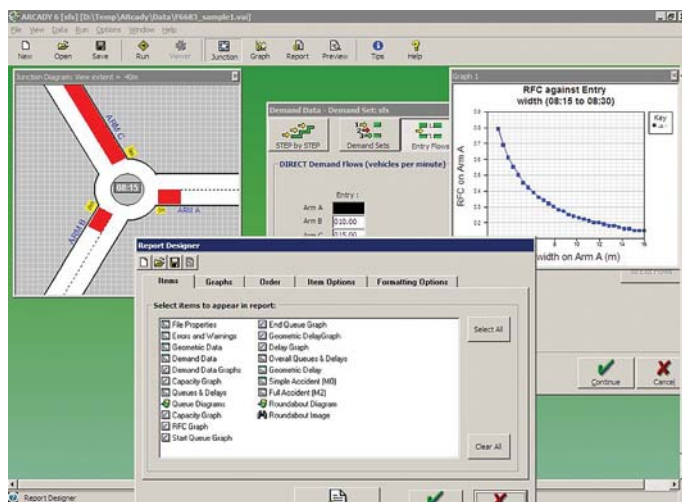


## ARCADY 6 Appeal!

**ARCADY 6 is coming soon. ARCADY 6 represents the second part of our development program to update the output reporting aspects of OSCADY, ARCADY and PICADY. Of course, OSCADY 5 is already available and PICADY 5 is still to come. Users will find these changes useful, having asked for these revisions for some years. ARCADY 6 will match the standard already seen in OSCADY 5. Users will have a flexible and straight forward way of getting to the information they want, in the order they need to present it, and in an attractive and clear manner.**



The Graph Designer output

The reporting side of ARCADY 6 incorporates the following new features:

- A Report Designer: Any of the various tables in the ARCADY output, and their order, can be selected to produce a high quality customisable report using graphical methods instead of ASCII text to provide a clean extremely readable format.
- The report can also contain user-defined graphs plus a number of new graphical representations of existing data, including demand profiles, RFCs against time, a photograph or drawing of the junction, and many more.

- Two forms of output are possible – a proprietary 'Preview' format that allows the user to best represent what you get when you print out the report, and also the option of HTML which allows for easy importing into a variety of popular applications.

Although the reporting aspects contain the most sizable changes, some of the other changes including some significant changes on the analytical side, may prove of more interest to many, e.g.

- A Graph Designer, which can produce graphs of various combinations of parameters – e.g. 'Capacity against entry width'. The graphs are fully customisable and should prove an invaluable aid in junction analysis.
- A new, more detailed, Pelican crossing model that can be applied, for the first time, to both 'Mini' AND 'Standard' roundabouts.
- Multiple demand sets – can be used to reflect varying traffic conditions (e.g. for am and pm peaks), or for base + developments flows.
- Additional 'average delay for arriving vehicle' in a given time segment.
- Optional North American terminology and units of measure (i.e. feet decimal)
- A revised Junction diagram, which uses some of the junction's geometric data to construct a more detailed schematic of the junction. The diagram can be zoomed to any scale and queue animations can be drawn on the diagram to show the physical lengths of queues. The angles between arms can be adjusted to improve its appearance when embedded into the new style of report.

**Jim Binning, Email: [jbinning@trl.co.uk](mailto:jbinning@trl.co.uk)**

## The Software Bureau is moving

**On the 14<sup>th</sup> June 2004, the software bureau and the development team will be packing up and venturing half a mile up the road to our exciting new offices.**

After the long trek, we will arrive ready and willing on Monday 14<sup>th</sup> June 2004 to answer all your software queries.

Apologies in advance, if things take a little while to set up on the Monday, as we have to navigate around our new building and get to grips with all the new equipment.

Because of the move, we have been sadly unable to run training courses this spring as normal. However, training will resume with vigour in September, with courses in:



- SCOOT (2 days)
- ARCADY/PICADY (2 days)
- TRANSYT (2 days)

The courses will be run in the new and specially created training suite with lots of new facilities!



TRL's brand new offices in Crowthorne

If you would like more information on our training courses, please get in touch with one of us in the software bureau.

**Kathryn Smith  
Email: [ksmith@trl.co.uk](mailto:ksmith@trl.co.uk)**

# SafeNet and Saturn Interoperability

**Although SafeNET can be used as a stand-alone program to build an attributed node-link road network in which accident frequency can be estimated through the use of empirically driven models, the effort required to generate the topology of a large network and to populate it with traffic flows, location details and junction features can be daunting, so there is every incentive to gather information from other electronic data sources and import it.**

It has been recognised that there is a degree of commonality of information between many safety and transportation software applications, such as traffic assignment models, but the difficulty lies in getting one package to "talk" to another package, i.e. converting data from the format needed for one package to that required by another.

Another opportunity to seed the road network is provided by the increasing sophistication of Ordnance Survey data. The growing trend to share geographic information between applications is strengthened by moves to share geographic information between central and local government departments.

With this in mind, the TRL software team is working on routines for the next release of SafeNET (version 2.0) to link SafeNET with OS data and with traffic assignment programs.

The new routines will allow SafeNET 2.0 to extract traffic flows and turning movements from the output of the assignment program and use them as the input for the safety assessment. TRL researchers have been able to use CONTRAM (MOLA) outputs for use with SafeNET for a few years now, and having seen the benefits of this an import routine is being developed for the outputs from SATURN (Simulation and Assignment of Traffic to Urban Road Network), a suite of network assignment and analysis modules used by many government bodies and consultant companies world wide.

The information extracted from SATURN that will be of benefit in SafeNET 2.0 will be;

- (1) The traffic flow on each network link and turning movement,
- (2) The topological information for the network, such as the geographical coordinates of zones and nodes; simulation network (e.g. roundabout setting); and buffer network. Flows to and from SATURN zone centroids are converted to flows to and from SafeNET dummy junctions. SafeNET 2.0 will be adjusted to allow for longer SATURN alphanumeric link references, and to accommodate the larger easting and northing coordinates used in the OSGB National Grid System.

Once users have extracted information from SATURN with the new import routine, SafeNET 2.0 will determine the traffic flow at each type of junction. For a given roundabout for instance, SafeNET 2.0 will determine the circulation flow, a data item not available directly from raw SATURN outputs.

When the user uses the SafeNET 2.0 import routine to extract traffic flow information from SATURN output, they will be able to enter the AM peak and inter peak factors for calculating daily traffic flow, effectively enabling them to alter the set up of the imported SATURN trip matrix that may, for example, have originally used the AM peak hour flow or the AM average hour flow to present the whole AM peak period.

These improvements for SafeNET 2.0 should be of great benefit to the busy traffic engineer and road safety specialist.

**Dave Savage, email: [dsavage@trl.co.uk](mailto:dsavage@trl.co.uk)  
Ruijin Ye, email: [yruijin@trl.co.uk](mailto:yruijin@trl.co.uk)**

## John Peirce retires after 31 years

**John joined TRRL on 1<sup>st</sup> Jan 1973, and since then has worked in the Traffic Management and Control area. In that time he has taken part in the extensive trials of TRANSYT and SCOOT in Glasgow, especially for BUS TRANSYT and early trials of active bus priority within an UTC system. Many of the principles tested in the late seventies are now incorporated within the current SCOOT bus priority system. Since then, John has been largely associated with junction design and control, most prominently with the MOVA signal control strategy, but also with roundabout design issues and ARCADY.**



John Peirce

John took over responsibility for sales of TRL's traffic software when the Department of Transport decided to pass this work over to TRRL, introducing the

current licensing system and the maintenance package, including the introduction of Traffic Software News, for which he has acted as technical editor.

Also active in the consultancy field, John has enjoyed working on a variety of projects overseas, taking in Berlin, Chile (don't mention the earthquake!) France, USA, Portugal, Indonesia (another earthquake!) and many visits to Malta, as well as advising on junction design issues in the UK.

We would like to take this opportunity to wish John a long and happy retirement to follow on from his enjoyable career in the traffic world.

## TRL at the RTIC 2004 Conference & Exhibition

**The 12<sup>th</sup> IEE International Conference (on Road Transport Information and Control) took place at the IEE building Savoy Place in London, 20<sup>th</sup>-22<sup>nd</sup> April 2004. TRL featured heavily at the event by presenting a number of papers on:**

- Origin-destination matrix estimation for the active traffic management project presented by Nicholas Taylor
- Using GPS data to calculate the length and variability of freight vehicle journey times on motorways presented by Mark Hudson
- The use of real-time traffic information in pre-trip planning by George Lunt
- The Highways Agency journey time database by Barbara Frith & Tom Sutch
- Signal controlled pedestrian crossings on high speed roads by Keith Wood and Iain York
- SCOOT – The future by David Bretherton
- The use of mobile phone location data for traffic information by James Quick

All of which provided a focal point for delegates to visit the TRL stand in the Lancaster Room during the conference breaks. Our focus for the stand was to give delegates the opportunity to see a short presentation on SafeNET our interactive & innovative software package to assist traffic engineers in the design of safer road networks in their towns and cities.

A number of other software products featured including; MAAP – Microcomputer Accident Analysis Package, Contram – provides the advanced dynamic traffic modelling developed by TRL and Mott MacDonald, Transyt, Arcady 5, Picady 4 and Oscady 5.

**Karen Beaumont, Email: [kbeaumont@trl.co.uk](mailto:kbeaumont@trl.co.uk)**

# Re-activating MAAP in Belize

Belize is currently believed to have the highest road accident fatality rate (at about 29.6 deaths per 100,000 population) of the entire Latin America region. A trial of TRL's Microcomputer Accident Analysis Package (MAAP) system was established in 1997 in Belize City District Traffic Police Headquarters under a road safety component of the Western Highway Resealing Project (lead consultant: Roughtons International). This was, in fact, only the second country (after Barbados) outside the UK to install the Windows version of the TRL package. However, it was learned that the computer in Belize City District Traffic Police Headquarters crashed in 2000 and the system was never restored: (TRL had not been notified). Thus, the Police accident recording and analysis system there continued to be an entirely manual operation.

In a new project that began earlier this year, TRL were commissioned by Halcrow Group to carry out the safety component of their Roads and Municipal Drainage Institutional Strengthening Project in Belize, which is being funded by the World Bank. This component chiefly involves production of a comprehensive five-year road safety strategy and action plan for accident reduction nationwide.

Another key objective is to improve the current methods of collecting and analysing road accident data in the country. Last year the Belize Police embarked upon a major IT programme that will establish a country-wide network with an email system and, among other software, a crime database which will include road accident information. As this is unlikely to suffer the same fate as earlier police IT equipment, TRL are assisting to re-activate the MAAP system immediately in Belize City with the intention of extending its application to the whole country as early as possible.

The accident statistics form used previously in the city necessarily involved the reporting officer in the duplication of recording information. To avoid this, in extending the MAAP system to the whole country, the main accident report form currently used by the Police Department has been reviewed and merged with the trial statistics form. It is intended that this should be used for both normal police and court procedures and also for data entry into the computer system. This proposed revision is currently being reviewed at Police Headquarters.

TRL will be recommending a comprehensive training programme for police officers in completing this new report form as well as



Bill board erected at blackspot site on Western Highway, Belize

providing training for police trainers and highway authority staff in the use of the software. In October 2004, full-scale trials of MAAP are planned in the districts of Belize City, Belmopan and Orange Walk.

**For further information contact Chris Baguley, email: [cbaguley@trl.co.uk](mailto:cbaguley@trl.co.uk)**

## TRL Software Website Re-launched



The month of May has seen the re-launching of the TRL Software website [www.trlsoftware.co.uk](http://www.trlsoftware.co.uk). We have taken the opportunity to re-design the entire site in a way that makes browsing both more intuitive and more productive, and have added several entirely new sections. The website provides users with comprehensive information regarding our products, the ability to purchase products online and to find out more about the research and development that has gone into these products via a comprehensive knowledge base section. We will be continually updating and adding to the site, and welcome any feedback or ideas for improvements.

Two major enhancements to the site are:

- A secure e-commerce section where you can purchase any of our off-the-shelf products online
- An improved product support section allowing easy browsing and searching of our comprehensive knowledge base system.

E-commerce is now an accepted part of the Internet. Using Thwate's advanced certification, TRL can now provide safe secure online transactions for the purchase of our software. We will process your payment and send out your software and licence agreements automatically.

One of the most popular features of our old website was the support section, where advice was given on all aspects of our software. This has now been completely revamped with a fully searchable knowledge base system. You can now search for a specific keyword and our search engine will return results from all aspects of our website including relevant news articles, resolved maintenance queries, design tips, consultancy work and any articles that have previously been featured in the Traffic Software News.

We have also updated a host of product demos, all of which are available freely as downloads so you can try our software before you buy! Our new Consultancy section highlights a range of case studies undertaken by TRL Software to give you a flavour of some of the other work we undertake on a regular basis – you never know we may be able to give you a hand with your project!

Other features of the new website allow you to join our mailing list online, so that you can receive our monthly electronic Software Bulletin. You can of course browse archived editions of these bulletins as well as our back catalogue of Traffic Software News.

We hope you find the new website useful and as always, we welcome your feedback on usability or new features of the site you would like to see included – you can of course do this with our new online contact form or if you prefer the old fashioned method you can e-mail [cedge@trl.co.uk](mailto:cedge@trl.co.uk) or call 01344 770511.

**Chris Edge**  
**Email: [cedge@trl.co.uk](mailto:cedge@trl.co.uk)**

## TRAINING COURSES, SEMINARS & USER GROUPS 2004

### TRANSYT 11

2 DAY WORKSHOP  
13th - 14th September 04  
Course Fee £500  
(£450 Maintenance Holders)  
if first fully booked, the 2nd  
course will be held on  
15th - 16th September 2004

### ARCADY 5 & PICADY 4

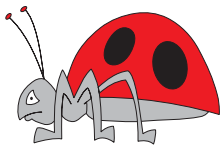
A 2 DAY WORKSHOP  
11th-12th October 04  
Course Fee £500  
(£450 Maintenance Holders)  
if first fully booked, the 2nd  
course will be held on  
13th - 14th October 2004

### SCOOT

A 2 DAY WORKSHOP  
20th - 21st September 04  
Course Fee £700  
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

## BUG BOX

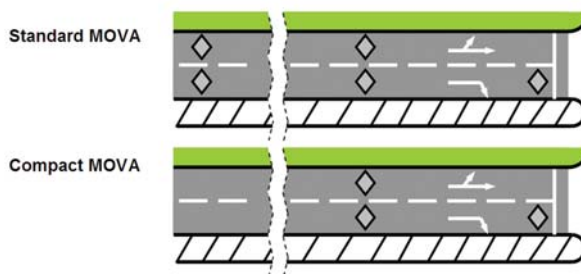


Nothing to report  
this time

# Development of Compact MOVA

**MOVA is TRL's microprocessor-based traffic signal control system for isolated junctions. Currently it is mainly used at congested, heavily loaded junctions, where its delay-minimising and capacity-maximising behaviour give the greatest benefit in terms of safety and efficiency. TRL, under the direction of the DfT, are currently developing a simplified version of MOVA that is simpler and cheaper to install and maintain. It is intended for use at lower speed (typically local authority) junctions, where the 85<sup>th</sup> percentile speed is 35mph or less.**

This simplified version of MOVA, or 'Compact' MOVA, will operate without IN-detectors. In 'Standard' MOVA, IN-detectors are typically sited 90-100m upstream of junctions in urban areas. Siting detectors at such distances is often problematic, especially at urban junctions. The absence of IN-detectors will also make the installation and maintenance of Compact MOVA simpler and cheaper.



Compact MOVA has therefore been designed to optimise junction performance based on X-detectors alone. The following modifications are currently being tested:

- A new technique for identifying oversaturation using X-detectors, allowing Compact MOVA to maximise capacity effectively during peak periods;
- Calculation without IN-detectors of 'bonus' capacity (extra near-junction capacity provided by flares);
- More robust saturation flow detection, mainly by using a conservative link structure that copes better with queue length disparities;
- Placing of X-detectors slightly further back to give Compact MOVA more information on upstream demand.

Extensive tests have been carried out in simulation, and on-street trials are currently in progress. Comparisons are being carried out between Compact MOVA, Standard MOVA (MOVA with IN-detectors) and VA. The following trends have so far been established:

- Compact MOVA generally performs better than VA, both in terms of vehicle delay and pedestrian delay. This improvement is more pronounced when junctions are oversaturated;
- Compact MOVA performs nearly as well as Standard MOVA during peak periods;
- Compact MOVA runs shorter cycle-times during off-peak periods, reducing pedestrian delay but increasing vehicle delay when compared with Standard MOVA.

Assuming the on-street trials are successful, the Compact MOVA enhancements will be available as part of MOVA 5, which is due to be released later this year.

**Ian Henderson**

**Email: [ihenderson@trl.co.uk](mailto:ihenderson@trl.co.uk)**

## CURRENT PROGRAM VERSIONS

ARCADY 5	V5.0 AE/1.1
PICADY 4	V4.1 AN/4
OSCADY 5	V5.0 AB/2
TRANSYT 12	V12.0 AB/2

*(All above have Right/Left capability)*

TPM	V2.1
STM	V4.4
BUNDLE 3	V3.0 Issue 2
MOVASETUP	V 4.0c
CONTRAM 8	V 8.2b
MAAP for Windows	4.20
SafeNET	1.03
MTV	V1.2.9

## Who's Who in Traffic Software



### Abdulai Dumbuya

Dr. Abdulai Dumbuya joined TRL in March 2004. He graduated from Loughborough University with a BEng (Hons) in Manufacturing Engineering and Management and PhD in traffic modelling and simulation. In 2002, he won a scholarship from the Centre for Scientific Enterprise London (CSEL) to do one year's business training at the London Business School.

He is currently applying this knowledge to TRL's software products. Abdulai is also responsible for editing TRL's quarterly Traffic Software News.



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](mailto:softwarebureau@trl.co.uk)  
[www.trlsoftware.co.uk](http://www.trlsoftware.co.uk)