of opposed traffic in advance of stop line fixed (as reported in previous TSN)
- International leased-software fix
- Analysis Program: vehicle proportions specifying only two-wheeled vehicles now allowed
- Updated Viewer program - Printing in Landscape mode from Win NT/2000 now possible
- other minor bug fixes

Reminder: Current maintenance holders of the above products are entitled to request the latest releases from the Software Bureau at any time.

Jim Binning
Email: Jbinning@trl.co.uk

VIETNAM WORKSHOP – CLOSE TO THE MADDING CROWD!

Vietnam's economy is growing rapidly. In particular, the bustling metropolis of Ho Chi Minh City (HCMC) has probably seen some of the biggest changes. Its network of roads is already showing the strain that is all too common in most large cities around the world. The traffic engineers in HCMC have their work cut out when you consider some of the unique problems they have to try to resolve, most of which Traffic Engineers in the UK will never have to face.

Staff of the Urban Public Works Service of HCMC and Alastair Maxwell (front right) smile for the camera

Before I say any more, maybe I should say why I am writing about Vietnam. In September, a colleague (Alastair Maxwell) and I went out to Vietnam to provide 7 days training to a group of traffic engineers working for the Transport and Urban Works Service of Ho Chi Minh City. Our aim was to provide training (via translated notes and a translator) for all TRL junction design and co-ordination software, namely ARCADY, PICADY, OSCADY and TRANSYT.

One thing that is very evident in HCMC is that the traffic characteristics are a world apart from those in the UK, for example, 80 percent of the vehicles are two wheelers (the vast majority being Mopeds) and priority is based on size of vehicle! What the law is and what happens on-street also tends to differ considerably. No one appears to walk – any journey over 20 yards is likely to mean a trip on a scooter! You take your life in your hands when attempting to cross the road as a pedestrian. Tourists in particular, who are neither in the position nor have the desire to use scooters, are forced into taxis to travel the most ridiculously short journeys.

At traffic signals there are more obvious differences (compared to the UK): two-wheelers appear to have a free right-turn and all vehicles are given a free-right turn if an island separates right-turns from other traffic movements. Segregation of two-wheelers and other traffic on main arterial streets also tends to lead to modelling problems and has a major detrimental effect of accident rates – imagine the scenario: mixed right turners and straight ahead traffic are given green while the remaining adjacent traffic is given green at the same time. Predictably, straight-ahead scooters are in conflict with cars, taxis and lorries turning right! There is no starting amber and only a one second leaving amber. Insufficient intergreens also add to the accident risk. The level of traffic accidents in HCMC is a major problem (as it is elsewhere in the country).

Insufficient intergreens lead to unnecessary conflicts between traffic movements

The use of TRANSYT (which is already being used) in co-ordinating the traffic signals should bring some relief to parts of the city. There is also a massive expansion programme planned. The use of ARCADY and PICADY is of very limited use currently but as the traffic engineers of HCMC get to grips with the problems they face their use will come more relevant and the chaotic traffic scenes that are all too evident during the rush hour will hopefully diminish. The taming of the madding crowd of scooters and other vehicles should also reap other benefits – allow pedestrians to move more safely around the city; reduce short trips; reduce accidents and improve traffic flow generally.

*Alastair Maxwell crossing the road , Ho Chi Minh City – **NOT** in his element!*

Finally, as for the training itself, our hosts proved to be friendly and were eager to learn as much as they could within the tight time-frame that we had. We believe that the training will stand them in good stead for continuing the signalisation process and redesign of much of the city's road infrastructure. Alastair and I wish them the best of luck.

Please note that TRL is happy to discuss with anyone their need for training in the use of our various software products.

Jim Binning
Email: Jbinning@trl.co.uk

USER GROUPS 2002 - TRANSYT, ARCADY, PICADY & OSCADY

As part of the Maintenance Agreement for our software products, User Group Meetings are held annually where users are invited to attend and discuss any issues about the software. After their success last year, Usergroups were again held in Birmingham this year at the end of October for TRANSYT, OSCADY, ARCADY and PICADY. The user groups were spread over two days, with a good turn out of approximately 35 delegates, it was hosted by Chris Lines and included presentations by Mark Crabtree, Jim Binning and Laura Meikle.

At the meetings, presentations were given about new features in the forthcoming new versions of TRANSYT and OSCADY, along with a short demo of each. Delegates were then able to give their views and put forward any additional ideas that they would find useful. Delegates seemed to like what they saw and gave some useful detailed suggestions. The software team found this extremely productive as the ideas will be used to improve the software further.

Delegates were able to raise any problems and ask modelling questions which lead to some interesting and sometimes vigorous discussions. Ideas about the general use of the software that would make it quicker and easier to use were also put forward, along with their reasons for using other software as well as TRL's.

One of the delegates put forward the idea of having a User Group Email Mailing List. Our intention is to implement this idea as soon as possible. This mailing list would be used to send out information (to any user who has signed up) such as latest version details and will allow users to pass around any information or problems they might wish to share – a problem shared is a problem halved after all!

Overall it was an enjoyable 2 days which, it is hoped, delegates found useful. The TRL Software Team certainly found the meetings extremely useful and we would like to extend our thanks to those who found time in their busy schedules to come and see us.

Finally, please drop a line to let us know your thoughts on where to run next year's user groups – we have run our user groups in Birmingham for the last two years so we are considering hosting it somewhere else.

See you next year!

Laura Meikle

Email: lmeikle@trl.co.uk

ROUNDABOUTS AND MOVA IN THE USA

At the invitation of the Federal Highways Administration (FHWA), a member of TRL's Traffic Group spent a week in Washington DC helping promote roundabouts and MOVA in the US. Issues relating to the wider application of roundabouts in the USA were discussed at a two day meeting held at ITE (Institution of Transportation Engineers) headquarters. The meeting was to discuss with interested parties the implications for roundabouts of the ADA (Americans with Disabilities Act). Under this act, transportation facilities should make adequate provision for disabled pedestrians, in this case mainly the blind and visually impaired, to be able to cross the road at pedestrian crossings with similar levels of safety and ease as for fully fit people. The meeting was attended by some 40 people drawn from the FHWA, the Federal DoT, the Access Board (an organisation set up to oversee the implementation of the ADA in the transportation area), associations representing the blind and visually impaired and researchers with interests in roundabouts. TRL made a presentation about the way this issue is covered in the UK. This presentation was so enthusiastically received that 10 minutes of questioning **before** the presentation had to be curtailed to allow the presentation to proceed! After the presentation, a further 15 minutes of questions had again to be brought to an early end to allow proceedings to catch up with the agenda. The meeting resulted in a thorough airing of all the issues, and whilst no action plan to take things forward was agreed, the listing of all the issues to be tackled essentially will form the basis of such a plan. The general consensus was that the meeting had been a success. It drew the bodies representing disabled pedestrians and highway authorities together in a positive way that should allow solutions to the problems of handling disabled pedestrians at roundabouts to be developed.

The Capitol Building, Washington DC, USA

Earlier in the year, a group of US traffic signal engineers had visited TRL as part of a European tour to study how safety issues at signals were handled in Europe. They were very impressed with MOVA, which they saw in action at a couple of sites near TRL. The FHWA are considering setting up 5 MOVA trial sites in the USA. To help this process along, TRL made presentations to interested parties at both the FHWA headquarters in central Washington DC, and at their research laboratory just outside Washington. The research laboratory is remarkably like TRL, set in attractive wooded countryside, and covering the same wide range of issues as TRL. The presentations covered TRL operations generally, and then moved on to MOVA in particular, going into considerable detail for the researchers with a deep technical interest. Hopefully the coming months will see positive developments in this area.

John Peirce

Email: jpeirce@trl.co.uk

As Ruth bows out, the Software Bureau welcomes a new manager

After four years as manager of the Software Bureau, Ruth Tietjens will be retiring at Christmas. Ruth joined TRL in 1979 on a two-year working holiday from New Zealand, but she loved it so much, she stayed. In January Ruth will be taking a well-earned 3 month holiday "Down Under". In her 4 years as manager, Ruth has used her wide experience of office and business practices to streamline the whole software sales and support organisation. She leaves the Bureau stronger and looking forward confidently to continued success.

The future Software Team (Left to Right, Julie Flack, Janette Potter, Kathryn Smith and Pat Saunders)

Kathryn Smith will be taking over as manager of the Software Bureau with effect from 1/1/2003. Kathryn has worked at TRL for 4 years, as part of the SCOOT team. She has been involved in research work with the SCOOT real time traffic control system. Bus Priority being one major area, both simulation and on street trials in Cardiff. She has also worked on other aspects of TRL software and has technical knowledge of traffic signals. Kathryn has also worked on an emissions management project within the national UTMC programme run by DfT.

Kathryn already manages all the traffic software workshops (TRANSYT, ARCADY and PICADY, OSCADY and SCOOT), and is responsible for the management of the SCOOT licences, so she already has knowledge of the software sales and licensing arrangements. Before working at TRL, Kathryn graduated with a BSc in Mathematics from Royal Holloway and Bedford New College, University of London.

Kathryn Smith
Email: kasmith@trl.co.uk

Network Security Latest

Network copy-protection versions of OSCADY 4 new, TRANSYT 11 and ARCADY 5 currently available for unlimited licence holders.

MAINTENANCE SERVICE - *What more can we do for you ?*

The maintenance service we offer gives our customers support and peace of mind that they can get their technical problems sorted out promptly, and also get some useful tips on how to approach design problems.

Under the contract, customers also benefit from 10% discount on workshop places (booking 2 places more than covers the minimum maintenance fee), and from discounts for early upgrades to new product versions.

Maintenance holders of course also receive Traffic Software News, now in its sixth year. We like to believe that this is a useful publication, with many items of lasting value. Certainly we know many of you store TSN carefully in case any of the articles should prove useful in the future.

However, we would like to improve the value of the service further, and to do this we need to know what other services we could usefully offer within the maintenance contract. Please take a few minutes to think about this, discuss it with your colleagues then let us know, by e-mail to the Software Bureau - softwarebureau@trl.co.uk. We have also been discussing this issue with delegates to our User Groups, reported elsewhere in this issue. The User Groups are another (free) service provided under the maintenance contract.

Prices increase from January 1st 2003

TRL Junction software has always been respected for its quality, functionality and excellent value for money.

TRL is currently working on new features and enhancements to the product range as well as improving the value of the service and maintenance to our customers. The development of the product range will enable our customers to keep up to date with advances in junction design, optimisation and operation, and pave the way for a more integrated approach to the realisation of the benefits accruing from good design. As part of this enhancement process, and to speed the rollout of new versions and features, we will be increasing the prices for most of our products from 1st January 2003, the first increase for three years. Most increases will be in the range 10 – 13%. MAAP and Bundle prices remain unchanged.

In addition, the "Unlimited Licence" changes to a "10 PC Licence". This change has been made necessary by the addition of the anti-piracy security. Customers requiring more than 10 users at one site will need to buy additional licences to suit their requirements.

The annual charge for maintenance remains at 10% (15% for non-UK customers) of the current purchase price, but the minimum charge is raised by £10 to £110. This is the first change in the minimum charge since maintenance was introduced six years ago. As before, maintenance is free for the first year. See back page for details of the new prices.

TRL is committed to ensuring that its junction software remains excellent value for money and provides market-leading innovations in junction design and control.

John Peirce
Email: jpeirce@trl.co.uk

COURSES, SEMINARS & WORKSHOPS 2003

ARCADY/PICADY
2 DAY WORKSHOP
1-2 April 03
Course Fee £500
(£450 Maintenance Holders)

TRANSYT
2 DAY WORKSHOP
4-5 February 03
Course Fee £500
(£450 Maintenance Holders)

All prices exclude VAT

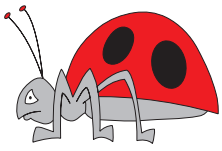
Places are limited (9 delegates for each course) so if you are interested please register now to avoid disappointment

Contact the Software Bureau

TRL Software Bureau Christmas Holiday Period

The Software Bureau will be closed from 4.00pm Christmas Eve until 9.00am 2nd January 2003

BUG BOX



Faults reported in OSCADY 4 now resolved

enhancements made to TRANSYT 11.1

For full details please read the article "New Maintenance Releases"

OSCADY 5

Ongoing work in the software team includes development of the next version of OSCADY - OSCADY 5. We've taken the opportunity to add a number of major new features to the program, covering changes to both the front end and to the analysis program. Users will be pleased to know that the ASCII text output has now been replaced by a versatile, customisable report that is available in HTML format for pasting into your own reports. (The old text output format is still there for those who want it!) We intend eventually to apply these new features to ARCADY and PICADY.

Additions include:

- A Junction Diagram, which uses the junction's geometric data to construct a scale drawing of your junction with lane widths, turning movements, flares, opposed movements, etc, indicated. The diagram can be zoomed to any scale and queue animations can be drawn on the diagram to show the physical lengths of queues.
- A Graph Generator, which can produce graphs of various combinations of parameters - e.g. 'Max RFC against Lane Width'. The graphs are fully customisable and should prove an invaluable aid in junction analysis.
- A Report Generator. Any of the various tables in the OSCADY output, and their order, can be selected by the user to produce a high quality, customised report. The report can also contain any user-defined graphs plus a number of new graphical representations of existing data, including demand profiles, signal stages, RFCs against time, a photograph or CAD drawing of the junction, and many more.
- Multiple demand sets - can be used to reflect varying traffic conditions, or for base + development flows.
- 3-arm accident prediction.

OSCADY 5 will be available in the new year - see future TSNs for details of release and pricing.

Graham Burtenshaw
gburtenshaw@trl.co.uk

New Software Prices

From the 1st January 2003, TRL software prices will be changing. The software affected will be:

ARCADY 5, PICADY 4, OSCADY 4, TRANSYT 11, TPM, *Safe*NET

Single site licences are as follows:

1 PC	£950	4 PC	£1450
10 PC	£1850	Educational	£950

TRL Junction Plus (ARCADY 5, PICADY 4, OSCADY 4 and TRANSYT 11):

1 PC	£3500	4 PC	£4500
10 PC	£6600	Educational	£3500

(Note: All prices exclude VAT)
Terms and conditions of Corporate Licences remain unchanged.

Maintenance Agreements: First Year: **FREE**.

Subsequent Years: UK: 10% of the current Licence price or £110, whichever is greater. Non UK: 15% of current purchase price.

CURRENT PROGRAM VERSIONS

ARCADY 5	V5.0 AD/1.1
PICADY 4	V4.1 AM/3.0
OSCADY 4	V4.02 AF/2.3
TRANSYT 11	V11.1 AI/1.6
(All above have Right/Left capability)	
TPM	V2.0
STM	V2.2b
BUNDLE 3	V3.0 Issue 2
MOVASETUP	V 4.0c
CONTRAM 8	V 8.1f
MAAP *for Windows*	4.20
*Safe*NET	1.02

Who's Who in Traffic Software

Richard Howells

Richard joined TRL after graduating from the University of Bradford with an MSc in Computing after gaining a BSc in Chemistry from Leicester University. He is proficient in C programming and has knowledge and experience using Java, Visual Basic, SQL.

Richard has joined the software development team and is currently developing MOVA. He is acquiring a broad knowledge of MOVA including site maintenance. He is also involved with MAAP for Windows and will be taking part in the forthcoming Workshops.

TRL Software Bureau
Old Wokingham Road
Crowthorne Berkshire
RG45 6AU United Kingdom

Tel: +44 (0)1344 770758
Fax: +44 (0)1344 770864
E-mail: softwarebureau@trl.co.uk
www.trlsoftware.co.uk