

# ARCADY 7

## Roundabout design and analysis

**ARCADY 7** offers a host of new features and a brand new user interface. Available for a limited period at introductory prices, there has never been a better time to upgrade from ARCADY 5 or ARCADY 6. For upgrade pricing, please contact TRL Software Sales.

**ARCADY 7** is a modernised and updated version of our popular, internationally-renowned software program for the assessment of roundabout capacity, delay and safety at standard, mini and grade-separated roundabouts.

Fast and easy to use, **ARCADY 7** is an invaluable tool to aid the busy traffic engineer to design new roundabouts and to assess the effects of modifying existing designs.

**Main features** include the following:

- ◆ Brand new user interface, providing a task list, window management tools, data grids, undo/redo and many more
- ◆ Analyse multiple scenarios simultaneously
- ◆ Interactive roundabout diagram showing entry, circulating and exit flows
- ◆ Model linked roundabouts
- ◆ Dynamically updating GUI provides immediate feedback
- ◆ Many more features.... *see overleaf*



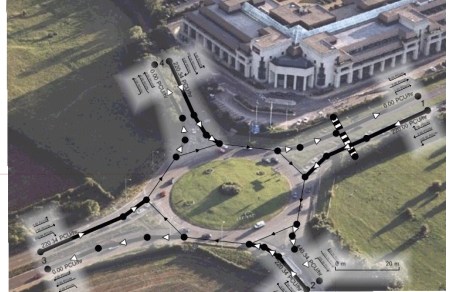
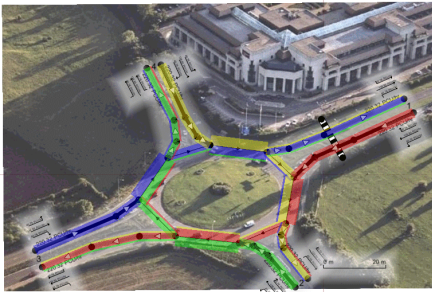
# Scenarios, Analysis Sets and Demand Sets

- ◆ Set up multiple geometries and flows for different time periods and years in the same file
- ◆ Immediately compare performance across ALL scenarios
- ◆ See instant results for all scenarios whenever any data values change

Summary Results									
AM					PM				
	RFC	Delay (min)	Queue (PCU)	LOS	RFC	Delay (min)	Queue (PCU)	LOS	
<b>Existing Layout - 2009</b>									
Arm 1	0.67	0.28	2.03	C	0.74	0.48	3.51	D	
Arm 2	0.67	0.28	2.03	C	0.78	0.48	3.51	D	
Arm 3	0.67	0.28	2.03	C	0.78	0.48	3.51	D	
<b>Scaling Layout - 2012</b>									
Arm 1	0.83	0.54	4.66	D	1.00	2.97	25.55	F	
Arm 2	0.83	0.54	4.66	D	1.00	2.97	25.55	F	
Arm 3	0.83	0.54	4.66	D	1.00	2.97	25.55	F	
<b>Experimental Layout - 2009</b>									
Arm 1	0.34	0.07	0.32	A	0.38	0.08	0.61	A	
Arm 2	0.34	0.07	0.32	A	0.38	0.08	0.61	A	
Arm 3	0.34	0.07	0.32	A	0.38	0.08	0.61	A	
<b>Experimental Layout - 2012</b>									
Arm 1	0.42	0.08	0.72	A	0.48	0.10	0.90	A	
Arm 2	0.42	0.08	0.72	A	0.48	0.10	0.90	A	
Arm 3	0.42	0.08	0.72	A	0.48	0.10	0.90	A	

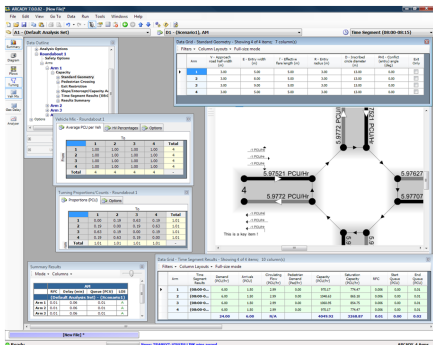
Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

# Interactive Junction Diagram



- ◆ View, edit and manipulate roundabouts graphically
- ◆ Turning Counts and flows shown graphically for each arm
- ◆ Full control over appearance. Depiction of queues, flares and crossings
- ◆ Scale indicator and measuring tool
- ◆ Overlay modes showing relative proportions of entry, exit and circulating traffic in vehicles or PCU, colour-coded by origin or destination

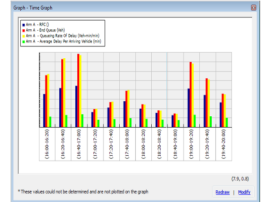
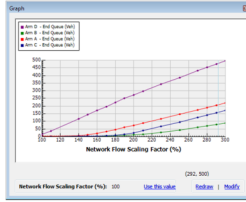
# Choice of units for ALL data input and output



- ◆ Distance (metres, feet); speed (mph, kph)
- ◆ Traffic (PCU, vehicles); Flows (per min, per hour, per time segment)
- ◆ Delay (veh-min, PCU-hr, etc)
- ◆ Measurement converter for converting measurements made in other units to current working units
- ◆ New traffic flow input screens, with many new options

# Performance Analysis

- ◆ Powerful graphs and charts
- ◆ Optimiser mode finds best set of parameters to meet any required target performance
- ◆ Quantify variation in performance resulting from uncertainty in measurements
- ◆ Determine additional traffic demand that roundabouts can cope with



# New modelling features

- ◆ Linked roundabouts - model entire systems of roundabouts
- ◆ Entry and exit restrictions
- ◆ Puffin crossing model
- ◆ Minimum/maximum capacity functions
- ◆ Improved SATURATION mode
- ◆ Level of Service outputs
- ◆ Peak Hour Factor traffic flows
- ◆ Direct entry of slope/intercept
- ◆ More options for flow and capacity scaling
- ◆ More options for capacity adjustments
- ◆ Easily see the effect on any aspect of performance due to changing flows or capacity
- ◆ More queue variation options
- ◆ Set up a different traffic profile type on each arm
- ◆ More outputs, including random queues and exit/circulating flows

# Flexible data entry and results viewing modes

- ◆ Practically any set of data can be viewed and edited using flexible data grids
- ◆ No need for a separate viewer program

Data Grid - Summary - Showing 3 of 3 items, 9 column(s)

Filters - Column Layouts

Summary

Arm	Results	E - Entry width (m)	F - Effective Queue length (m)	R - Entry radius (m)	Circulating Flow (PCU/hr)	Capacity (PCU/hr)	RFC (%)	Start Queue (PCU)	End Queue (PCU)	Total Delay (PCU-hr/hr)
A	08:00...	3.00	0.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00
B	08:00...	3.00	0.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00
C	08:00...	3.00	0.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00

Vehicle Mix - Roundabout 1

Average PCU per Veh. HV Percentages Options

From \ To	Arm 1	Arm 2	Arm 3	Average
Arm 1	10.000	10.000	10.000	10.00
Arm 2	15.000	15.000	15.000	15.00
Arm 3	5.000	5.000	5.000	5.00
Average	10.00	10.00	10.00	-

- ◆ Work with inputs and outputs simultaneously
- ◆ Customisable grids and layouts
- ◆ Easy to use data matrix screens
- ◆ Copy and paste to/from any screen
- ◆ Use turning counts directly as flows

