

## CAR SHARE SOFTWARE

**TRL is now in a position to offer 'carshare on-line' software to clients who wish to promote car sharing in their organisations. The software was developed for the Stockley Park on-line community where it is used by a number of blue-chip organisations. Carshare on-line puts staff willing to share trips in contact with others who live near to them and wish to travel at more-or-less the same times. It works automatically using company email, which ensures security for those using the system.**

The software has user-friendly interfacing and uses digital mapping to locate potential sharers. The system is very flexible and can be tailored for a single organisation or several companies who wish to carshare together.

The software can incorporate 'waypoints' – for example a public car park - where two or three people can meet and go onwards in one vehicle. It can also be used for optimising trips for company staff to/from airports or to subsidiary offices.

There are two installation options; either by accessing a secure computer server at TRL via an internet web browser, or having the system installed on the company intranet. Both methods have high levels of access security.

The Licence fee depends upon the number of employees in the organisation and includes 1 year's support and maintenance. Annual maintenance in future years is 10% of the relevant Licence fee.



The main advantages of carshare on-line are:

- friendly interface which is easy to use;
- simple to access via the internet, or locally via an intranet;
- secure access using passwords;
- can be customised to company requirements;
- requires no staff time to manage;
- regular reports can be tailored to customer requirements;
- secure system base on company email addresses;
- can cover any size of organisation;
- the system can grow with the organisation;
- can accommodate single organisations or groups of companies.

### CURRENT USERS OF THE CAR SHARE SOFTWARE INCLUDE:

Stockley Park - Heathrow	and soon Edinburgh Park - Scotland
Glaxo Smith Kline	Scot Equitable
BT	Guinness
EDS	HSBC
Motorola	Oracle
KPMG	Pfizer
M&S	

**In excess of 20,000 car sharers use the system**

For a demonstration CD please contact the TRL Software Bureau +44 (0) 1344 770758, 770018, 770176, softwarebureau@trl.co.uk.

For more information about the system and prices etc, please contact Chris Edge +44 (0) 1344 770511, cedge@trl.co.uk.

Carsharing is often only one element of a larger 'green travel' programme. TRL staff have considerable expertise and experience in helping clients with developing their travel plans and we would be delighted to discuss your requirements with you.

Please contact Ms Lynn Basford  
+44 (0) 1344 770705, lbasford@trl.co.uk.



**FREE ONE DAY SEMINAR**  
**TRL's STRATEGIC TRANSPORT MODELS**  
**Tuesday 25th September 2001**  
**To book your place contact the TRL Software Bureau**

# ROUNABOUT SAFETY STUDY

TRL has carried out a safety study for Wandsworth Borough Council of a grade separated roundabout over the A3, linking Putney, Kingston, Wandsworth and Wimbledon. This roundabout, on their Borough Road Network, has been topping Wandsworth's list of accident-prone junctions for some years. TRL were engaged to review the accident history then to devise a scheme to ameliorate the problems. The roundabout is an old-fashioned design composed of a very (4 lanes) wide circulating carriageway with straight sides and sharp bends at each entry. An in depth study of the existing accident pattern was undertaken using TRL's accident analysis software, MAAP. ARCADY was also used to assess whether the injury accident rate was above average considering the traffic flows. The study showed that compared to a well-designed modern roundabout, the accident rate was about twice the

expected value. This suggested that there was scope to produce successful remedial measures. Accidents were mainly concentrated at two of the 'corners', and it is suspected that the straight sides are leading to high circulating speeds.

If necessary, TRL could have suggested full signalisation, an expensive possibility. TRL opted for a design depending on revised road markings. Two of the approaches feature left turning proportions around 50%. This suggested the use of Ghost Islands to provide free left turns, with the dual benefit of removing the heavy left turns from entry conflicts and of effectively narrowing the circulating carriageway. Of the 4 lane widths on the circulating carriageway, one is given to the free left turns, and one to the Ghost Island, leaving 2 for circulating traffic. On the two remaining 'sides' of the roundabout, hatching and exaggerated noses approaching the exits are used to similarly give the appearance of a narrower circulating carriageway. Lower speeds are expected as a result. Along with refreshed anti-

skid treatment and better edge markings, lighting and signing, this should reduce the accident rate. ARCADY was used to ensure that the new layout (shown in the accompanying drawing)

had enough capacity with entry width given over to the Ghost Islands. The design is currently going through council approval procedures.

**John Peirce**  
email: [jpeirce@trl.co.uk](mailto:jpeirce@trl.co.uk)



Proposed layout for A3 roundabout in Wandsworth  
Reproduced by permission of Wandsworth Borough Council

## ARCADY 5 - User experiences wanted!

It's now 18 months since ARCADY 5 was released. As it is the first version with mini-roundabout capacity and accident routines, we are very interested to hear of users' experiences of the mini-roundabout routines. The questions below are just a starter to get you going, don't let them put you off saying whatever you think needs saying!

- How many times have you used the mini-roundabout routines?
- Any difficulties in use?
- Do capacities, queues and delays appear to be realistic?
  - Confirms situation at existing mini
  - New mini now built matches predictions
  - Results on one, two...all arms do not match reality
- Similar info for the accident routines please
- Any other problems



Malta's only mini-roundabout, designed by TRL

There is a great temptation to only report experiences when things go wrong. For us to get a *balanced* view, it's vital that users with good experiences let us know too. Send in your comments/suggestions/experiences to the Software Bureau by e-mail or Fax. With nearly 300 copies of ARCADY 5 in use, there must be a wealth of user experience waiting to be tapped!

Another area where we would appreciate user comments is on improvements to the output. We know people want to be able to copy sections of the output directly into reports, but exactly which bits, any new information required or any special way of setting out the information? Give us your views and they will be considered for future revisions.

If you have a difficult design problem with ARCADY (or any other TRL traffic software, or even a general traffic engineering issue), why not post it on our "forum" page and see if anybody else has found a solution?

For comments on ARCADY 5 User Experiences please contact the Software Bureau, Fax: +44 (0)1344 770864, or e-mail: [softwarebureau@trl.co.uk](mailto:softwarebureau@trl.co.uk). To access the Forum page, apply for a password to the member's site on the register page, <http://www.trlsoftware.co.uk/Register.htm>, or e-mail the Software Bureau.

**John Peirce**  
email: [jpeirce@trl.co.uk](mailto:jpeirce@trl.co.uk)

# 'MOVA MATTERS'

One of TRL's latest MOVA auditing jobs was at a series of three junctions in Lancashire. The customer was particularly concerned about the performance of one of them, but asked us to look at all three while we were in the area. Various errors were discovered in the MOVA data-sets at all three sites; none of them were serious, but having been corrected the junctions will now operate noticeably better. I am sure the customer will regard our modest fee as money well spent!

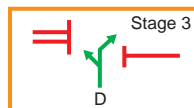
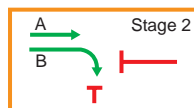
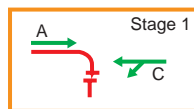
One problem identified by the customer, and its solution, is presented here. This example is in a simplified form compared with the real junction, for the sake of clarity.

Phases A and C serve the main road straight-through movements, and Phase B is a fully signalled right turn from the main road. After the modest amount of traffic on Phase B had discharged during stage 2, the stage continued green because it was held by traffic arriving on Phase A. By this time the queue on Phase A had discharged, and MOVA was in its optimising mode. The high "stop penalties" on Phase A (too high as it happens) meant that MOVA tended to hold the green for Phase A even for small amounts of traffic. MOVA was doing what it should, i.e. minimising the cost of delay and stops as dictated by the data-set. **The problem was one of public acceptance** – drivers waiting on the Phase C stopline during the latter part of stage 2 could see no reason why they were stopped.

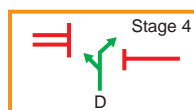
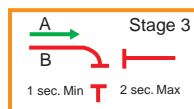
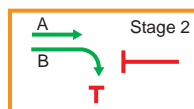
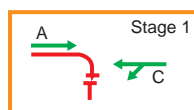
The solution was to repeat stage 2, but without Phase B. MOVA will change from stage 2 to the new stage 3 as soon as Phase B traffic has discharged (N.B. ensure that if stage 2 is demanded, stage 3 is also demanded). As stage 3 is "variable length" (even though its max is only 2 seconds) MOVA regards it as serving the needs of Phase A as well as any other stage, so will ripple from S2 to S3 as soon as Phase B traffic has run out. Stage 3 will end after 2 seconds – its maximum green time. Stages 2 and 3 operate as a pair – if Phase B is not demanded, the signals will skip both of them.

N.B. This methodology would be risky if the green time required by Phase A heavily outweighed that required by Phase C. When stages 2 and 3 are running, the excess green

time received by Phase A compared with Phase C is equal to the S1 > S2 intergreen + time required for Phase B + 2 seconds. If Phase B had minimal traffic, this would amount to about 16 seconds.



Original stage sequence.



New stage sequence.

**Peter Webb**  
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## Bug Box

### PICADY 4.1:

The 'Marginal Analysis' option is always turned on when you load a file, regardless of its state when the file was saved. If necessary, you should turn the option off immediately prior to running the file.

### VIEWER:

Printing from the Viewer program in landscape mode is not possible when using

## EMISSIONS MODEL IN TRANSYT – A USEFUL DEVELOPMENT?



SCOOT, TRL's adaptive traffic signal co-ordination system, has included an algorithm to estimate pollution from vehicle emissions since the release of SCOOT 4 in 1997. So the equations exist, and could equally be applied to TRANSYT. In SCOOT, of course, the prediction takes into account traffic actually present on a particular day. Modelling in TRANSYT would naturally be off-line based on expected average flows.

The Department of Transport Local government and the Regions (DTLR) requires more and more information about pollution levels in town centres. In considering developing TRANSYT to include a pollution calculation, TRL need to know if such a development would be useful to our customers, and if so, what sort of output they would require from it.

Signal timings in TRANSYT are optimised to reduce a performance index (PI), a combination of delay and stops. The user determines the balance between the two. There is no reason why emissions should not be added as a third parameter in the PI, so that the signal timings could be weighted towards minimising emissions. Would this be a useful feature?

We would love to hear from as many users as possible with their opinions and ideas on this concept, and particularly from Government users, both Local and the Highways Agency. Overseas customer contributions would be equally welcome. Please contact us by e-mailing the Software Bureau, either directly at [softwarebureau@trl.co.uk](mailto:softwarebureau@trl.co.uk) or through the contact button on our website [www.trlsoftware.co.uk](http://www.trlsoftware.co.uk) or by Fax to +44 (0)1344 770864. For those of you who have signed up to our Member's Site, you could make your contribution via the forum page and encourage others to comment, maybe even stir up some controversy! The forum is available free to all our maintenance contract holders. To access the Forum page, apply for a password to the member's site, on the register page, <http://www.trlsoftware.co.uk/Register.htm>, or e-mail the Software Bureau. Emissions modelling in TRANSYT will also be on the agenda for the TRANSYT user group to be held in Birmingham (see page 4).

**John Peirce**  
email: [jpeirce@trl.co.uk](mailto:jpeirce@trl.co.uk)

Win NT/2000. This appears to be due to the printer setup being incorrectly passed to the program by the operating system, and is currently under investigation. (If you do need to print in landscape mode you can of course simply cut and paste the text into any word processor.)

### Advice to MOVA users

In MOVA 4 you can specify '-1' in LTYPE to indicate that a phase runs in more than one stage; MOVA will then assume that if the phase is green in the current

stage, and will be green in the next stage, that it will remain green through the interstage period as well. This works fine for pedestrian phases, but, it has been found recently, does not work for traffic phases. Therefore, for any traffic phase that is green during an interstage period(s), a phase-confirm signal must be returned from the controller to MOVA, and the channel number declared in the MOVA data in the normal way.

## COURSES, SEMINARS & WORKSHOPS 2001

### TRANSYT WORKSHOP

TWO 2 DAY WORKSHOPS  
IN OCTOBER

Course Dates 9-12/10/01  
Course Fee £500  
(£450 Maintenance Holders)

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

### TRANSYT User Group

See adjacent article

### FREE TPM/STM Seminar

25/9/01

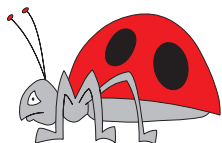
To Book  
Contact the Software Bureau

### SCOOT WORKSHOP

3 DAY WORKSHOP  
4 - 6/9/01  
Course Fee £650 +VAT

PLEASE CONTACT  
KATHRYN SMITH ON  
TEL: 01344 770766  
FOR MORE  
INFORMATION

## BUG BOX



### PICADY 4.1

(Marginal Analysis)

### VIEWER

(printing with  
Windows NT/2000)

&

### Advice to MOVA users

See Page 3  
for Bug box details.

## TRANSYT USER GROUP - 16 OCT 2001 NEW LOCATION - BIRMINGHAM

The results of our recent questionnaire about the User Group days showed that some of our customers found travel to TRL too time consuming and difficult. London and Birmingham came out as the favourite locations. TRL has taken this on board and is this year arranging the TRANSYT User Group at the Copthorne Hotel in Birmingham. The Hotel has full conference facilities, is centrally placed with good access by road and rail (a few minutes walk from New St Station).

We have also responded to your comments on the agenda and will concentrate on your top issues, help and advice on modelling both standard and unusual situations and consulting users about future developments (see article on TRANSYT emissions on page 3). User Group days are one of the benefits of our Maintenance Agreements, so make use of it and attend! The User Group days are free to Maintenance Agreements holders. TRL will be evaluating the response to this new look approach, so make sure you come and have your say! Please complete the enclosed Fax back form or e-mail the Software Bureau (softwarebureau@trl.co.uk) to book your place.

John Peirce, email: [jpeirce@trl.co.uk](mailto:jpeirce@trl.co.uk)

## IMPROVING PEDESTRIAN DETECTION

Recently, TRL has been involved in a collaborative research project, with IRISYS Limited, to produce a volume sensitive pedestrian kerbside detector able to count pedestrians waiting to cross. What is different about the detector is the technology used. It does not use video image processing; rather it uses an array of IR sensors combined with data processing. Not only does this allow pedestrian counts to be taken, but also enhanced pedestrian presence detection: processing allows pedestrians who are passing through the detection area (i.e. not waiting to cross) or those who have continued to wait after a green man has appeared, to be ignored. The extra intelligence should mean that a bigger waiting area can be covered.

At this stage it is less clear how the count information can be used and the reasons for this are complicated. What could be done, perhaps, is to adjust the green-man time according to the number of pedestrians waiting, or extend the green-man period as pedestrians cross the detection zone. Future control strategies could also make use of historical information in addition to the instantaneous counts to help in better optimisation of pedestrian and vehicle movements.

The device is not expected to be available for some months yet, and it is likely to be available initially as just a kerbside detector (prices are expected to compare favourably with existing devices). However, it is hoped that, sometime in the future, advantage can be taken of the counting facility that will be built in to the device.

Mark Crabtree, email: [mcrabtree@trl.co.uk](mailto:mcrabtree@trl.co.uk)

## CURRENT PROGRAM VERSIONS

ARCADY 5	V5.0 AB/1.1
PICADY 4	V4.1 AL/3.0
OSCADY 4	V4.02 AE/2.2
TRANSYT 11	V11.1 AF/1.3
<i>(All above have Right/Left capability)</i>	
TPM	V1.3
STM	V1.2
BUNDLE	V 2.0
MOVACOMM	V 2.6.0
MOVASETUP	V 4.0c
CONTRAM 8	V 8.1e
MAAP for Windows	4.1
SafeNET	1.02
PARC 2M & PARC 2P	

## Who's Who in Traffic Software



### Alastair Maxwell

Alastair is a senior transport consultant specialising in traffic control and management. He joined TRL from Devon County Council in 1997, where he was a professional engineer within the traffic control section for over three years. Alastair is currently working on AVL bus priority, real-time passenger information, intelligent pedestrian detection, puffins on SCOOT, and microscopic simulation. Alastair also provides customer support for TRANSYT enquiries and lectures in the TRANSYT and SCOOT workshops.



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