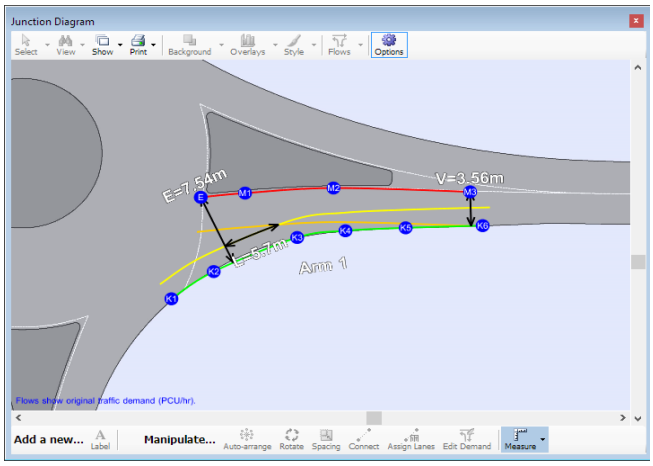
TRL Software

Junctions 9

Roundabout, Signals & Priority Junction Analysis

Junctions 9 is a modular software package providing advanced roundabout, traffic signal and priority junctions modelling and analysis within a single graphical interface.



Roundabouts

The **ARCADY** module includes separate models for standard roundabouts, mini-roundabouts and large/grade-separated roundabouts, all based on UK empirical research. These models predict capacity, queues and delays (queueing and geometric) and accident risk at roundabouts using an empirical framework which intrinsically links roundabout geometry to driver behavior and in turn to predicted roundabout capacity.

ARCADY 9 includes a Lane Simulation tool which can assess alternative lane configurations and model effects such as lane starvation, blocking back at linked roundabouts and many other cases.

Additional ARCADY 9 features:

- Interactive geometry measurement tool
- Revised mini-roundabout model
- Circulating lanes at roundabouts
- Option to use HCM 2016 roundabout model
- Model roundabouts linked to other junctions
- Import files from ARCADY 5/6/7/8
- Partially signalised roundabouts (requires OSCADY module)

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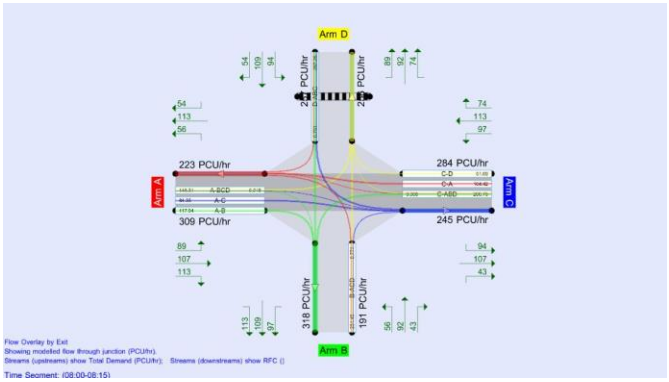


Priority-controlled Junctions

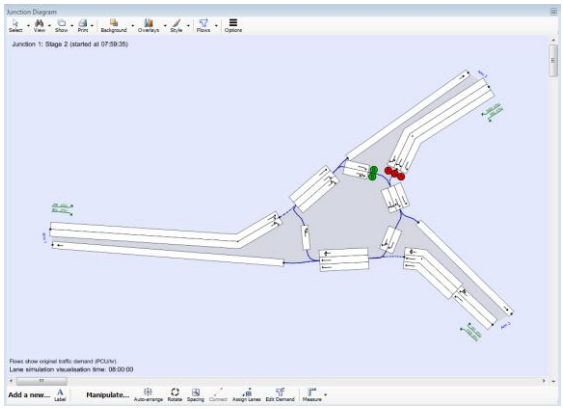
The **PICADY** module provides an extensive toolset for modelling priority-controlled junctions such as crossroads and T-junctions.

- 3 or 4-arm priority controlled junctions including T-junctions, crossroads and staggers
- Model one way or two way roads
- Option to use HCM TWSC/AWSC models
- Model major roads with single, flared and two lane approaches
- Import files from PICADY 5/8

Lane Simulation

Junctions 9 includes a **Lane Simulation** tool that can be used to model ARCADY, PICADY or OSCADY junctions using a simulation method. This can model effects that may be difficult to model otherwise, such as unequal lane usage at roundabouts, blocking back between linked junctions, circulating lanes at roundabouts, partially signalised junctions and signalised junctions with intermittent stages.

Visualisation and animations make it much easier to see where and why problems occur.



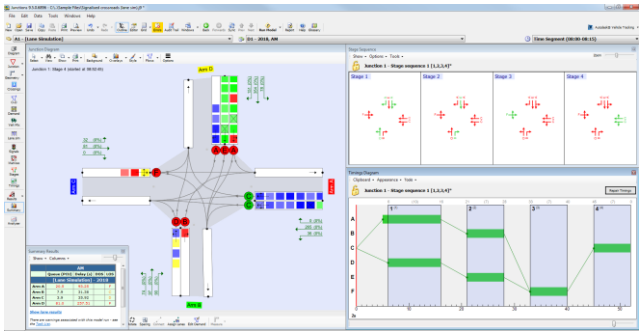
Signalised Junctions

The **OSCADY** module calculates capacities, queues and delays for isolated (uncoordinated) traffic signal controlled junctions. It can evaluate a set of known signal timings, and optionally can optimise stage lengths and/or cycle time to minimise delay.

OSCADY is intended to be used at relatively simple signalised junctions where the emphasis is on setting up model runs quickly and easily, but can model junctions with features such as flared approaches and opposed right turns. It shares the same user interface as ARCADY 9 and PICADY 9 which means that it is possible to switch a junction between priority and signalised options and compare the results within one package.

Stages and stage sequences can be generated automatically, based on phase allocations and an Intergreen matrix.

Basic junction structure and signals data can be exported to TRANSYT 15.



Other Junctions 9 features:

- Interactive diagram and data-entry screens
- Model multiple geometric layouts, traffic flows and years within a single file
- Choice of units and terminology for all input and output data
- Read traffic flows from Excel spreadsheets
- Calculation of TEMPRO growth factors*
- Audit trail
- Sensitivity analysis through graphs, charts and optimiser mode
- Comprehensive Glossary and User Guide
- PDF reports and file comparison
- Model left and right-hand drive scenarios

* requires download of TEMPRO datasets.

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