

A NEW PLATFORM FOR BUNDLE

Coming soon! A brand new version of the Traffic Engineering Software 'BUNDLE' for PALM OS® handhelds is being developed by TRL. Handheld PDA devices are light, cost-effective and have a great battery life - ideal for traffic count work. 2002 will see PALM OS® handheld versions of the existing DOS programs: **SATFLOW** - a program allowing one person to measure saturation flow and both start and end displacements/lags for signal controlled stop lines. **MOVASPEED** - a program to record CRUISE SPEEDS for subsequent use by MOVA. **CFP** - a program to collect Cyclic Flow Profiles. While the ISOLATED and COORBEN programs have been dropped, a brand new



program called **STC** (Synchronised Traffic Counter) has been added. **STC** is a new program for easy recording of traffic counts. It has come about due to the need for a program to allow synchronised recording of entry and circulating traffic at roundabouts (using two PALM OS devices). It is designed to be used for a variety of other situations including the recording of basic entry/exit counts and turning proportions.

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(Bundle Product Manager)
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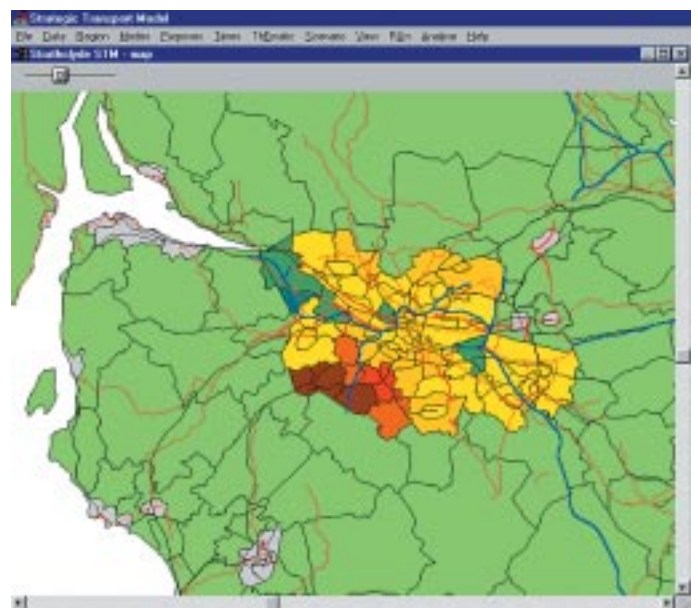
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Strategic Transport Modelling success

Over 30 delegates attended a successful seminar in September on TRL's Strategic Transport Models. Representatives from central government, local government and consultancies were given the opportunity to learn more about TRL's Strategic Transport Model (STM) and the Transport Policy Model (TPM). Highlights of the day included papers by Mr Jim Dunlop of Strathclyde Passenger Transport and Dr Andrew Ash of TRL on the development and application of the Strathclyde STM, and a paper presented by Mr Richard Huws and Mr David Kirk of the Halcrow consultancy on the development of the Gloucestershire STM. The afternoon session included an entertaining presentation by Mr Chris Edge of TRL on the 'soon to be released' TPM version 2.0.

Stimulating feedback from the seminar delegates has proved to be very helpful in informing TRL's future software development programme. We hope to see many of the ideas generated by the seminar in new software releases in the not too distant future.

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An example graphic from the new Strathclyde STM

See the special promotional offer on Transport Policy Model on page 2 and Mince Pie Madness Offer on the enclosed flyer - 10% off selected TRL software products.



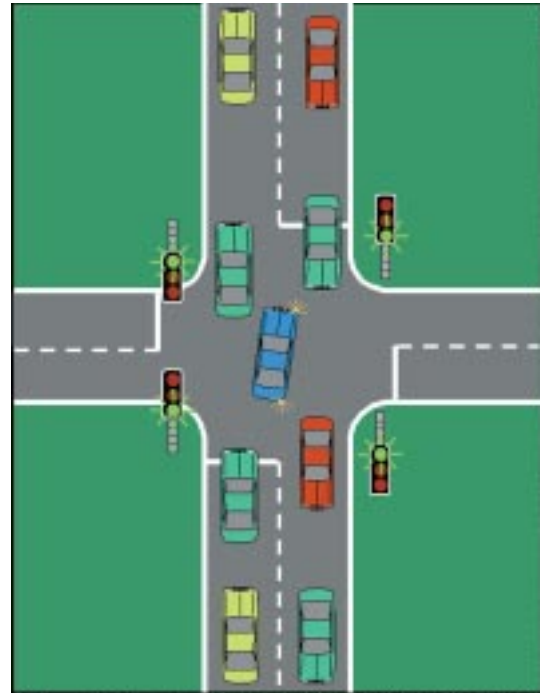
A MERRY CHRISTMAS TO ALL OUR READERS

Modelling opposed right-turn movements in TRANSYT – Part 1

This is the first of a series of articles covering the question of opposed right-turn movements at signal controlled junctions and how they can be modelled in TRANSYT. In this article, we deal with wholly opposed right-turn movements with no unopposed stage.

Firstly, note that an opposed right-turn link has to have both signal control data and give-way data. In the situation where right-turners do not benefit from an unopposed stage, they will turn in gaps in the opposing flow, and those waiting in front of the stopline at the end of the green will clear during the intergreen. In such cases the end lag (found in the signal control data) needs to be used to model the potential of vehicles clearing during the interstage. The end-lag time is specified in seconds and should be set as long as necessary to clear the number of vehicles able to store in front of the stopline (or, to put another way, the number that would store in front of the stopline if the approach was fully saturated). This would normally be $(3600/\text{saturation flow}) \times (\text{number of vehicles stored})$ where the saturation flow is that specified in the signal control data (*not the give-way max flow because the right-turners are unopposed during the end-lag period*). Note that the end lag is a modelling feature that extends the TRANSYT effective green. It does not affect the actual green used on-street.

We often get asked what give-way parameters should be used in such a case. We normally suggest starting with a coefficient of 50 and a max flow of 900-1000. These are not to be taken as any standard figure. You should feel free to alter them in the



light of experience or better knowledge if necessary.

However, a right-turn movement that does not have the luxury of an unopposed period would not normally survive unless it was non-critical (ie very low flow) and so the give-way parameters themselves should never be critical. If they are, it probably would not be wise to persevere without an unopposed stage.

Moving on to a specific situation, consider the case where there is a single lane on the approach to the signals, with no bays or flaring, and the right-turners share road-space with other movements. In this situation, it is possible in TRANSYT to specify other movements as giving way to 'nothing' (leaving just right-turners giving way to 'something'). It models the stream as-a-whole and takes account of the blocking of other movements caused by those waiting to turn. In doing so it correctly models the combined effects of other movements discharging at the signal-controlled saturation flow rate and the right turners discharging at the give-way max-flow rate. It does not allow for the fact that, normally, one or two right-turners can move into the centre of the junction out of the way of other movements (even though you can model their discharge during the intergreen with end lag). Consequently, this modelling technique may underestimate the situation. This underestimation ought not to be a concern because, if the situation is sensitive to the data, it may well be time to consider the addition of an unopposed stage for the right turners.

Whilst on the subject of opposed right turn situations, one thing you positively cannot do in TRANSYT is to have a link specified as opposed that is itself a priority link for some other opposed link (ie mutually opposed). Often, TRANSYT will not tolerate this and fail to run correctly. However, sometimes TRANSYT will run: if it does run, the results certainly should not be trusted. When this mutual opposition exists, it is necessary to model the capacity of one of the links (usually the one with the least right-turning traffic) by suitable adjustment of the saturation flow. The saturation flow can be calculated by using OSCADY or RR67 formulae and it is still possible to use the end lag to model turning during the intergreen. (Note that, in such cases, the end lag time calculated by $(3600/\text{saturation flow}) \times (\text{number of vehicles stored})$ may seem excessively long when the saturation flow is low and you may need to be prepared to defend it)

Next time, I will continue with this theme, covering situations where right-turn bays exist and where there are two (or more) lanes involved, which adds whole new dimensions to the problem.

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Special Promotional Offer Transport Policy Model version 2.0

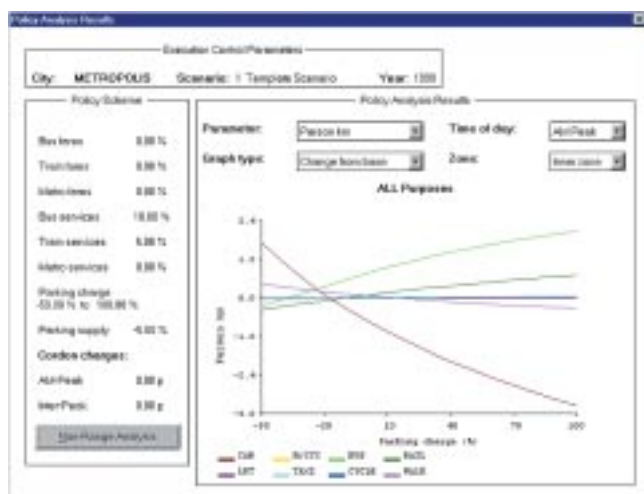
TPM version 2.0 will be released in December 2001. This new software release will enable the user to assess the behavioural response to changes in transport policy for a town or city for a range of variables including parking supply and charges, public transport services and fares, and cordon charges. New in version 2.0 is the 'Range Analysis' feature which allows the user to plot the changes in transport demand for each mode across a range of policy interventions, both positive and negative, for variables such as fares and parking charges.

For a limited period (until March 31st 2002), TPM version 2.0 will be available at specially reduced promotional prices.

1 PC licence	£600
4 PC licence	£900
Unlimited licence	£1200

(Normal price 1PC £850, 4PC £1280 and Unlimited £1680)
All prices exclude VAT.

Existing TPM licence holders with current maintenance contracts will receive a free upgrade to version 2.0. The upgrade price for existing licence holders without maintenance contracts will be £150 + VAT. An Order form is enclosed. For further information contact the TRL Software Bureau.



FAQ

Welcome again to FAQ. Here are some more 'Frequently Asked Questions' which you may find useful. **NOTE: If you wish to discuss on-line any particular issues regarding our software products with other users and with ourselves at TRL we have a 'Forum' section set up within the Users section of our TRL Software Web Site.**



If I set the Junction Standard in PICADY to "Urban", it always reverts to "Rural" whenever I reload the file.

This setting is only used in PICADY when you have also selected accident analysis. (It determines which particular screens appear when you click on the "Accident Prediction" buttons, which is why it is located on the "Junction Type" screen.) If you are not using accident analysis then the program does not use the rural/urban setting and does not save it, and so you do not need to set it. (Admittedly this is not made clear in the program.)



When I try to open or save a file in ARCADY, PICADY or OSCADY, it doesn't show me any network drives.

ARCADY 5 and PICADY 4.1 allow you to change the format of the 'Open' and 'Save As...' windows via User Options/"Use Windows style Open/Save dialogue boxes" option. When this option is set the dialogue boxes are standard Windows controls that give you access to all network paths, the desktop and shortcuts. (The alternative option allows you to see the run title of data files, which can often be useful.) As a shortcut, you can also switch formats by clicking on the Load or Save buttons on the Progress Checklist with the right (i.e. not left!) mouse button.



In ARCADY, what do I enter for the sight distances in the Geometric Delay screens if I can't measure them?

If you can't find a way to measure a sight distance, you should enter zero. In this case a slightly different form of the geometric delay calculations is automatically used, to allow for the unknown parameter, so this is not the same as just entering a very low value.

Software Bureau Website - Update

Thank you to all of our readers who have, in the past, requested a Software Account to access our TRL Software Members Site. However we recently decided, that in order to encourage the use of this part of the site, it should be freely available to all users. When you next check the site please visit the Users Section. No passwords are necessary and you will have full access to the whole of this section.

Our Users section is specifically aimed to help those of you who already use TRL software packages, but we feel that it may also help those who are trying to decide whether our software is appropriate to their needs. We hope that the Forum will enable active and meaningful communication between Traffic Engineers and this is now available to all.

We trust that you will find this additional access useful – especially now that you do not have to remember passwords. We all have enough logins to remember anyway – who needs barriers!!!!

Please feel free to contact me if you have any requests, comments or queries in connection with the site.

Carole Dixon
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In the output from ARCADY or PICADY, the Turning Proportions table is full of question marks.

This can happen if the program thinks you have mixed up turning proportions with turning counts. Normally these are automatically distinguished by the fact that proportions are 1.0 or less whereas counts are much larger numbers. If you entered counts, but the flows for some movements were as low as 1 vehicle, then the program interprets these values as proportions rather than counts. Since you are not allowed to mix counts and proportions, it flags this as an error – hence the question marks. You can get round this by, e.g. doubling all the counts so that they are all above 1. (This will give the same results since the program will derive the same proportions from the counts.)



An error similar to "Salford run-time error: Stack Overflow" appears whenever I try to run in file in ARCADY, PICADY, OSCADY or TRANSYT.

We have described this error and its cause on previous occasions, but it still comes up from time to time – so here is a reminder. The error only occurs on Windows NT/2000, and is caused by having an out-of-date version of a file called SALFLIBC.DLL. This file is shared by all our products and is located in the Windows system directory (usually C:\WINNT\SYSTEM32 or equivalent). Installing the product should automatically install an up-to-date version of the file, but occasionally this can fail, or you may have installed another piece of software that overwrote the file. Whatever the cause, the solution is to obtain an up-to-date version of SALFLIBC.DLL. You can download this from the "Members" section of our website, or we can email it to you directly upon request. If after doing this you still experience problems with one or all of the products (in particular you may get an error similar to "Unit has neither been opened nor pre-connected") then you also need re-compiled versions of the products – which again are available for download from our website.



When modelling a grade-separated junction or particularly large roundabout the ARCADY model requires me to enter the circulating flow over the central 30 minutes of peak periods. I have noticed that as I increase this value it INCREASES the capacity of my roundabout. This seems counter intuitive - Why is this happening?

When a roundabout is specified as large, grade separated, or terminates in a dual carriageway or motorway ARCADY uses a slightly different equation to calculate the capacity. This equation uses the two new parameters, \bar{Q}_C (Mean Circulating Flow) and SEP (Separation Distance). The mean circulating flow can, in fact have the effect of either increasing or reducing the capacity – it all depends on the instantaneous value of Q_c which is calculated within the model from the demand data and geometric data. If the instantaneous value of Q_c is high then the effect of a high \bar{Q}_C is lightly to increase the capacity and vice-versa if Q_c is low.

The effect on the entry capacity is thought to be due to drivers behaving according to the conditions they become accustomed to encountering at the junction in question, e.g. if they have to contend with high circulating flows on a regular basis they may be more aggressive towards finding a gap in the traffic.

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Bug Box

To clarify an ambiguity in the manual and in TRANSYT please note that QUEPROB should only be used when there are two lanes in a flare, one main lane and one short 'bay'. The lane and bay must share a common green, but must **not** share a common movement.

COURSES, SEMINARS & WORKSHOPS 2002

ARCADY/PICADY WORKSHOP

A 2 DAY WORKSHOP
IN FEBRUARY

Course Date
5 - 6/2/02

Course Fee £500
(£450 Maintenance Holders)

TRANSYT WORKSHOP

A 2 DAY WORKSHOP
IN FEBRUARY

Course Date
26 - 27/2/02

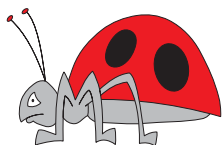
Course Fee £500
(£450 Maintenance Holders)

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

TRL Software Bureau
Christmas Holiday
Period

The Software Bureau
will be closed from
4.00pm Christmas Eve
until 9.00am
2nd January 2002

BUG BOX



TRANSYT Manual Queprob

See Page 3
for Bug box details.

TRANSYT USER GROUP REPORT

This year's TRANSYT User Group was held in Birmingham, in answer to customer pressure to use a more central location than TRL's Crowthorne offices. The choice of location, at the Copthorne Hotel in the centre of Birmingham has proved popular, with 30 people attending, more than double the previous year. Over half marked the location as "excellent" on the questionnaire. Ease of travel was also rated highly.

The content of the day had also been revamped following last year's user survey. The new format seems to have met with approval, with the balance between the user's and TRL's input being about right. The discussion about future developments, with both TRL and users putting forward ideas for improvements was particularly popular. This session was exceptionally valuable from TRL's point of view. Subjects which seemed of great interest included adding emissions modelling, general improvements to the output including making it suitable for direct importation to word processors. A method for producing assignments of flows to lanes at signalised roundabouts, along with consistent road markings was also received positively. A method for modelling phases which do not appear every cycle was also strongly supported. Improvements to data entry/editing were also requested, but there was no support for an idea to allow signal data to be imported directly from 0141 data sets. There was also clearly a considerable need to provide clearer advice on all aspects of modelling opposed right turn and give-way situations. We expect to tackle this via a series of articles in Traffic Software News.

Overall, the day was characterised by positive contributions from all who attended and has certainly encouraged TRL to continue using a central location such as Birmingham.

John Peirce
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TRANSYT

'Stops and Delays' Values for 2001

TRANSYT Performance Index (PI) coefficients.

Cost of delay, W = £12.90 pence per pcu-hour

Cost of stops, K = £2.35 per 100 stops (2.35p per pcu stop)

MOVA in Lancashire

In my MOVA article in the previous edition of TSN I referred to 'three junctions in Lancashire'. It has been pointed out that this may have given the impression that the project customer was **Lancashire County Council**. It was NOT - I was merely describing the **geographical location** of the junctions, rather than referring to the authority responsible for them. Apologies to Lancashire County Council for any misunderstanding.

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CURRENT PROGRAM VERSIONS

ARCADY 5	V5.0 AC/1.1
PICADY 4	V4.1 AL/3.0
OSCADY 4	V4.02 AE/2.2
TRANSYT 11	V11.1 AH/1.4
<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	4.12
SafeNET	1.02
PARC 2M & PARC 2P	

Who's Who in Traffic Software



Matthew Brierley

Matthew joined TRL in June 2001 on a one year placement. This is his third year of a four year computer science degree at the Manchester Metropolitan University.

Matthew is currently working within the TRL software development team, updating three of the five BUNDLE programs and creating a new program to form the third version of BUNDLE. This is designed to run on a PDA using a PALM OS ® handheld.



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