TRANSYT 16

Version: 16.0.1.8473

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Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2023 Baseline				
Network	D1	266.69	17.55	83% (TS 1A/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D1 - 2023 Baseline, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:15:08	26/07/2023 08:15:09	1.49	08:15	100	266.69	17.55	83.40	1A/1	0	0	1A/1	8B/1	8B/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2023 Baseline	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	150	438	209
	1-2	79	0	91	64
	1-3	399	124	0	38
	1-4	156	95	52	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	156
	2		1-1	1-4	1A/2, 1Dx/1	Normal	209
	3		1-1	1-2	1A/1, 1Bx/1	Normal	150
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	95
	5		1-2	1-4	1B/2, 1Dx/1	Normal	64
	6		1-2	1-1	1B/2, 1Ax/1	Normal	79
	7		1-1	1-3	1A/1, 1Cx/1	Normal	438
	8		1-2	1-3	1B/1, 1Cx/1	Normal	91
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	52
	10		1-3	1-2	1C/2, 1Bx/1	Normal	124
	11		1-3	1-4	1C/1, 1Dx/1	Normal	38
	12		1-3	1-1	1C/1, 1Ax/1	Normal	399

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	12	1	0
	4-2	30	2	76	8
	4-3	2	47	0	0
	4-4	0	7	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	47
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	12
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	76
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	30
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	8
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	7
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 82, 104, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	82	46	1	4
	3	✓	5	E,F	89	104	15	1	2
	4	✓	3	A,D,E,H	111	20	29	1	2

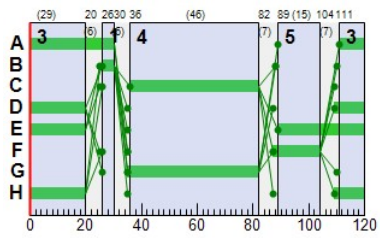
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	111	30	39
	B	1	✓	26	30	4
	C	1	✓	36	82	46
	D	1	✓	109	20	31
	E	1	✓	89	20	51
	F	1	✓	87	104	17
	G	1	✓	35	82	47
	H	1	✓	109	20	31

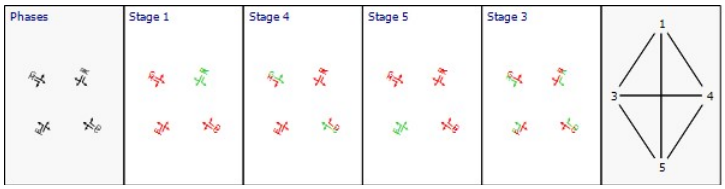
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	82	46
1A	2	1	1	D	109	20	31
1B	1	1	1	E	89	20	51
1B	2	1	1	F	87	104	17
1C	1	1	1	G	35	82	47
1C	2	1	1	H	109	20	31
1D1	1	1	1	A	111	30	39
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	588 <	1800	46	0.00	83	8	49.32	45.22	98.28	19.64 +	100	100	0.00	112.12
	2		1	1	D	209	1800	31	0.00	44	107	43.52	39.39	83.81	5.91	100	100	0.00	34.67
1Ax	1					478	Unrestricted	120	48.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	91	1800	51	0.00	12	671	29.75	20.62	58.43	1.80	100	100	0.00	8.07
	2		1	1	F	143	1800	17	0.00	53	70	63.65	54.51	96.76	4.66	100	100	0.00	32.48
1Bx	1					274	Unrestricted	120	34.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	437	1800	47	0.00	61	48	46.87	32.36	80.48	12.00	100	100	0.00	60.19
	2		1	1	H	124	1800	31	0.00	26	248	50.42	35.97	78.41	3.28	100	100	0.00	18.81
1Cx	1					529	Unrestricted	120	13.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			311	1800	120	29.00	17	421	17.20	0.21	0.00	0.02	100	100	0.00	0.26
4A	1		43			13	1252	120	120.00	1	8565	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			49	3600	120	120.00	1	6512	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Ax	1					32	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			1	3600	120	120.00	0	323900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					61	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			49	1073	120	120.00	5	1871	9.47	0.08	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			40	3600	120	120.00	1	8000	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Cx	1					77	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1332	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			81	3600	120	0.00	2	3900	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			8	1800	120	120.00	0	20150	16.14	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	39	40.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			76	1572	120	0.00	5	1762	9.45	0.06	0.00	0.00	100	100	0.00	0.02
	2		44			40	752	120	120.00	5	1591	9.53	0.13	0.00	0.00	100	100	0.00	0.02
4B2	1		14			116	1800	120	0.00	6	1297	3.94	0.07	0.00	0.00	100	100	0.00	0.03

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	366.47	29.77	12.31	17.55	249.21	17.47	0.00	266.69
Bus								
Tram								
Pedestrians								
TOTAL	366.47	29.77	12.31	17.55	249.21	17.47	0.00	266.69

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:20:27

«A1 - : D2 - 2023 Baseline, Weekday PM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2023 Baseline				
Network	D2	270.68	17.80	90% (TS 1A/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D2 - 2023 Baseline, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:20:21	26/07/2023 08:20:24	3.25	16:30	100	270.68	17.80	89.54	1A/1	0	0	1A/1	8B/1	8B/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2023 Baseline	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	141	544	3
	1-2	74	0	124	4
	1-3	489	183	0	11
	1-4	5	8	27	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	5
	2		1-1	1-4	1A/2, 1Dx/1	Normal	3
	3		1-1	1-2	1A/1, 1Bx/1	Normal	141
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	8
	5		1-2	1-4	1B/2, 1Dx/1	Normal	4
	6		1-2	1-1	1B/2, 1Ax/1	Normal	74
	7		1-1	1-3	1A/1, 1Cx/1	Normal	544
	8		1-2	1-3	1B/1, 1Cx/1	Normal	124
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	27
	10		1-3	1-2	1C/2, 1Bx/1	Normal	183
	11		1-3	1-4	1C/1, 1Dx/1	Normal	11
	12		1-3	1-1	1C/1, 1Ax/1	Normal	489

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	128	9	0
	4-2	123	2	55	1
	4-3	9	88	0	0
	4-4	0	8	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	88
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	9
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	9
	12		4-1	4-2	4A/1, 4Bx/1	Normal	128
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	34
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	55
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	90
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	1
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	8
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 86, 103, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	86	50	1	4
	3	✓	5	E,F	93	103	10	1	2
	4	✓	3	A,D,E,H	110	20	30	1	2

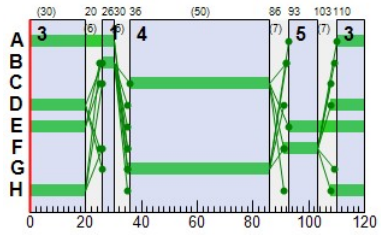
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	110	30	40
	B	1	✓	26	30	4
	C	1	✓	36	86	50
	D	1	✓	108	20	32
	E	1	✓	93	20	47
	F	1	✓	91	103	12
	G	1	✓	35	86	51
	H	1	✓	108	20	32

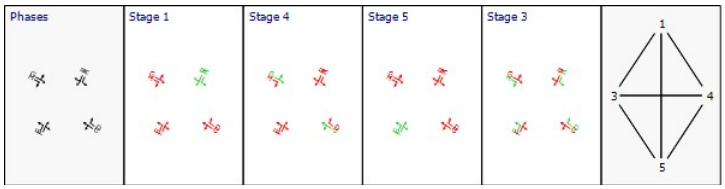
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	86	50
1A	2	1	1	D	108	20	32
1B	1	1	1	E	93	20	47
1B	2	1	1	F	91	103	12
1C	1	1	1	G	35	86	51
1C	2	1	1	H	108	20	32
1D1	1	1	1	A	110	30	40
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	685 <	1800	50	0.00	90	1	54.30	50.20	105.17	24.58 +	100	100	0.00	144.66
	2		1	1	D	3	1800	32	32.00	1	14750	36.05	31.92	71.51	0.00	100	100	0.00	0.40
1Ax	1					563	Unrestricted	120	48.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	124	1800	47	0.00	17	423	32.86	23.73	63.53	2.67	100	100	0.00	12.59
	2		1	1	F	78	1800	12	0.00	40	125	65.11	55.98	96.53	2.54	100	100	0.00	18.17
1Bx	1					324	Unrestricted	120	27.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	500	1800	51	0.00	64	40	45.27	30.76	79.87	13.62	100	100	0.00	65.68
	2		1	1	H	183	1800	32	0.00	37	143	51.68	37.24	80.77	4.99	100	100	0.00	28.73
1Cx	1					668	Unrestricted	120	11.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			18	1800	120	120.00	1	8900	17.00	0.01	0.00	0.00	100	100	0.00	0.00
4A	1		43			137	1230	120	0.00	11	708	9.60	0.18	0.00	0.01	100	100	0.00	0.10
4Ac	1		43			90	3600	120	0.00	2	3500	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Ax	1					132	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			9	3600	120	120.00	0	35900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					218	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			97	1027	120	0.00	9	853	9.58	0.18	0.00	0.00	100	100	0.00	0.07
4Cc	1		41			126	3600	120	0.00	4	2471	10.30	0.02	0.00	0.00	100	100	0.00	0.01
4Cx	1					64	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1250	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			222	3600	120	0.00	6	1359	10.31	0.03	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			1	1800	120	120.00	0	161900	16.13	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	40	41.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			90	1567	120	0.00	6	1467	9.46	0.07	0.00	0.00	100	100	0.00	0.02
	2		44			91	748	120	0.00	12	640	9.73	0.33	0.00	0.01	100	100	0.00	0.12
4B2	1		14			181	1800	120	0.00	10	795	3.98	0.11	0.00	0.01	100	100	0.00	0.08

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	444.23	32.61	13.62	17.80	252.83	17.85	0.00	270.68
Bus								
Tram								
Pedestrians								
TOTAL	444.23	32.61	13.62	17.80	252.83	17.85	0.00	270.68

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:21:46

«A1 - : D3 - 2026 Do-Nothing, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2026 Do-Nothing				
Network	D3	254.09	16.59	71% (TS 1C/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D3 - 2026 Do-Nothing, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:21:40	26/07/2023 08:21:41	1.88	08:15	100	254.09	16.59	70.67	1C/1	0	0	1C/1	8B/1	8B/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2026 Do-Nothing	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	106	494	17
	1-2	150	0	289	15
	1-3	589	117	0	47
	1-4	41	16	81	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	41
	2		1-1	1-4	1A/2, 1Dx/1	Normal	17
	3		1-1	1-2	1A/1, 1Bx/1	Normal	106
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	16
	5		1-2	1-4	1B/2, 1Dx/1	Normal	15
	6		1-2	1-1	1B/2, 1Ax/1	Normal	150
	7		1-1	1-3	1A/1, 1Cx/1	Normal	494
	8		1-2	1-3	1B/1, 1Cx/1	Normal	289
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	81
	10		1-3	1-2	1C/2, 1Bx/1	Normal	117
	11		1-3	1-4	1C/1, 1Dx/1	Normal	47
	12		1-3	1-1	1C/1, 1Ax/1	Normal	589

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	12	1	0
	4-2	31	2	83	8
	4-3	2	50	0	0
	4-4	0	7	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	50
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	12
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	83
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	31
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	8
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	7
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 94, 0, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	94	58	1	4
	3	✓	5	E,F	101	0	19	1	2
	4	✓	3	A,D,E,H	7	20	13	1	2

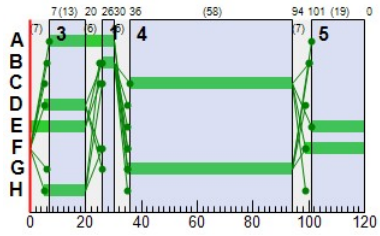
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	7	30	23
	B	1	✓	26	30	4
	C	1	✓	36	94	58
	D	1	✓	5	20	15
	E	1	✓	101	20	39
	F	1	✓	99	0	21
	G	1	✓	35	94	59
	H	1	✓	5	20	15

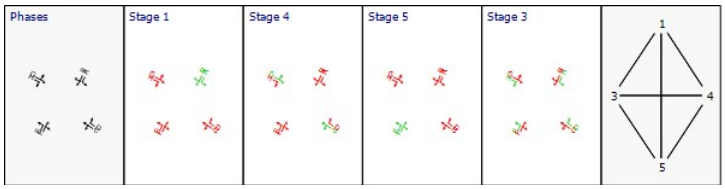
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	94	58
1A	2	1	1	D	5	20	15
1B	1	1	1	E	101	20	39
1B	2	1	1	F	99	0	21
1C	1	1	1	G	35	94	59
1C	2	1	1	H	5	20	15
1D1	1	1	1	A	7	30	23
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	600 <	1800	58	0.00	68	33	31.60	27.50	77.74	15.87 +	100	100	0.00	70.93
	2		1	1	D	17	1800	15	15.00	7	1171	50.20	46.07	86.16	0.49	100	100	0.00	3.27
1Ax	1					739	Unrestricted	120	31.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	289	1800	39	0.00	48	87	43.68	34.55	80.16	7.85	100	100	0.00	42.29
	2		1	1	F	165	1800	21	0.00	50	80	58.60	49.46	92.63	5.15	100	100	0.00	34.11
1Bx	1					223	Unrestricted	120	36.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	636	1800	59	0.00	71	27	42.47	27.96	79.08	17.09	100	100	0.00	76.45
	2		1	1	H	117	1800	15	0.00	49	85	69.71	55.26	97.17	3.84	100	100	0.00	26.93
1Cx	1					783	Unrestricted	120	6.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			79	1800	120	56.00	4	1951	17.03	0.05	0.00	0.00	100	100	0.00	0.01
4A	1		43			13	1250	120	120.00	1	8554	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			52	3600	120	120.00	1	6131	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Ax	1					33	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			1	3600	120	120.00	0	323900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					64	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			52	1073	120	120.00	5	1757	9.48	0.09	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			41	3600	120	120.00	1	7802	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Cx	1					84	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1330	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			85	3600	120	0.00	2	3712	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			8	1800	120	120.00	0	20150	16.14	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	23	24.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			83	1572	120	0.00	5	1605	9.46	0.06	0.00	0.00	100	100	0.00	0.02
	2		44			41	752	120	120.00	5	1550	9.53	0.14	0.00	0.00	100	100	0.00	0.02
4B2	1		14			124	1800	120	0.00	7	1206	3.94	0.07	0.00	0.00	100	100	0.00	0.04

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	425.48	30.77	13.83	16.59	235.51	18.59	0.00	254.09
Bus								
Tram								
Pedestrians								
TOTAL	425.48	30.77	13.83	16.59	235.51	18.59	0.00	254.09

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

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Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:22:38

«A1 - : D4 - 2026 Do-Nothing, Weekday PM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2026 Do-Nothing				
Network	D4	312.63	20.58	91% (TS 1A/1)	1 (2%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D4 - 2026 Do-Nothing, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:22:34	26/07/2023 08:22:36	2.19	16:30	100	312.63	20.58	91.03	1A/1	1	2	1A/1	8B/1	8B/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2026 Do-Nothing	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	146	564	38
	1-2	77	0	129	14
	1-3	507	190	0	77
	1-4	21	17	68	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	21
	2		1-1	1-4	1A/2, 1Dx/1	Normal	38
	3		1-1	1-2	1A/1, 1Bx/1	Normal	146
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	17
	5		1-2	1-4	1B/2, 1Dx/1	Normal	14
	6		1-2	1-1	1B/2, 1Ax/1	Normal	77
	7		1-1	1-3	1A/1, 1Cx/1	Normal	564
	8		1-2	1-3	1B/1, 1Cx/1	Normal	129
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	68
	10		1-3	1-2	1C/2, 1Bx/1	Normal	190
	11		1-3	1-4	1C/1, 1Dx/1	Normal	77
	12		1-3	1-1	1C/1, 1Ax/1	Normal	507

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	133	9	0
	4-2	128	2	59	1
	4-3	9	96	0	0
	4-4	0	8	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	96
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	9
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	9
	12		4-1	4-2	4A/1, 4Bx/1	Normal	133
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	34
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	59
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	94
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	1
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	8
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 87, 104, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	87	51	1	4
	3	✓	5	E,F	94	104	10	1	2
	4	✓	3	A,D,E,H	111	20	29	1	2

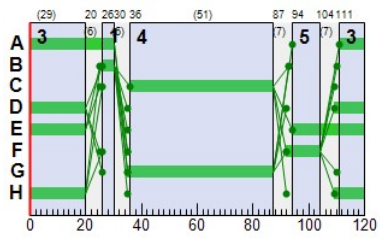
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	111	30	39
	B	1	✓	26	30	4
	C	1	✓	36	87	51
	D	1	✓	109	20	31
	E	1	✓	94	20	46
	F	1	✓	92	104	12
	G	1	✓	35	87	52
	H	1	✓	109	20	31

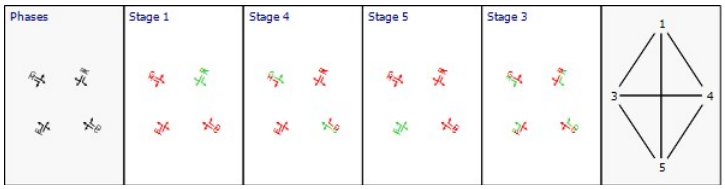
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	87	51
1A	2	1	1	D	109	20	31
1B	1	1	1	E	94	20	46
1B	2	1	1	F	92	104	12
1C	1	1	1	G	35	87	52
1C	2	1	1	H	109	20	31
1D1	1	1	1	A	111	30	39
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	710 <	1800	51	0.00	91	-1	56.42	52.32	107.65	26.13 +	100	100	0.00	156.12
	2		1	1	D	38	1800	31	30.00	8	1037	37.43	33.30	73.45	0.94	100	100	0.00	5.34
1Ax	1					584	Unrestricted	120	47.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	129	1800	46	0.00	18	392	33.63	24.50	64.49	2.82	100	100	0.00	13.51
	2		1	1	F	91	1800	12	0.00	47	93	67.37	58.24	98.88	3.03	100	100	0.00	22.03
1Bx	1					336	Unrestricted	120	27.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	584	1800	52	0.00	73	23	48.36	33.85	85.62	17.06	100	100	0.00	84.25
	2		1	1	H	190	1800	31	0.00	40	127	52.98	38.53	82.57	5.30	100	100	0.00	30.84
1Cx	1					693	Unrestricted	120	11.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			129	1800	120	37.00	7	1156	17.07	0.08	0.00	0.00	100	100	0.00	0.04
4A	1		43			142	1225	120	0.00	12	677	9.61	0.19	0.00	0.01	100	100	0.00	0.11
4Ac	1		43			98	3600	120	0.00	3	3206	10.29	0.01	0.00	0.00	100	100	0.00	0.01
4Ax	1					137	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			9	3600	120	120.00	0	35900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					231	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			105	1024	120	0.00	10	778	9.60	0.20	0.00	0.01	100	100	0.00	0.08
4Cc	1		41			131	3600	120	0.00	4	2373	10.30	0.02	0.00	0.00	100	100	0.00	0.01
4Cx	1					68	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1242	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			235	3600	120	0.00	7	1279	10.32	0.03	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			1	1800	120	120.00	0	161900	16.13	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	39	40.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			95	1567	120	0.00	6	1385	9.47	0.07	0.00	0.00	100	100	0.00	0.03
	2		44			95	748	120	0.00	13	609	9.74	0.35	0.00	0.01	100	100	0.00	0.13
4B2	1		14			190	1800	120	0.00	11	753	3.99	0.12	0.00	0.01	100	100	0.00	0.09

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	488.59	36.87	13.25	20.58	292.29	20.34	0.00	312.63
Bus								
Tram								
Pedestrians								
TOTAL	488.59	36.87	13.25	20.58	292.29	20.34	0.00	312.63

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:23:40

«A1 - : D5 - 2026 Construction, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2026 Construction				
Network	D5	350.92	23.19	76% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D5 - 2026 Construction, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:23:35	26/07/2023 08:23:37	2.72	08:15	100	350.92	23.19	75.81	1D1/2	0	0	1D1/2	4D/1	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2026 Construction	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	106	368	159
	1-2	150	0	195	121
	1-3	460	77	0	33
	1-4	192	64	38	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	192
	2		1-1	1-4	1A/2, 1Dx/1	Normal	159
	3		1-1	1-2	1A/1, 1Bx/1	Normal	106
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	64
	5		1-2	1-4	1B/2, 1Dx/1	Normal	121
	6		1-2	1-1	1B/2, 1Ax/1	Normal	150
	7		1-1	1-3	1A/1, 1Cx/1	Normal	368
	8		1-2	1-3	1B/1, 1Cx/1	Normal	195
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	38
	10		1-3	1-2	1C/2, 1Bx/1	Normal	77
	11		1-3	1-4	1C/1, 1Dx/1	Normal	33
	12		1-3	1-1	1C/1, 1Ax/1	Normal	460

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	12	1	0
	4-2	31	2	61	227
	4-3	2	39	0	13
	4-4	0	308	24	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	39
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	13
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	12
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	31
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	67
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	61
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	161
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	24
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	308
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	26	197
	7-2	30	0	20
	7-3	285	18	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	26
	3		7-2	7-1	7B/1, 7Ax/1	Normal	30
	4		7-1	7-3	7A/1, 7Cx/1	Normal	197
	5		7-2	7-3	7B/1, 7Cx/1	Normal	20
	6		7-3	7-1	7C/1, 7Ax/1	Normal	285
	7		7-3	7-2	7C/1, 7Bx/1	Normal	18

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	13	302
	8-2	13	0	23
	8-3	210	22	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	13
	3		8-2	8-1	8B/1, 8Ax/1	Normal	13
	5		8-1	8-3	8A/1, 8Cx/1	Normal	302
	6		8-2	8-3	8B/1, 8Cx/1	Normal	23
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	210
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	22

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	3	214
	9-2	7	0	10
	9-3	296	6	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	6
	3		9-2	9-3	9B/1, 9Cx/1	Normal	10
	5		9-2	9-1	9B/1, 9Ax/1	Normal	7
	6		9-3	9-1	9C/1, 9Ax/1	Normal	296
	7		9-1	9-2	9A/1, 9Bx/1	Normal	3
	8		9-1	9-3	9A/1, 9Cx/1	Normal	214

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	19, 71, 102, 5	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	11	19	8	1	4
	2	✓	4	C,G	25	71	46	1	4
	3	✓	5	E,F	78	102	24	1	2
	4	✓	3	A,D,E,H	109	5	16	1	2

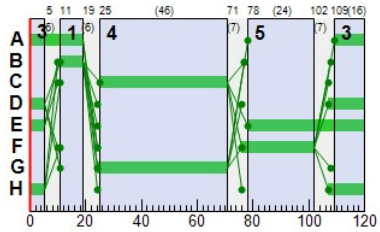
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	109	19	30
	B	1	✓	11	19	8
	C	1	✓	25	71	46
	D	1	✓	107	5	18
	E	1	✓	78	5	47
	F	1	✓	76	102	26
	G	1	✓	24	71	47
	H	1	✓	107	5	18

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	25	71	46
1A	2	1	1	D	107	5	18
1B	1	1	1	E	78	5	47
1B	2	1	1	F	76	102	26
1C	1	1	1	G	24	71	47
1C	2	1	1	H	107	5	18
1D1	1	1	1	A	109	19	30
1D1	2	1	1	B	11	19	8

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			233	1800	120	0.00	13	595	59.01	0.15	0.00	0.01	100	100	0.00	0.14
RRWB	1		13			332	1800	120	0.00	18	388	57.14	0.23	0.00	0.02	100	100	0.00	0.30
1A	1		1	1	C	474 <	1800	46	0.00	67	34	39.42	35.32	84.88	13.72 +	100	100	0.00	71.08
	2		1	1	D	159	1800	18	0.00	56	61	58.62	54.49	97.12	5.21	100	100	0.00	36.11
1Ax	1					803	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	195	1800	47	0.00	27	232	34.29	25.16	66.42	4.38	100	100	0.00	20.97
	2		1	1	F	271	1800	26	0.00	67	35	60.38	51.24	96.88	8.87	100	100	0.00	58.07
1Bx	1					247	Unrestricted	120	36.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	493	1800	47	0.00	68	31	49.62	35.11	85.10	14.29	100	100	0.00	73.54
	2		1	1	H	77	1800	18	0.00	27	233	61.20	46.76	88.45	2.30	100	100	0.00	15.06
1Cx	1					601	Unrestricted	120	0.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			313	1800	120	31.00	17	418	17.20	0.21	0.00	0.02	100	100	0.00	0.26
4A	1		43			13	1078	120	120.00	1	7360	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			373	3600	120	0.00	10	769	10.34	0.06	0.00	0.01	100	100	0.00	0.09
4Ax	1					33	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			25	3600	120	120.00	1	12860	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					361	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			54	953	120	120.00	6	1489	9.51	0.11	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			261	3600	120	0.00	7	1141	10.32	0.04	0.00	0.00	100	100	0.00	0.04
4Cx	1					86	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			332	1337	120	0.00	25	262	9.84	0.44	0.00	0.04	100	100	0.00	0.58
4Dc	1		42			74	3600	120	0.00	2	4278	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			241	1800	120	0.00	13	572	16.29	0.15	0.00	0.01	100	100	0.00	0.15
7A	1		7			224	1800	120	0.00	12	624	4.29	0.14	0.00	0.01	100	100	0.00	0.13
7Ax	1		15			315	1800	120	0.00	18	414	2.97	0.21	0.00	0.02	100	100	0.00	0.26
7B	1		7			50	490	120	120.00	10	782	1.79	0.42	0.00	0.01	100	100	0.00	0.08
7Bx	1					44	Unrestricted	120	103.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			303	1627	120	3.00	19	383	13.58	0.25	0.00	0.02	100	100	0.00	0.30
7Cx	1		11			218	1800	120	0.00	12	644	13.89	0.14	0.00	0.01	100	100	0.00	0.12
8A	1		8			315	1800	120	0.00	18	414	4.36	0.21	0.00	0.02	100	100	0.00	0.26
8Ax	1		15			224	1800	120	0.00	12	624	3.16	0.14	0.00	0.01	100	100	0.00	0.13
8B	1		8			36	487	120	120.00	7	1118	2.41	0.29	0.00	0.00	100	100	0.00	0.04
8Bx	1					35	Unrestricted	120	120.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			233	1562	120	0.00	15	503	13.15	0.20	0.00	0.01	100	100	0.00	0.19
8Cx	1		12			325	1800	120	0.00	18	398	13.82	0.22	0.00	0.02	100	100	0.00	0.28
9A	1		9			218	1800	120	0.00	12	644	3.57	0.14	0.00	0.01	100	100	0.00	0.12
9Ax	1		11			303	1800	120	6.00	17	435	4.62	0.20	0.00	0.02	100	100	0.00	0.24
9B	1		9			17	492	120	120.00	3	2505	2.51	0.13	0.00	0.00	100	100	0.00	0.01
9Bx	1					9	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			302	1748	120	10.00	17	421	31.95	0.22	0.00	0.02	100	100	0.00	0.26
9Cx	1		10			225	1800	120	0.00	12	621	31.97	0.14	0.00	0.01	100	100	0.00	0.13
1D1	1		1	1	A	193	1800	30	0.00	41	117	46.83	39.69	83.73	5.44	100	100	0.00	32.19
	2		1	1	B	102	1800	8	0.00	76	19	99.10	92.05	125.52	4.40	100	100	0.00	38.77
1D2	1		16			295	1800	120	0.00	16	449	7.48	0.20	0.00	0.02	100	100	0.00	0.23
4B1	1		44			161	1557	120	0.00	10	771	9.53	0.13	0.00	0.01	100	100	0.00	0.08
	2		44			161	742	120	0.00	22	315	10.07	0.67	0.00	0.03	100	100	0.00	0.43
4B2	1		14			322	1800	120	0.00	18	403	4.09	0.22	0.00	0.02	100	100	0.00	0.28

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1203.69	63.31	19.01	23.19	329.28	21.64	0.00	350.92
Bus								
Tram								
Pedestrians								
TOTAL	1203.69	63.31	19.01	23.19	329.28	21.64	0.00	350.92

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:24:21

«A1 - : D6 - 2026 Construction, Weekday PM Peak :
- »Summary
- »Roundabouts
- »T-Junctions
- »Local OD Matrix - Local Matrix: 1
- »Local OD Matrix - Local Matrix: 4
- »Local OD Matrix - Local Matrix: 7
- »Local OD Matrix - Local Matrix: 8
- »Local OD Matrix - Local Matrix: 9
- »Signal Timings
- »Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2026 Construction				
Network	D6	322.27	21.29	72% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D6 - 2026 Construction, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:24:06	26/07/2023 08:24:09	3.31	16:30	100	322.27	21.29	72.11	1D1/2	0	0	1D1/2	4B1/2	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2026 Construction	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	146	424	202
	1-2	77	0	88	64
	1-3	387	120	0	35
	1-4	159	99	52	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	159
	2		1-1	1-4	1A/2, 1Dx/1	Normal	202
	3		1-1	1-2	1A/1, 1Bx/1	Normal	146
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	99
	5		1-2	1-4	1B/2, 1Dx/1	Normal	64
	6		1-2	1-1	1B/2, 1Ax/1	Normal	77
	7		1-1	1-3	1A/1, 1Cx/1	Normal	424
	8		1-2	1-3	1B/1, 1Cx/1	Normal	88
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	52
	10		1-3	1-2	1C/2, 1Bx/1	Normal	120
	11		1-3	1-4	1C/1, 1Dx/1	Normal	35
	12		1-3	1-1	1C/1, 1Ax/1	Normal	387

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	133	9	0
	4-2	128	2	44	265
	4-3	9	70	0	29
	4-4	0	247	19	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	70
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	9
	4		4-3	4-4	4C/1, 4Dx/1	Normal	29
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	9
	12		4-1	4-2	4A/1, 4Bx/1	Normal	133
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	128
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	46
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	44
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	220
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	19
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	247
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	31	253
	7-2	29	0	18
	7-3	217	21	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	7-1	(untitled)	7A/1	7Ax/1	#A52A2A

7	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	31
	3		7-2	7-1	7B/1, 7Ax/1	Normal	29
	4		7-1	7-3	7A/1, 7Cx/1	Normal	253
	5		7-2	7-3	7B/1, 7Cx/1	Normal	18
	6		7-3	7-1	7C/1, 7Ax/1	Normal	217
	7		7-3	7-2	7C/1, 7Bx/1	Normal	21

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	15	231
	8-2	16	0	27
	8-3	268	25	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	15
	3		8-2	8-1	8B/1, 8Ax/1	Normal	16
	5		8-1	8-3	8A/1, 8Cx/1	Normal	231
	6		8-2	8-3	8B/1, 8Cx/1	Normal	27
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	268
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	25

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	5	266
	9-2	3	0	8
	9-3	235	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	7
	3		9-2	9-3	9B/1, 9Cx/1	Normal	8
	5		9-2	9-1	9B/1, 9Ax/1	Normal	3
	6		9-3	9-1	9C/1, 9Ax/1	Normal	235
	7		9-1	9-2	9A/1, 9Bx/1	Normal	5
	8		9-1	9-3	9A/1, 9Cx/1	Normal	266

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	18, 76, 94, 119	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	5	18	13	1	4
	2	✓	4	C,G	24	76	52	1	4
	3	✓	5	E,F	83	94	11	1	2
	4	✓	3	A,D,E,H	101	119	18	1	2

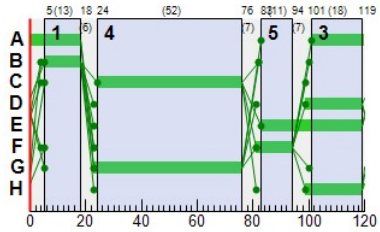
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	101	18	37
	B	1	✓	5	18	13
	C	1	✓	24	76	52
	D	1	✓	99	119	20
	E	1	✓	83	119	36
	F	1	✓	81	94	13
	G	1	✓	23	76	53
	H	1	✓	99	119	20

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	24	76	52
1A	2	1	1	D	99	119	20
1B	1	1	1	E	83	119	36
1B	2	1	1	F	81	94	13
1C	1	1	1	G	23	76	53
1C	2	1	1	H	99	119	20
1D1	1	1	1	A	101	18	37
1D1	2	1	1	B	5	18	13

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			294	1800	120	0.00	16	451	59.05	0.20	0.00	0.02	100	100	0.00	0.23
RRWB	1		13			266	1800	120	0.00	15	509	57.08	0.17	0.00	0.01	100	100	0.00	0.18
1A	1		1	1	C	570 <	1800	52	0.00	72	26	37.13	33.03	84.23	16.41 +	100	100	0.00	80.28
	2		1	1	D	202 <	1800	20	0.00	64	40	60.14	56.01	99.58	6.79 +	100	100	0.00	47.15
1Ax	1					623	Unrestricted	120	3.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	88	1800	36	0.00	16	468	39.94	30.81	71.97	2.14	100	100	0.00	11.49
	2		1	1	F	141	1800	13	0.00	67	34	76.80	67.66	107.64	5.13	100	100	0.00	39.53
1Bx	1					365	Unrestricted	120	20.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	422	1800	53	0.00	52	73	40.63	26.12	72.04	10.36	100	100	0.00	47.29
	2		1	1	H	120	1800	20	0.00	38	136	61.70	47.26	89.87	3.65	100	100	0.00	23.72
1Cx	1					564	Unrestricted	120	3.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			301	1800	120	44.00	17	438	17.19	0.20	0.00	0.02	100	100	0.00	0.24
4A	1		43			142	1096	120	0.00	13	595	9.67	0.24	0.00	0.01	100	100	0.00	0.14
4Ac	1		43			338	3600	120	0.00	9	859	10.33	0.05	0.00	0.00	100	100	0.00	0.07
4Ax	1					137	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			28	3600	120	120.00	1	11471	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					452	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			108	880	120	0.00	12	633	9.68	0.29	0.00	0.01	100	100	0.00	0.12
4Cc	1		41			396	3600	120	0.00	11	718	10.34	0.06	0.00	0.01	100	100	0.00	0.10
4Cx	1					72	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			266	1257	120	0.00	21	325	9.78	0.38	0.00	0.03	100	100	0.00	0.40
4Dc	1		42			209	3600	120	0.00	6	1450	10.31	0.03	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			295	1800	120	0.00	16	449	16.33	0.20	0.00	0.02	100	100	0.00	0.23
7A	1		7			285	1800	120	0.00	16	469	4.34	0.19	0.00	0.01	100	100	0.00	0.21
7Ax	1		15			246	1800	120	0.00	14	559	2.92	0.16	0.00	0.01	100	100	0.00	0.15
7B	1		7			47	481	120	120.00	10	821	1.78	0.41	0.00	0.01	100	100	0.00	0.08
7Bx	1					52	Unrestricted	120	90.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			238	1547	120	22.00	15	485	13.53	0.21	0.00	0.01	100	100	0.00	0.20
7Cx	1		11			272	1800	120	0.00	15	496	13.93	0.18	0.00	0.01	100	100	0.00	0.19
8A	1		8			246	1800	120	0.00	14	559	4.30	0.16	0.00	0.01	100	100	0.00	0.15
8Ax	1		15			285	1800	120	0.00	16	469	3.21	0.19	0.00	0.01	100	100	0.00	0.21
8B	1		8			43	496	120	120.00	9	938	2.46	0.34	0.00	0.00	100	100	0.00	0.06
8Bx	1					40	Unrestricted	120	105.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			294	1591	120	0.00	18	387	13.20	0.26	0.00	0.02	100	100	0.00	0.30
8Cx	1		12			258	1800	120	0.00	14	528	13.77	0.17	0.00	0.01	100	100	0.00	0.17
9A	1		9			272	1800	120	0.00	15	496	3.61	0.18	0.00	0.01	100	100	0.00	0.19
9Ax	1		11			238	1800	120	25.00	13	581	4.57	0.15	0.00	0.01	100	100	0.00	0.14
9B	1		9			11	509	120	120.00	2	4068	2.45	0.08	0.00	0.00	100	100	0.00	0.00
9Bx	1					12	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			242	1723	120	26.00	14	541	31.90	0.17	0.00	0.01	100	100	0.00	0.16
9Cx	1		10			275	1800	120	0.00	15	490	32.01	0.18	0.00	0.01	100	100	0.00	0.20
1D1	1		1	1	A	159	1800	37	0.00	28	222	39.10	31.97	74.20	4.00	100	100	0.00	21.59
	2		1	1	B	151	1800	13	0.00	72	25	79.19	72.14	111.61	5.72	100	100	0.00	45.21
1D2	1		16			311	1800	120	0.00	17	421	7.50	0.21	0.00	0.02	100	100	0.00	0.26
4B1	1		44			220	1556	120	0.00	14	536	9.59	0.19	0.00	0.01	100	100	0.00	0.17
	2		44			220	740	120	0.00	30	203	10.42	1.03	0.00	0.06	100	100	0.00	0.89
4B2	1		14			440	1800	120	0.00	24	268	4.19	0.32	0.00	0.04	100	100	0.00	0.56

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1248.56	62.91	19.85	21.29	302.27	20.01	0.00	322.27
Bus								
Tram								
Pedestrians								
TOTAL	1248.56	62.91	19.85	21.29	302.27	20.01	0.00	322.27

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:24:57

«A1 - : D7 - 2028 Do-Nothing, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2028 Do-Nothing				
Network	D7	260.77	17.02	71% (TS 1C/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D7 - 2028 Do-Nothing, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:24:54	26/07/2023 08:24:56	2.09	08:15	100	260.77	17.02	71.04	1C/1	0	0	1C/1	8B/1	8B/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 Do-Nothing	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	108	506	17
	1-2	154	0	296	15
	1-3	603	120	0	47
	1-4	41	16	81	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	41
	2		1-1	1-4	1A/2, 1Dx/1	Normal	17
	3		1-1	1-2	1A/1, 1Bx/1	Normal	108
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	16
	5		1-2	1-4	1B/2, 1Dx/1	Normal	15
	6		1-2	1-1	1B/2, 1Ax/1	Normal	154
	7		1-1	1-3	1A/1, 1Cx/1	Normal	506
	8		1-2	1-3	1B/1, 1Cx/1	Normal	296
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	81
	10		1-3	1-2	1C/2, 1Bx/1	Normal	120
	11		1-3	1-4	1C/1, 1Dx/1	Normal	47
	12		1-3	1-1	1C/1, 1Ax/1	Normal	603

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	13	1	0
	4-2	32	2	85	8
	4-3	2	51	0	0
	4-4	0	7	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	51
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	13
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	85
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	32
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	8
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	7
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 95, 0, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	95	59	1	4
	3	✓	5	E,F	102	0	18	1	2
	4	✓	3	A,D,E,H	7	20	13	1	2

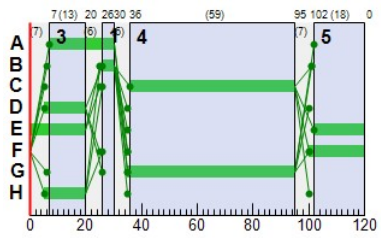
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	7	30	23
	B	1	✓	26	30	4
	C	1	✓	36	95	59
	D	1	✓	5	20	15
	E	1	✓	102	20	38
	F	1	✓	100	0	20
	G	1	✓	35	95	60
	H	1	✓	5	20	15

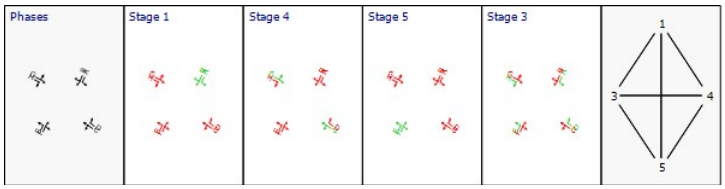
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	95	59
1A	2	1	1	D	5	20	15
1B	1	1	1	E	102	20	38
1B	2	1	1	F	100	0	20
1C	1	1	1	G	35	95	60
1C	2	1	1	H	5	20	15
1D1	1	1	1	A	7	30	23
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	614 <	1800	59	0.00	68	32	31.12	27.02	77.20	16.25 +	100	100	0.00	71.38
	2		1	1	D	17	1800	15	15.00	7	1171	50.20	46.07	86.16	0.49	100	100	0.00	3.27
1Ax	1					757	Unrestricted	120	31.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	296	1800	38	0.00	51	78	44.98	35.85	81.54	8.15	100	100	0.00	44.89
	2		1	1	F	169	1800	20	0.00	54	68	60.75	51.62	95.02	5.42	100	100	0.00	36.42
1Bx	1					228	Unrestricted	120	35.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	650	1800	60	0.00	71	27	41.98	27.47	78.72	17.47	100	100	0.00	76.85
	2		1	1	H	120	1800	15	0.00	50	80	70.15	55.71	97.56	3.95	100	100	0.00	27.84
1Cx	1					802	Unrestricted	120	6.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			79	1800	120	55.00	4	1951	17.03	0.05	0.00	0.00	100	100	0.00	0.01
4A	1		43			14	1250	120	120.00	1	7933	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			53	3600	120	120.00	1	6013	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Ax	1					34	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			1	3600	120	120.00	0	323900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					66	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			53	1072	120	120.00	5	1721	9.48	0.09	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			42	3600	120	120.00	1	7614	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Cx	1					86	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1329	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			87	3600	120	0.00	2	3624	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			8	1800	120	120.00	0	20150	16.14	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	23	24.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			85	1572	120	0.00	5	1565	9.46	0.07	0.00	0.00	100	100	0.00	0.02
	2		44			42	752	120	120.00	6	1511	9.54	0.14	0.00	0.00	100	100	0.00	0.02
4B2	1		14			127	1800	120	0.00	7	1176	3.95	0.08	0.00	0.00	100	100	0.00	0.04

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	435.36	31.53	13.81	17.02	241.72	19.05	0.00	260.77
Bus								
Tram								
Pedestrians								
TOTAL	435.36	31.53	13.81	17.02	241.72	19.05	0.00	260.77

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:25:33

«A1 - : D8 - 2028 Do-Nothing, Weekday PM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2028 Do-Nothing				
Network	D8	340.38	22.46	93% (TS 1A/1)	1 (2%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D8 - 2028 Do-Nothing, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:25:29	26/07/2023 08:25:31	2.28	16:30	100	340.38	22.46	93.33	1A/1	1	2	1A/1	8B/1	8B/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 Do-Nothing	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	150	578	38
	1-2	79	0	132	14
	1-3	519	194	0	78
	1-4	21	17	69	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	21
	2		1-1	1-4	1A/2, 1Dx/1	Normal	38
	3		1-1	1-2	1A/1, 1Bx/1	Normal	150
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	17
	5		1-2	1-4	1B/2, 1Dx/1	Normal	14
	6		1-2	1-1	1B/2, 1Ax/1	Normal	79
	7		1-1	1-3	1A/1, 1Cx/1	Normal	578
	8		1-2	1-3	1B/1, 1Cx/1	Normal	132
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	69
	10		1-3	1-2	1C/2, 1Bx/1	Normal	194
	11		1-3	1-4	1C/1, 1Dx/1	Normal	78
	12		1-3	1-1	1C/1, 1Ax/1	Normal	519

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	136	10	0
	4-2	131	2	60	1
	4-3	10	98	0	0
	4-4	0	8	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	98
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	10
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	10
	12		4-1	4-2	4A/1, 4Bx/1	Normal	136
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	35
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	60
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	96
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	1
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	8
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 87, 104, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	87	51	1	4
	3	✓	5	E,F	94	104	10	1	2
	4	✓	3	A,D,E,H	111	20	29	1	2

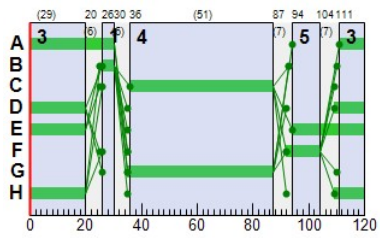
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	111	30	39
	B	1	✓	26	30	4
	C	1	✓	36	87	51
	D	1	✓	109	20	31
	E	1	✓	94	20	46
	F	1	✓	92	104	12
	G	1	✓	35	87	52
	H	1	✓	109	20	31

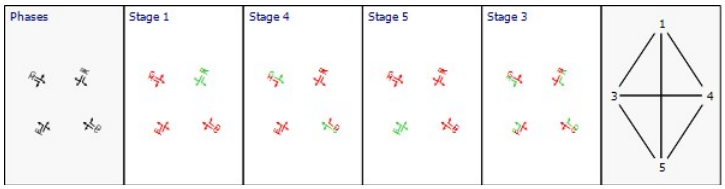
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	87	51
1A	2	1	1	D	109	20	31
1B	1	1	1	E	94	20	46
1B	2	1	1	F	92	104	12
1C	1	1	1	G	35	87	52
1C	2	1	1	H	109	20	31
1D1	1	1	1	A	111	30	39
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	728 <	1800	51	0.00	93	-4	62.54	58.44	113.37	28.33 +	100	100	0.00	178.15
	2		1	1	D	38	1800	31	30.00	8	1037	37.43	33.30	73.45	0.94	100	100	0.00	5.34
1Ax	1					598	Unrestricted	120	47.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	132	1800	46	0.00	19	381	33.69	24.56	64.50	2.88	100	100	0.00	13.85
	2		1	1	F	93	1800	12	0.00	48	89	67.76	58.62	99.15	3.11	100	100	0.00	22.66
1Bx	1					344	Unrestricted	120	26.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	597	1800	52	0.00	75	20	49.20	34.69	86.95	17.69	100	100	0.00	88.19
	2		1	1	H	194	1800	31	0.00	40	123	53.15	38.71	82.73	5.42	100	100	0.00	31.63
1Cx	1					710	Unrestricted	120	11.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			130	1800	120	36.00	7	1146	17.07	0.08	0.00	0.00	100	100	0.00	0.04
4A	1		43			146	1224	120	0.00	12	655	9.62	0.20	0.00	0.01	100	100	0.00	0.11
4Ac	1		43			100	3600	120	0.00	3	3140	10.30	0.01	0.00	0.00	100	100	0.00	0.01
4Ax	1					141	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			10	3600	120	120.00	0	32300	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					236	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			108	1023	120	0.00	11	752	9.60	0.21	0.00	0.01	100	100	0.00	0.09
4Cc	1		41			133	3600	120	0.00	4	2336	10.30	0.02	0.00	0.00	100	100	0.00	0.01
4Cx	1					70	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1239	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			241	3600	120	0.00	7	1244	10.32	0.04	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	39	40.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			97	1567	120	0.00	6	1354	9.47	0.08	0.00	0.00	100	100	0.00	0.03
	2		44			96	748	120	0.00	13	601	9.75	0.35	0.00	0.01	100	100	0.00	0.13
4B2	1		14			193	1800	120	0.00	11	739	3.99	0.12	0.00	0.01	100	100	0.00	0.09

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	499.67	39.12	12.77	22.46	318.94	21.44	0.00	340.38
Bus								
Tram								
Pedestrians								
TOTAL	499.67	39.12	12.77	22.46	318.94	21.44	0.00	340.38

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

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Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:26:11

«A1 - : D9 - 2028 Operational, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2028 Operational				
Network	D9	361.36	23.88	77% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D9 - 2028 Operational, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:26:07	26/07/2023 08:26:10	3.06	08:15	100	361.36	23.88	77.04	1D1/2	0	0	1D1/2	4D/1	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 Operational	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	108	380	154
	1-2	154	0	202	118
	1-3	474	80	0	32
	1-4	200	65	39	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	200
	2		1-1	1-4	1A/2, 1Dx/1	Normal	154
	3		1-1	1-2	1A/1, 1Bx/1	Normal	108
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	65
	5		1-2	1-4	1B/2, 1Dx/1	Normal	118
	6		1-2	1-1	1B/2, 1Ax/1	Normal	154
	7		1-1	1-3	1A/1, 1Cx/1	Normal	380
	8		1-2	1-3	1B/1, 1Cx/1	Normal	202
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	39
	10		1-3	1-2	1C/2, 1Bx/1	Normal	80
	11		1-3	1-4	1C/1, 1Dx/1	Normal	32
	12		1-3	1-1	1C/1, 1Ax/1	Normal	474

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	13	1	0
	4-2	32	2	63	204
	4-3	2	40	0	12
	4-4	0	305	25	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	40
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	12
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	13
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	32
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	54
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	63
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	151
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	25
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	305
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	17	198
	7-2	35	0	29
	7-3	279	15	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	17
	3		7-2	7-1	7B/1, 7Ax/1	Normal	35
	4		7-1	7-3	7A/1, 7Cx/1	Normal	198
	5		7-2	7-3	7B/1, 7Cx/1	Normal	29
	6		7-3	7-1	7C/1, 7Ax/1	Normal	279
	7		7-3	7-2	7C/1, 7Bx/1	Normal	15

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	7	307
	8-2	14	0	16
	8-3	201	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	7
	3		8-2	8-1	8B/1, 8Ax/1	Normal	14
	5		8-1	8-3	8A/1, 8Cx/1	Normal	307
	6		8-2	8-3	8B/1, 8Cx/1	Normal	16
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	201
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	7

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	3	224
	9-2	7	0	10
	9-3	287	6	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	6
	3		9-2	9-3	9B/1, 9Cx/1	Normal	10
	5		9-2	9-1	9B/1, 9Ax/1	Normal	7
	6		9-3	9-1	9C/1, 9Ax/1	Normal	287
	7		9-1	9-2	9A/1, 9Bx/1	Normal	3
	8		9-1	9-3	9A/1, 9Cx/1	Normal	224

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	19, 71, 102, 5	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	11	19	8	1	4
	2	✓	4	C,G	25	71	46	1	4
	3	✓	5	E,F	78	102	24	1	2
	4	✓	3	A,D,E,H	109	5	16	1	2

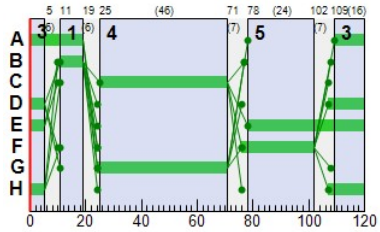
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	109	19	30
	B	1	✓	11	19	8
	C	1	✓	25	71	46
	D	1	✓	107	5	18
	E	1	✓	78	5	47
	F	1	✓	76	102	26
	G	1	✓	24	71	47
	H	1	✓	107	5	18

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	25	71	46
1A	2	1	1	D	107	5	18
1B	1	1	1	E	78	5	47
1B	2	1	1	F	76	102	26
1C	1	1	1	G	24	71	47
1C	2	1	1	H	107	5	18
1D1	1	1	1	A	109	19	30
1D1	2	1	1	B	11	19	8

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			208	1800	120	0.00	12	679	58.99	0.13	0.00	0.01	100	100	0.00	0.11
RRWB	1		13			330	1800	120	0.00	18	391	57.13	0.22	0.00	0.02	100	100	0.00	0.29
1A	1		1	1	C	488 <	1800	46	0.00	69	30	40.23	36.13	86.18	14.32 +	100	100	0.00	74.82
	2		1	1	D	154	1800	18	0.00	54	67	57.95	53.82	96.63	5.02	100	100	0.00	34.56
1Ax	1					828	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	202	1800	47	0.00	28	221	34.44	25.31	66.86	4.60	100	100	0.00	21.86
	2		1	1	F	272	1800	26	0.00	67	34	60.51	51.37	96.99	8.91	100	100	0.00	58.42
1Bx	1					253	Unrestricted	120	35.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	506	1800	47	0.00	70	28	50.39	35.88	86.28	14.87	100	100	0.00	77.08
	2		1	1	H	80	1800	18	0.00	28	221	61.40	46.96	88.55	2.39	100	100	0.00	15.71
1Cx	1					621	Unrestricted	120	0.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			304	1800	120	31.00	17	433	17.19	0.20	0.00	0.02	100	100	0.00	0.24
4A	1		43			14	1078	120	120.00	1	6831	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			372	3600	120	0.00	10	771	10.34	0.06	0.00	0.01	100	100	0.00	0.08
4Ax	1					34	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			26	3600	120	120.00	1	12362	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					360	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			54	966	120	120.00	6	1510	9.50	0.11	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			238	3600	120	0.00	7	1261	10.32	0.04	0.00	0.00	100	100	0.00	0.03
4Cx	1					89	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			330	1335	120	0.00	25	264	9.84	0.44	0.00	0.04	100	100	0.00	0.58
4Dc	1		42			76	3600	120	0.00	2	4163	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			216	1800	120	0.00	12	650	16.27	0.14	0.00	0.01	100	100	0.00	0.12
7A	1		7			215	1800	120	0.00	12	653	4.28	0.14	0.00	0.01	100	100	0.00	0.12
7Ax	1		15			314	1800	120	0.00	17	416	2.97	0.21	0.00	0.02	100	100	0.00	0.26
7B	1		7			64	499	120	0.00	13	602	1.90	0.53	0.00	0.01	100	100	0.00	0.13
7Bx	1					32	Unrestricted	120	120.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			294	1650	120	3.00	18	405	13.56	0.24	0.00	0.02	100	100	0.00	0.27
7Cx	1		11			227	1800	120	0.00	13	614	13.89	0.14	0.00	0.01	100	100	0.00	0.13
8A	1		8			314	1800	120	0.00	17	416	4.35	0.21	0.00	0.02	100	100	0.00	0.26
8Ax	1		15			215	1800	120	0.00	12	653	3.15	0.14	0.00	0.01	100	100	0.00	0.12
8B	1		8			30	472	120	120.00	6	1315	2.38	0.26	0.00	0.00	100	100	0.00	0.03
8Bx	1					14	Unrestricted	120	120.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			208	1708	120	0.00	12	639	13.09	0.15	0.00	0.01	100	100	0.00	0.12
8Cx	1		12			323	1800	120	0.00	18	402	13.82	0.22	0.00	0.02	100	100	0.00	0.28
9A	1		9			227	1800	120	0.00	13	614	3.58	0.14	0.00	0.01	100	100	0.00	0.13
9Ax	1		11			294	1800	120	8.00	16	451	4.62	0.20	0.00	0.02	100	100	0.00	0.23
9B	1		9			17	491	120	120.00	3	2499	2.51	0.13	0.00	0.00	100	100	0.00	0.01
9Bx	1					9	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			293	1746	120	10.00	17	436	31.94	0.21	0.00	0.02	100	100	0.00	0.24
9Cx	1		10			234	1800	120	0.00	13	592	31.98	0.15	0.00	0.01	100	100	0.00	0.14
1D1	1		1	1	A	200	1800	30	0.00	43	109	47.18	40.04	84.38	5.72	100	100	0.00	33.70
	2		1	1	B	104	1800	8	0.00	77	17	101.36	94.32	127.09	4.53	100	100	0.00	40.35
1D2	1		16			304	1800	120	0.00	17	433	7.49	0.20	0.00	0.02	100	100	0.00	0.24
4B1	1		44			150	1557	120	0.00	10	834	9.52	0.12	0.00	0.01	100	100	0.00	0.07
	2		44			151	741	120	0.00	20	342	10.02	0.62	0.00	0.03	100	100	0.00	0.37
4B2	1		14			301	1800	120	0.00	17	438	4.07	0.20	0.00	0.02	100	100	0.00	0.24

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1187.50	63.46	18.71	23.88	339.08	22.28	0.00	361.36
Bus								
Tram								
Pedestrians								
TOTAL	1187.50	63.46	18.71	23.88	339.08	22.28	0.00	361.36

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:26:42

«A1 - : D10 - 2028 Operational, Weekday PM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2028 Operational				
Network	D10	333.28	22.02	75% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D10 - 2028 Operational, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:26:37	26/07/2023 08:26:39	2.84	16:30	100	333.28	22.02	75.38	1D1/2	0	0	1D1/2	4B1/2	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 Operational	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	150	438	209
	1-2	79	0	91	64
	1-3	399	124	0	38
	1-4	156	95	52	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	156
	2		1-1	1-4	1A/2, 1Dx/1	Normal	209
	3		1-1	1-2	1A/1, 1Bx/1	Normal	150
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	95
	5		1-2	1-4	1B/2, 1Dx/1	Normal	64
	6		1-2	1-1	1B/2, 1Ax/1	Normal	79
	7		1-1	1-3	1A/1, 1Cx/1	Normal	438
	8		1-2	1-3	1B/1, 1Cx/1	Normal	91
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	52
	10		1-3	1-2	1C/2, 1Bx/1	Normal	124
	11		1-3	1-4	1C/1, 1Dx/1	Normal	38
	12		1-3	1-1	1C/1, 1Ax/1	Normal	399

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	136	10	0
	4-2	131	2	45	261
	4-3	10	72	0	31
	4-4	0	226	17	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	72
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	10
	4		4-3	4-4	4C/1, 4Dx/1	Normal	31
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	10
	12		4-1	4-2	4A/1, 4Bx/1	Normal	136
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	131
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	42
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	45
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	220
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	17
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	226
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	35	247
	7-2	20	0	16
	7-3	218	29	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	7-1	(untitled)	7A/1	7Ax/1	#A52A2A

7	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	35
	3		7-2	7-1	7B/1, 7Ax/1	Normal	20
	4		7-1	7-3	7A/1, 7Cx/1	Normal	247
	5		7-2	7-3	7B/1, 7Cx/1	Normal	16
	6		7-3	7-1	7C/1, 7Ax/1	Normal	218
	7		7-3	7-2	7C/1, 7Bx/1	Normal	29

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	16	222
	8-2	10	0	13
	8-3	272	19	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	16
	3		8-2	8-1	8B/1, 8Ax/1	Normal	10
	5		8-1	8-3	8A/1, 8Cx/1	Normal	222
	6		8-2	8-3	8B/1, 8Cx/1	Normal	13
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	272
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	19

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	5	258
	9-2	3	0	8
	9-3	244	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	7
	3		9-2	9-3	9B/1, 9Cx/1	Normal	8
	5		9-2	9-1	9B/1, 9Ax/1	Normal	3
	6		9-3	9-1	9C/1, 9Ax/1	Normal	244
	7		9-1	9-2	9A/1, 9Bx/1	Normal	5
	8		9-1	9-3	9A/1, 9Cx/1	Normal	258

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	17, 75, 93, 119	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	5	17	12	1	4
	2	✓	4	C,G	23	75	52	1	4
	3	✓	5	E,F	82	93	11	1	2
	4	✓	3	A,D,E,H	100	119	19	1	2

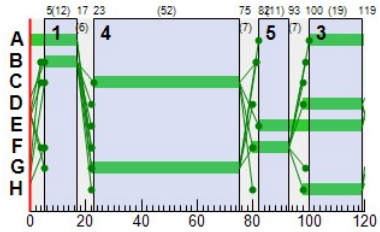
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	100	17	37
	B	1	✓	5	17	12
	C	1	✓	23	75	52
	D	1	✓	98	119	21
	E	1	✓	82	119	37
	F	1	✓	80	93	13
	G	1	✓	22	75	53
	H	1	✓	98	119	21

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	23	75	52
1A	2	1	1	D	98	119	21
1B	1	1	1	E	82	119	37
1B	2	1	1	F	80	93	13
1C	1	1	1	G	22	75	53
1C	2	1	1	H	98	119	21
1D1	1	1	1	A	100	17	37
1D1	2	1	1	B	5	17	12

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			291	1800	120	0.00	16	457	59.05	0.19	0.00	0.02	100	100	0.00	0.22
RRWB	1		13			243	1800	120	0.00	14	567	57.07	0.16	0.00	0.01	100	100	0.00	0.15
1A	1		1	1	C	588 <	1800	52	0.00	74	22	38.20	34.10	86.12	17.20 +	100	100	0.00	85.45
	2		1	1	D	209 <	1800	21	0.00	63	42	58.65	54.52	98.22	6.92 +	100	100	0.00	47.52
1Ax	1					634	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	91	1800	37	0.00	16	464	39.26	30.13	71.16	2.19	100	100	0.00	11.63
	2		1	1	F	143	1800	13	0.00	68	32	77.57	68.44	108.69	5.27	100	100	0.00	40.55
1Bx	1					369	Unrestricted	120	19.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	437	1800	53	0.00	54	67	41.07	26.56	72.92	10.88	100	100	0.00	49.78
	2		1	1	H	124	1800	21	0.00	38	140	60.70	46.26	89.08	3.73	100	100	0.00	24.01
1Cx	1					581	Unrestricted	120	3.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			311	1800	120	43.00	17	421	17.20	0.21	0.00	0.02	100	100	0.00	0.26
4A	1		43			146	1108	120	0.00	13	583	9.67	0.25	0.00	0.01	100	100	0.00	0.14
4Ac	1		43			317	3600	120	0.00	9	922	10.33	0.05	0.00	0.00	100	100	0.00	0.06
4Ax	1					141	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			27	3600	120	120.00	1	11900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					436	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			113	881	120	0.00	13	602	9.69	0.30	0.00	0.01	100	100	0.00	0.13
4Cc	1		41			394	3600	120	0.00	11	722	10.34	0.06	0.00	0.01	100	100	0.00	0.10
4Cx	1					72	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			243	1254	120	0.00	19	364	9.74	0.34	0.00	0.02	100	100	0.00	0.33
4Dc	1		42			215	3600	120	0.00	6	1407	10.31	0.03	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			292	1800	120	0.00	16	455	16.32	0.19	0.00	0.02	100	100	0.00	0.22
7A	1		7			282	1800	120	0.00	16	474	4.33	0.19	0.00	0.01	100	100	0.00	0.21
7Ax	1		15			238	1800	120	8.00	13	581	2.91	0.15	0.00	0.01	100	100	0.00	0.14
7B	1		7			36	488	120	120.00	7	1120	1.66	0.29	0.00	0.00	100	100	0.00	0.04
7Bx	1					64	Unrestricted	120	72.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			247	1479	120	20.00	17	439	13.57	0.24	0.00	0.02	100	100	0.00	0.24
7Cx	1		11			263	1800	120	0.00	15	516	13.92	0.17	0.00	0.01	100	100	0.00	0.18
8A	1		8			238	1800	120	8.00	13	581	4.30	0.15	0.00	0.01	100	100	0.00	0.14
8Ax	1		15			282	1800	120	0.00	16	474	3.21	0.19	0.00	0.01	100	100	0.00	0.21
8B	1		8			23	487	120	120.00	5	1805	2.30	0.18	0.00	0.00	100	100	0.00	0.02
8Bx	1					35	Unrestricted	120	108.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			291	1637	120	0.00	18	406	13.19	0.24	0.00	0.02	100	100	0.00	0.27
8Cx	1		12			235	1800	120	0.00	13	589	13.75	0.15	0.00	0.01	100	100	0.00	0.14
9A	1		9			263	1800	120	0.00	15	516	3.61	0.17	0.00	0.01	100	100	0.00	0.18
9Ax	1		11			247	1800	120	22.00	14	556	4.58	0.16	0.00	0.01	100	100	0.00	0.15
9B	1		9			11	511	120	120.00	2	4079	2.45	0.08	0.00	0.00	100	100	0.00	0.00
9Bx	1					12	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			251	1726	120	23.00	15	519	31.91	0.18	0.00	0.01	100	100	0.00	0.18
9Cx	1		10			266	1800	120	0.00	15	509	32.01	0.17	0.00	0.01	100	100	0.00	0.18
1D1	1		1	1	A	156	1800	37	0.00	27	229	39.01	31.87	74.17	3.91	100	100	0.00	21.06
	2		1	1	B	147	1800	12	0.00	75	19	85.28	78.23	116.38	5.81	100	100	0.00	47.51
1D2	1		16			303	1800	120	0.00	17	435	7.49	0.20	0.00	0.02	100	100	0.00	0.24
4B1	1		44			219	1556	120	0.00	14	540	9.58	0.19	0.00	0.01	100	100	0.00	0.16
	2		44			220	741	120	0.00	30	203	10.42	1.03	0.00	0.06	100	100	0.00	0.89
4B2	1		14			439	1800	120	0.00	24	269	4.19	0.32	0.00	0.04	100	100	0.00	0.56

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1235.54	63.20	19.55	22.02	312.61	20.66	0.00	333.28
Bus								
Tram								
Pedestrians								
TOTAL	1235.54	63.20	19.55	22.02	312.61	20.66	0.00	333.28

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:27:15

«A1 - : D11 - 2033 Do-Nothing, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2033 Do-Nothing				
Network	D11	278.85	18.22	74% (TS 1C/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D11 - 2033 Do-Nothing, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:27:11	26/07/2023 08:27:13	2.08	08:15	100	278.85	18.22	74.33	1C/1	0	0	1C/1	8B/1	8B/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 Do-Nothing	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	112	523	17
	1-2	159	0	306	15
	1-3	622	124	0	47
	1-4	41	16	81	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	41
	2		1-1	1-4	1A/2, 1Dx/1	Normal	17
	3		1-1	1-2	1A/1, 1Bx/1	Normal	112
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	16
	5		1-2	1-4	1B/2, 1Dx/1	Normal	15
	6		1-2	1-1	1B/2, 1Ax/1	Normal	159
	7		1-1	1-3	1A/1, 1Cx/1	Normal	523
	8		1-2	1-3	1B/1, 1Cx/1	Normal	306
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	81
	10		1-3	1-2	1C/2, 1Bx/1	Normal	124
	11		1-3	1-4	1C/1, 1Dx/1	Normal	47
	12		1-3	1-1	1C/1, 1Ax/1	Normal	622

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	13	1	0
	4-2	33	2	87	9
	4-3	2	52	0	0
	4-4	0	8	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	52
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	13
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	87
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	33
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	9
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	8
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 94, 0, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	94	58	1	4
	3	✓	5	E,F	101	0	19	1	2
	4	✓	3	A,D,E,H	7	20	13	1	2

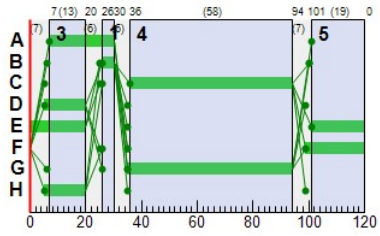
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	7	30	23
	B	1	✓	26	30	4
	C	1	✓	36	94	58
	D	1	✓	5	20	15
	E	1	✓	101	20	39
	F	1	✓	99	0	21
	G	1	✓	35	94	59
	H	1	✓	5	20	15

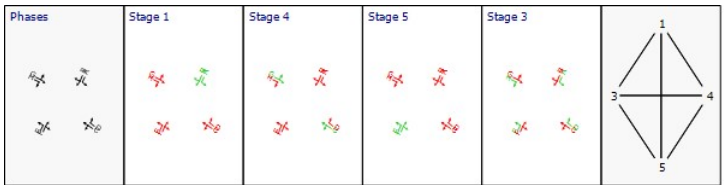
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	94	58
1A	2	1	1	D	5	20	15
1B	1	1	1	E	101	20	39
1B	2	1	1	F	99	0	21
1C	1	1	1	G	35	94	59
1C	2	1	1	H	5	20	15
1D1	1	1	1	A	7	30	23
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	635 <	1800	58	0.00	72	25	33.15	29.06	80.58	17.48 +	100	100	0.00	79.19
	2		1	1	D	17	1800	15	15.00	7	1171	50.20	46.07	86.16	0.49	100	100	0.00	3.27
1Ax	1					781	Unrestricted	120	31.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	306	1800	39	0.00	51	76	44.37	35.24	81.31	8.42	100	100	0.00	45.65
	2		1	1	F	174	1800	21	0.00	53	71	59.47	50.33	93.89	5.51	100	100	0.00	36.59
1Bx	1					236	Unrestricted	120	36.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	669	1800	59	0.00	74	21	44.09	29.58	82.09	18.71	100	100	0.00	84.94
	2		1	1	H	124	1800	15	0.00	52	74	70.77	56.32	98.00	4.10	100	100	0.00	29.07
1Cx	1					829	Unrestricted	120	6.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			79	1800	120	54.00	4	1951	17.03	0.05	0.00	0.00	100	100	0.00	0.01
4A	1		43			14	1249	120	120.00	1	7929	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			54	3600	120	120.00	2	5900	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Ax	1					35	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			1	3600	120	120.00	0	323900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					67	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			54	1071	120	120.00	5	1685	9.48	0.09	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			44	3600	120	120.00	1	7264	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Cx	1					88	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1328	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			89	3600	120	0.00	2	3540	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			9	1800	120	120.00	1	17900	16.14	0.01	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	23	24.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			87	1572	120	0.00	6	1527	9.46	0.07	0.00	0.00	100	100	0.00	0.02
	2		44			44	752	120	120.00	6	1437	9.54	0.15	0.00	0.00	100	100	0.00	0.03
4B2	1		14			131	1800	120	0.00	7	1137	3.95	0.08	0.00	0.00	100	100	0.00	0.04

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	448.72	33.17	13.53	18.22	258.67	20.18	0.00	278.85
Bus								
Tram								
Pedestrians								
TOTAL	448.72	33.17	13.53	18.22	258.67	20.18	0.00	278.85

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:27:47

«A1 - : D12 - 2033 Do-Nothing, Weekday PM Peak :
- »Summary
- »Roundabouts
- »T-Junctions
- »Local OD Matrix - Local Matrix: 1
- »Local OD Matrix - Local Matrix: 4
- »Local OD Matrix - Local Matrix: 7
- »Local OD Matrix - Local Matrix: 8
- »Local OD Matrix - Local Matrix: 9
- »Signal Timings
- »Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2033 Do-Nothing				
Network	D12	388.15	25.70	96% (TS 1A/1)	1 (2%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D12 - 2033 Do-Nothing, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:27:41	26/07/2023 08:27:42	1.81	16:30	100	388.15	25.70	96.15	1A/1	1	2	1A/1	8B/1	8B/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 Do-Nothing	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	154	596	38
	1-2	81	0	136	14
	1-3	536	201	0	78
	1-4	21	18	70	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	21
	2		1-1	1-4	1A/2, 1Dx/1	Normal	38
	3		1-1	1-2	1A/1, 1Bx/1	Normal	154
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	18
	5		1-2	1-4	1B/2, 1Dx/1	Normal	14
	6		1-2	1-1	1B/2, 1Ax/1	Normal	81
	7		1-1	1-3	1A/1, 1Cx/1	Normal	596
	8		1-2	1-3	1B/1, 1Cx/1	Normal	136
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	70
	10		1-3	1-2	1C/2, 1Bx/1	Normal	201
	11		1-3	1-4	1C/1, 1Dx/1	Normal	78
	12		1-3	1-1	1C/1, 1Ax/1	Normal	536

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	140	10	0
	4-2	135	2	62	1
	4-3	10	101	0	0
	4-4	0	9	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	101
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	10
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	10
	12		4-1	4-2	4A/1, 4Bx/1	Normal	140
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	36
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	62
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	99
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	1
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	9
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 87, 104, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	87	51	1	4
	3	✓	5	E,F	94	104	10	1	2
	4	✓	3	A,D,E,H	111	20	29	1	2

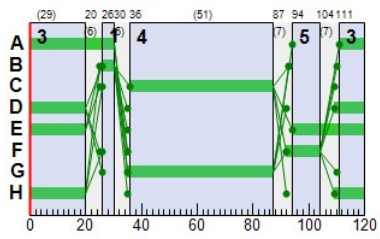
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	111	30	39
	B	1	✓	26	30	4
	C	1	✓	36	87	51
	D	1	✓	109	20	31
	E	1	✓	94	20	46
	F	1	✓	92	104	12
	G	1	✓	35	87	52
	H	1	✓	109	20	31

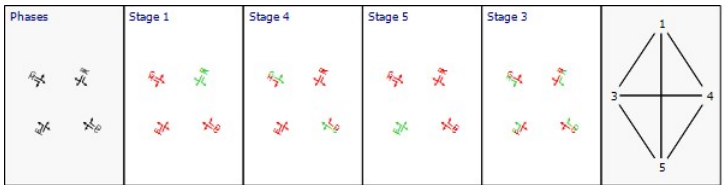
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	87	51
1A	2	1	1	D	109	20	31
1B	1	1	1	E	94	20	46
1B	2	1	1	F	92	104	12
1C	1	1	1	G	35	87	52
1C	2	1	1	H	109	20	31
1D1	1	1	1	A	111	30	39
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	750 <	1800	51	0.00	96	-6	73.81	69.71	123.12	31.81 +	100	100	0.00	217.80
	2		1	1	D	38	1800	31	30.00	8	1037	37.43	33.30	73.45	0.94	100	100	0.00	5.34
1Ax	1					617	Unrestricted	120	47.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	136	1800	46	0.00	19	367	33.76	24.63	64.52	2.97	100	100	0.00	14.31
	2		1	1	F	95	1800	12	0.00	49	85	68.15	59.01	99.42	3.18	100	100	0.00	23.30
1Bx	1					355	Unrestricted	120	25.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	614	1800	52	0.00	77	17	50.41	35.90	88.80	18.51	100	100	0.00	93.78
	2		1	1	H	201	1800	31	0.00	42	115	53.46	39.02	83.13	5.68	100	100	0.00	33.03
1Cx	1					732	Unrestricted	120	11.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			130	1800	120	36.00	7	1146	17.07	0.08	0.00	0.00	100	100	0.00	0.04
4A	1		43			150	1223	120	0.00	12	634	9.63	0.21	0.00	0.01	100	100	0.00	0.12
4Ac	1		43			103	3600	120	0.00	3	3046	10.30	0.01	0.00	0.00	100	100	0.00	0.01
4Ax	1					145	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			10	3600	120	120.00	0	32300	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					243	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			111	1020	120	0.00	11	727	9.61	0.22	0.00	0.01	100	100	0.00	0.09
4Cc	1		41			138	3600	120	0.00	4	2248	10.30	0.02	0.00	0.00	100	100	0.00	0.01
4Cx	1					72	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1234	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			248	3600	120	0.00	7	1206	10.32	0.04	0.00	0.00	100	100	0.00	0.04
4Dx	1		13			1	1800	120	120.00	0	161900	16.13	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	39	40.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			100	1567	120	0.00	6	1310	9.47	0.08	0.00	0.00	100	100	0.00	0.03
	2		44			100	748	120	0.00	13	573	9.77	0.37	0.00	0.01	100	100	0.00	0.15
4B2	1		14			200	1800	120	0.00	11	710	3.99	0.12	0.00	0.01	100	100	0.00	0.10

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	514.53	42.86	12.01	25.70	365.00	23.14	0.00	388.15
Bus								
Tram								
Pedestrians								
TOTAL	514.53	42.86	12.01	25.70	365.00	23.14	0.00	388.15

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:28:26

«A1 - : D13 - 2033 Operational, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2033 Operational				
Network	D13	372.21	24.59	77% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D13 - 2033 Operational, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:28:21	26/07/2023 08:28:24	3.31	08:15	100	372.21	24.59	77.04	1D1/2	0	0	1D1/2	4D/1	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 Operational	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	112	397	154
	1-2	159	0	212	118
	1-3	493	84	0	32
	1-4	200	65	39	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	200
	2		1-1	1-4	1A/2, 1Dx/1	Normal	154
	3		1-1	1-2	1A/1, 1Bx/1	Normal	112
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	65
	5		1-2	1-4	1B/2, 1Dx/1	Normal	118
	6		1-2	1-1	1B/2, 1Ax/1	Normal	159
	7		1-1	1-3	1A/1, 1Cx/1	Normal	397
	8		1-2	1-3	1B/1, 1Cx/1	Normal	212
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	39
	10		1-3	1-2	1C/2, 1Bx/1	Normal	84
	11		1-3	1-4	1C/1, 1Dx/1	Normal	32
	12		1-3	1-1	1C/1, 1Ax/1	Normal	493

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	13	1	0
	4-2	33	2	65	205
	4-3	2	41	0	12
	4-4	0	306	25	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	41
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	12
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	13
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	33
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	53
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	65
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	153
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	25
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	306
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	17	198
	7-2	35	0	29
	7-3	279	15	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	17
	3		7-2	7-1	7B/1, 7Ax/1	Normal	35
	4		7-1	7-3	7A/1, 7Cx/1	Normal	198
	5		7-2	7-3	7B/1, 7Cx/1	Normal	29
	6		7-3	7-1	7C/1, 7Ax/1	Normal	279
	7		7-3	7-2	7C/1, 7Bx/1	Normal	15

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	7	307
	8-2	14	0	16
	8-3	201	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	7
	3		8-2	8-1	8B/1, 8Ax/1	Normal	14
	5		8-1	8-3	8A/1, 8Cx/1	Normal	307
	6		8-2	8-3	8B/1, 8Cx/1	Normal	16
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	201
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	7

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	3	224
	9-2	7	0	10
	9-3	287	6	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	6
	3		9-2	9-3	9B/1, 9Cx/1	Normal	10
	5		9-2	9-1	9B/1, 9Ax/1	Normal	7
	6		9-3	9-1	9C/1, 9Ax/1	Normal	287
	7		9-1	9-2	9A/1, 9Bx/1	Normal	3
	8		9-1	9-3	9A/1, 9Cx/1	Normal	224

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	18, 72, 102, 4	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	10	18	8	1	4
	2	✓	4	C,G	24	72	48	1	4
	3	✓	5	E,F	79	102	23	1	2
	4	✓	3	A,D,E,H	109	4	15	1	2

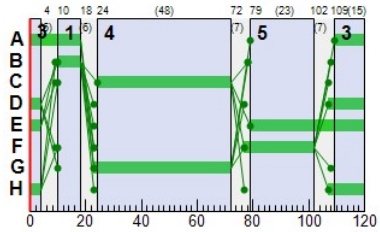
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	109	18	29
	B	1	✓	10	18	8
	C	1	✓	24	72	48
	D	1	✓	107	4	17
	E	1	✓	79	4	45
	F	1	✓	77	102	25
	G	1	✓	23	72	49
	H	1	✓	107	4	17

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	24	72	48
1A	2	1	1	D	107	4	17
1B	1	1	1	E	79	4	45
1B	2	1	1	F	77	102	25
1C	1	1	1	G	23	72	49
1C	2	1	1	H	107	4	17
1D1	1	1	1	A	109	18	29
1D1	2	1	1	B	10	18	8

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			208	1800	120	0.00	12	679	58.99	0.13	0.00	0.01	100	100	0.00	0.11
RRWB	1		13			331	1800	120	0.00	18	389	57.14	0.23	0.00	0.02	100	100	0.00	0.29
1A	1		1	1	C	509 <	1800	48	0.00	69	30	38.83	34.73	84.90	14.63 +	100	100	0.00	75.15
	2		1	1	D	154	1800	17	0.00	57	58	60.25	56.13	98.60	5.12	100	100	0.00	36.00
1Ax	1					852	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	212	1800	45	0.00	31	193	36.15	27.02	69.12	4.96	100	100	0.00	24.43
	2		1	1	F	277	1800	25	0.00	71	27	63.66	54.53	99.86	9.39	100	100	0.00	63.04
1Bx	1					261	Unrestricted	120	34.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	525	1800	49	0.00	70	29	48.86	34.35	84.89	15.10	100	100	0.00	76.72
	2		1	1	H	84	1800	17	0.00	31	189	62.92	48.47	89.83	2.54	100	100	0.00	17.01
1Cx	1					648	Unrestricted	120	0.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			304	1800	120	31.00	17	433	17.19	0.20	0.00	0.02	100	100	0.00	0.24
4A	1		43			14	1077	120	120.00	1	6824	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			374	3600	120	0.00	10	766	10.34	0.06	0.00	0.01	100	100	0.00	0.09
4Ax	1					35	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			26	3600	120	120.00	1	12362	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					362	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			55	965	120	120.00	6	1479	9.51	0.11	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			240	3600	120	0.00	7	1250	10.32	0.04	0.00	0.00	100	100	0.00	0.03
4Cx	1					91	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			331	1334	120	0.00	25	263	9.84	0.44	0.00	0.04	100	100	0.00	0.58
4Dc	1		42			78	3600	120	0.00	2	4054	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			217	1800	120	0.00	12	647	16.27	0.14	0.00	0.01	100	100	0.00	0.12
7A	1		7			215	1800	120	0.00	12	653	4.28	0.14	0.00	0.01	100	100	0.00	0.12
7Ax	1		15			314	1800	120	0.00	17	416	2.97	0.21	0.00	0.02	100	100	0.00	0.26
7B	1		7			64	499	120	0.00	13	602	1.90	0.53	0.00	0.01	100	100	0.00	0.13
7Bx	1					32	Unrestricted	120	120.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			294	1650	120	6.00	18	405	13.56	0.24	0.00	0.02	100	100	0.00	0.27
7Cx	1		11			227	1800	120	0.00	13	614	13.89	0.14	0.00	0.01	100	100	0.00	0.13
8A	1		8			314	1800	120	0.00	17	416	4.35	0.21	0.00	0.02	100	100	0.00	0.26
8Ax	1		15			215	1800	120	0.00	12	653	3.15	0.14	0.00	0.01	100	100	0.00	0.12
8B	1		8			30	472	120	120.00	6	1315	2.38	0.26	0.00	0.00	100	100	0.00	0.03
8Bx	1					14	Unrestricted	120	120.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			208	1708	120	0.00	12	639	13.09	0.15	0.00	0.01	100	100	0.00	0.12
8Cx	1		12			323	1800	120	0.00	18	402	13.82	0.22	0.00	0.02	100	100	0.00	0.28
9A	1		9			227	1800	120	0.00	13	614	3.58	0.14	0.00	0.01	100	100	0.00	0.13
9Ax	1		11			294	1800	120	9.00	16	451	4.62	0.20	0.00	0.02	100	100	0.00	0.23
9B	1		9			17	491	120	120.00	3	2499	2.51	0.13	0.00	0.00	100	100	0.00	0.01
9Bx	1					9	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			293	1746	120	12.00	17	436	31.94	0.21	0.00	0.02	100	100	0.00	0.24
9Cx	1		10			234	1800	120	0.00	13	592	31.98	0.15	0.00	0.01	100	100	0.00	0.14
1D1	1		1	1	A	200	1800	29	0.00	44	103	48.30	41.16	85.58	5.79	100	100	0.00	34.62
	2		1	1	B	104	1800	8	0.00	77	17	101.36	94.32	127.09	4.53	100	100	0.00	40.35
1D2	1		16			304	1800	120	0.00	17	433	7.49	0.20	0.00	0.02	100	100	0.00	0.24
4B1	1		44			152	1557	120	0.00	10	822	9.52	0.13	0.00	0.01	100	100	0.00	0.07
	2		44			153	741	120	0.00	21	336	10.03	0.63	0.00	0.03	100	100	0.00	0.38
4B2	1		14			305	1800	120	0.00	17	431	4.07	0.20	0.00	0.02	100	100	0.00	0.25

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1201.63	64.65	18.59	24.59	349.25	22.97	0.00	372.21
Bus								
Tram								
Pedestrians								
TOTAL	1201.63	64.65	18.59	24.59	349.25	22.97	0.00	372.21

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:28:57

«A1 - : D14 - 2033 Operational, Weekday PM Peak :
- »Summary
- »Roundabouts
- »T-Junctions
- »Local OD Matrix - Local Matrix: 1
- »Local OD Matrix - Local Matrix: 4
- »Local OD Matrix - Local Matrix: 7
- »Local OD Matrix - Local Matrix: 8
- »Local OD Matrix - Local Matrix: 9
- »Signal Timings
- »Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2033 Operational				
Network	D14	345.94	22.86	76% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D14 - 2033 Operational, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:28:52	26/07/2023 08:28:54	2.51	16:30	100	345.94	22.86	76.18	1D1/2	0	0	1D1/2	4B1/2	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 Operational	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	154	456	209
	1-2	81	0	95	64
	1-3	416	131	0	38
	1-4	156	96	53	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	156
	2		1-1	1-4	1A/2, 1Dx/1	Normal	209
	3		1-1	1-2	1A/1, 1Bx/1	Normal	154
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	96
	5		1-2	1-4	1B/2, 1Dx/1	Normal	64
	6		1-2	1-1	1B/2, 1Ax/1	Normal	81
	7		1-1	1-3	1A/1, 1Cx/1	Normal	456
	8		1-2	1-3	1B/1, 1Cx/1	Normal	95
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	53
	10		1-3	1-2	1C/2, 1Bx/1	Normal	131
	11		1-3	1-4	1C/1, 1Dx/1	Normal	38
	12		1-3	1-1	1C/1, 1Ax/1	Normal	416

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	140	10	0
	4-2	135	2	47	261
	4-3	10	75	0	31
	4-4	0	227	17	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	75
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	10
	4		4-3	4-4	4C/1, 4Dx/1	Normal	31
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	10
	12		4-1	4-2	4A/1, 4Bx/1	Normal	140
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	135
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	39
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	47
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	223
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	17
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	227
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	35	247
	7-2	20	0	16
	7-3	218	29	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	7-1	(untitled)	7A/1	7Ax/1	#A52A2A

7	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	35
	3		7-2	7-1	7B/1, 7Ax/1	Normal	20
	4		7-1	7-3	7A/1, 7Cx/1	Normal	247
	5		7-2	7-3	7B/1, 7Cx/1	Normal	16
	6		7-3	7-1	7C/1, 7Ax/1	Normal	218
	7		7-3	7-2	7C/1, 7Bx/1	Normal	29

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	16	222
	8-2	10	0	13
	8-3	272	19	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	16
	3		8-2	8-1	8B/1, 8Ax/1	Normal	10
	5		8-1	8-3	8A/1, 8Cx/1	Normal	222
	6		8-2	8-3	8B/1, 8Cx/1	Normal	13
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	272
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	19

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	5	258
	9-2	3	0	8
	9-3	244	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	7
	3		9-2	9-3	9B/1, 9Cx/1	Normal	8
	5		9-2	9-1	9B/1, 9Ax/1	Normal	3
	6		9-3	9-1	9C/1, 9Ax/1	Normal	244
	7		9-1	9-2	9A/1, 9Bx/1	Normal	5
	8		9-1	9-3	9A/1, 9Cx/1	Normal	258

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	16, 75, 93, 118	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	4	16	12	1	4
	2	✓	4	C,G	22	75	53	1	4
	3	✓	5	E,F	82	93	11	1	2
	4	✓	3	A,D,E,H	100	118	18	1	2

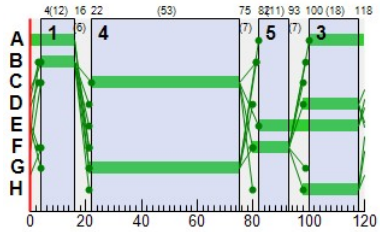
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	100	16	36
	B	1	✓	4	16	12
	C	1	✓	22	75	53
	D	1	✓	98	118	20
	E	1	✓	82	118	36
	F	1	✓	80	93	13
	G	1	✓	21	75	54
	H	1	✓	98	118	20

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	22	75	53
1A	2	1	1	D	98	118	20
1B	1	1	1	E	82	118	36
1B	2	1	1	F	80	93	13
1C	1	1	1	G	21	75	54
1C	2	1	1	H	98	118	20
1D1	1	1	1	A	100	16	36
1D1	2	1	1	B	4	16	12

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			290	1800	120	0.00	16	459	59.05	0.19	0.00	0.02	100	100	0.00	0.22
RRWB	1		13			244	1800	120	0.00	14	564	57.07	0.16	0.00	0.01	100	100	0.00	0.15
1A	1		1	1	C	610 <	1800	53	0.00	75	20	38.21	34.11	86.51	17.90 +	100	100	0.00	88.68
	2		1	1	D	209 <	1800	20	0.00	66	36	61.33	57.20	100.48	7.08 +	100	100	0.00	49.79
1Ax	1					653	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	95	1800	36	0.00	17	426	40.12	30.99	72.07	2.31	100	100	0.00	12.47
	2		1	1	F	145	1800	13	0.00	69	30	78.38	69.25	109.40	5.37	100	100	0.00	41.59
1Bx	1					381	Unrestricted	120	18.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	454	1800	54	0.00	55	64	40.71	26.20	72.66	11.18	100	100	0.00	51.05
	2		1	1	H	131	1800	20	0.00	42	116	62.54	48.10	90.69	4.00	100	100	0.00	26.34
1Cx	1					604	Unrestricted	120	3.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			311	1800	120	42.00	17	421	17.20	0.21	0.00	0.02	100	100	0.00	0.26
4A	1		43			150	1106	120	0.00	14	563	9.68	0.26	0.00	0.01	100	100	0.00	0.15
4Ac	1		43			321	3600	120	0.00	9	909	10.33	0.05	0.00	0.00	100	100	0.00	0.06
4Ax	1					145	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			27	3600	120	120.00	1	11900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					444	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			116	880	120	0.00	13	582	9.71	0.31	0.00	0.01	100	100	0.00	0.14
4Cc	1		41			397	3600	120	0.00	11	716	10.34	0.06	0.00	0.01	100	100	0.00	0.10
4Cx	1					74	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			244	1250	120	0.00	20	361	9.74	0.35	0.00	0.02	100	100	0.00	0.34
4Dc	1		42			222	3600	120	0.00	6	1359	10.31	0.03	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			291	1800	120	0.00	16	457	16.32	0.19	0.00	0.02	100	100	0.00	0.22
7A	1		7			281	1800	120	0.00	16	476	4.33	0.19	0.00	0.01	100	100	0.00	0.21
7Ax	1		15			238	1800	120	9.00	13	581	2.91	0.15	0.00	0.01	100	100	0.00	0.14
7B	1		7			36	488	120	120.00	7	1121	1.66	0.29	0.00	0.00	100	100	0.00	0.04
7Bx	1					64	Unrestricted	120	73.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			247	1479	120	20.00	17	439	13.57	0.24	0.00	0.02	100	100	0.00	0.24
7Cx	1		11			262	1800	120	0.00	15	518	13.92	0.17	0.00	0.01	100	100	0.00	0.18
8A	1		8			238	1800	120	8.00	13	581	4.30	0.15	0.00	0.01	100	100	0.00	0.14
8Ax	1		15			281	1800	120	0.00	16	476	3.20	0.19	0.00	0.01	100	100	0.00	0.21
8B	1		8			23	487	120	120.00	5	1805	2.30	0.18	0.00	0.00	100	100	0.00	0.02
8Bx	1					35	Unrestricted	120	108.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			290	1637	120	0.00	18	408	13.19	0.24	0.00	0.02	100	100	0.00	0.27
8Cx	1		12			235	1800	120	0.00	13	589	13.75	0.15	0.00	0.01	100	100	0.00	0.14
9A	1		9			262	1800	120	0.00	15	518	3.61	0.17	0.00	0.01	100	100	0.00	0.18
9Ax	1		11			247	1800	120	23.00	14	556	4.58	0.16	0.00	0.01	100	100	0.00	0.15
9B	1		9			11	511	120	120.00	2	4080	2.45	0.08	0.00	0.00	100	100	0.00	0.00
9Bx	1					12	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			251	1726	120	24.00	15	519	31.91	0.18	0.00	0.01	100	100	0.00	0.18
9Cx	1		10			265	1800	120	0.00	15	511	32.00	0.17	0.00	0.01	100	100	0.00	0.18
1D1	1		1	1	A	156	1800	36	0.00	28	221	39.82	32.69	75.06	3.94	100	100	0.00	21.52
	2		1	1	B	149	1800	12	0.00	76	18	86.36	79.31	117.17	5.91	100	100	0.00	48.66
1D2	1		16			304	1800	120	0.00	17	433	7.49	0.20	0.00	0.02	100	100	0.00	0.24
4B1	1		44			222	1556	120	0.00	14	531	9.59	0.19	0.00	0.01	100	100	0.00	0.17
	2		44			222	741	120	0.00	30	200	10.43	1.04	0.00	0.06	100	100	0.00	0.91
4B2	1		14			444	1800	120	0.00	25	265	4.20	0.33	0.00	0.04	100	100	0.00	0.57

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1249.83	64.52	19.37	22.86	324.57	21.37	0.00	345.94
Bus								
Tram								
Pedestrians								
TOTAL	1249.83	64.52	19.37	22.86	324.57	21.37	0.00	345.94

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:29:31

«A1 - : D15 - 2043 Do-Nothing, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2043 Do-Nothing				
Network	D15	292.49	19.12	76% (TS 1C/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D15 - 2043 Do-Nothing, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:29:26	26/07/2023 08:29:29	3.34	08:15	100	292.49	19.12	76.33	1C/1	0	0	1C/1	8B/1	8B/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 Do-Nothing	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	115	537	17
	1-2	163	0	314	16
	1-3	639	127	0	48
	1-4	42	17	82	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	42
	2		1-1	1-4	1A/2, 1Dx/1	Normal	17
	3		1-1	1-2	1A/1, 1Bx/1	Normal	115
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	17
	5		1-2	1-4	1B/2, 1Dx/1	Normal	16
	6		1-2	1-1	1B/2, 1Ax/1	Normal	163
	7		1-1	1-3	1A/1, 1Cx/1	Normal	537
	8		1-2	1-3	1B/1, 1Cx/1	Normal	314
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	82
	10		1-3	1-2	1C/2, 1Bx/1	Normal	127
	11		1-3	1-4	1C/1, 1Dx/1	Normal	48
	12		1-3	1-1	1C/1, 1Ax/1	Normal	639

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	14	1	0
	4-2	34	2	90	9
	4-3	2	54	0	0
	4-4	0	8	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	54
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	14
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	90
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	34
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	9
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	8
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 94, 0, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	94	58	1	4
	3	✓	5	E,F	101	0	19	1	2
	4	✓	3	A,D,E,H	7	20	13	1	2

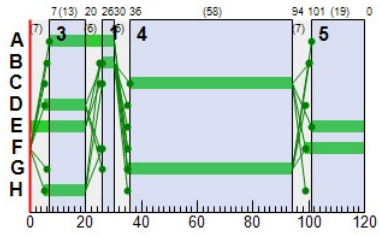
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	7	30	23
	B	1	✓	26	30	4
	C	1	✓	36	94	58
	D	1	✓	5	20	15
	E	1	✓	101	20	39
	F	1	✓	99	0	21
	G	1	✓	35	94	59
	H	1	✓	5	20	15

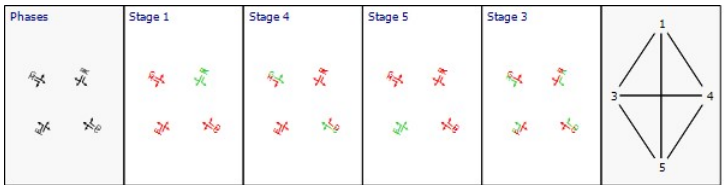
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	94	58
1A	2	1	1	D	5	20	15
1B	1	1	1	E	101	20	39
1B	2	1	1	F	99	0	21
1C	1	1	1	G	35	94	59
1C	2	1	1	H	5	20	15
1D1	1	1	1	A	7	30	23
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	652 <	1800	58	0.00	74	22	34.02	29.92	82.17	18.22 +	100	100	0.00	83.66
	2		1	1	D	17	1800	15	15.00	7	1171	50.20	46.07	86.16	0.49	100	100	0.00	3.27
1Ax	1					802	Unrestricted	120	31.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	314	1800	39	0.00	52	72	44.71	35.58	81.64	8.66	100	100	0.00	47.28
	2		1	1	F	179	1800	21	0.00	54	66	59.97	50.83	94.26	5.69	100	100	0.00	38.01
1Bx	1					242	Unrestricted	120	36.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	687	1800	59	0.00	76	18	45.10	30.59	83.73	19.53	100	100	0.00	90.11
	2		1	1	H	127	1800	15	0.00	53	70	71.25	56.80	98.32	4.21	100	100	0.00	30.02
1Cx	1					851	Unrestricted	120	5.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			81	1800	120	51.00	5	1900	17.04	0.05	0.00	0.00	100	100	0.00	0.02
4A	1		43			15	1248	120	120.00	1	7387	9.44	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			56	3600	120	120.00	2	5686	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Ax	1					36	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			1	3600	120	120.00	0	323900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					70	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			56	1071	120	120.00	5	1621	9.49	0.09	0.00	0.00	100	100	0.00	0.02
4Cc	1		41			45	3600	120	120.00	1	7100	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Cx	1					91	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1326	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			92	3600	120	0.00	3	3422	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			9	1800	120	120.00	1	17900	16.14	0.01	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	23	24.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			90	1572	120	0.00	6	1472	9.46	0.07	0.00	0.00	100	100	0.00	0.02
	2		44			45	752	120	120.00	6	1403	9.55	0.15	0.00	0.00	100	100	0.00	0.03
4B2	1		14			135	1800	120	0.00	8	1100	3.95	0.08	0.00	0.00	100	100	0.00	0.04

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	461.08	34.49	13.37	19.12	271.48	21.01	0.00	292.49
Bus								
Tram								
Pedestrians								
TOTAL	461.08	34.49	13.37	19.12	271.48	21.01	0.00	292.49

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:30:16

«A1 - : D16 - 2043 Do-Nothing, Weekday PM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2043 Do-Nothing				
Network	D16	409.66	27.15	97% (TS 1A/1)	1 (2%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D16 - 2043 Do-Nothing, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 4 and OD Matrix 4. (Traffic Stream 4Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.
Warning	OD Matrix Flows	Local Matrix 8	Flow Inconsistency between OD Matrix 4 and OD Matrix 8.
Warning	OD Matrix Flows	Local Matrix 4	Flow Inconsistency between OD Matrix 8 and OD Matrix 4.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:30:08	26/07/2023 08:30:10	2.03	16:30	100	409.66	27.15	96.98	1A/1	1	2	1A/1	8B/1	8B/1	

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 Do-Nothing	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	159	612	38
	1-2	83	0	140	15
	1-3	550	206	0	78
	1-4	22	18	70	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	22
	2		1-1	1-4	1A/2, 1Dx/1	Normal	38
	3		1-1	1-2	1A/1, 1Bx/1	Normal	159
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	18
	5		1-2	1-4	1B/2, 1Dx/1	Normal	15
	6		1-2	1-1	1B/2, 1Ax/1	Normal	83
	7		1-1	1-3	1A/1, 1Cx/1	Normal	612
	8		1-2	1-3	1B/1, 1Cx/1	Normal	140
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	70
	10		1-3	1-2	1C/2, 1Bx/1	Normal	206
	11		1-3	1-4	1C/1, 1Dx/1	Normal	78
	12		1-3	1-1	1C/1, 1Ax/1	Normal	550

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	144	10	0
	4-2	138	2	64	1
	4-3	10	104	0	0
	4-4	0	9	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	104
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	10
	4		4-3	4-4	4C/1, 4Dx/1	Normal	0
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	10
	12		4-1	4-2	4A/1, 4Bx/1	Normal	144
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	37
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	0
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	64
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	102
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	1
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	9
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	0
	3		7-2	7-1	7B/1, 7Ax/1	Normal	0
	4		7-1	7-3	7A/1, 7Cx/1	Normal	0
	5		7-2	7-3	7B/1, 7Cx/1	Normal	0
	6		7-3	7-1	7C/1, 7Ax/1	Normal	0
	7		7-3	7-2	7C/1, 7Bx/1	Normal	0

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	0
	3		8-2	8-1	8B/1, 8Ax/1	Normal	0
	5		8-1	8-3	8A/1, 8Cx/1	Normal	0
	6		8-2	8-3	8B/1, 8Cx/1	Normal	0
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	0
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	0

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows not shown as they are blank.

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	0
	3		9-2	9-3	9B/1, 9Cx/1	Normal	0
	5		9-2	9-1	9B/1, 9Ax/1	Normal	0
	6		9-3	9-1	9C/1, 9Ax/1	Normal	0
	7		9-1	9-2	9A/1, 9Bx/1	Normal	0
	8		9-1	9-3	9A/1, 9Cx/1	Normal	0

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100

1	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	30, 88, 106, 20	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	26	30	4	1	4
	2	✓	4	C,G	36	88	52	1	4
	3	✓	5	E,F	95	106	11	1	2
	4	✓	3	A,D,E,H	113	20	27	1	2

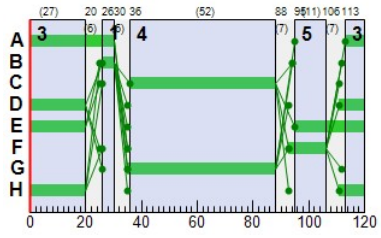
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	113	30	37
	B	1	✓	26	30	4
	C	1	✓	36	88	52
	D	1	✓	111	20	29
	E	1	✓	95	20	45
	F	1	✓	93	106	13
	G	1	✓	35	88	53
	H	1	✓	111	20	29

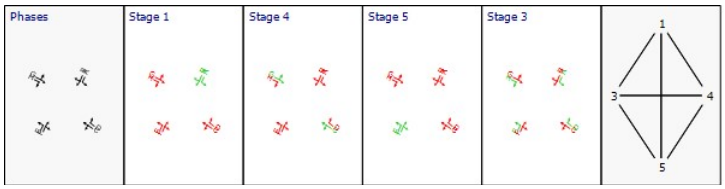
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	36	88	52
1A	2	1	1	D	111	20	29
1B	1	1	1	E	95	20	45
1B	2	1	1	F	93	106	13
1C	1	1	1	G	35	88	53
1C	2	1	1	H	111	20	29
1D1	1	1	1	A	113	30	37
1D1	2	1	1	B	26	30	4

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
RRWB	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1A	1		1	1	C	771 <	1800	52	0.00	97	-7	77.21	73.11	126.18	33.71 +	100	100	0.00	234.54
	2		1	1	D	38	1800	29	28.00	8	966	38.99	34.86	75.15	0.96	100	100	0.00	5.58
1Ax	1					633	Unrestricted	120	45.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	140	1800	45	0.00	20	344	34.54	25.41	66.06	3.14	100	100	0.00	15.19
	2		1	1	F	98	1800	13	0.00	47	93	66.07	56.93	98.16	3.25	100	100	0.00	23.21
1Bx	1					365	Unrestricted	120	26.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	628	1800	53	0.00	78	16	49.88	35.37	88.50	18.93	100	100	0.00	94.59
	2		1	1	H	206	1800	29	0.00	46	97	55.92	41.48	85.90	5.97	100	100	0.00	35.92
1Cx	1					752	Unrestricted	120	10.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			131	1800	120	35.00	7	1137	17.07	0.08	0.00	0.00	100	100	0.00	0.04
4A	1		43			154	1221	120	0.00	13	614	9.63	0.21	0.00	0.01	100	100	0.00	0.13
4Ac	1		43			106	3600	120	0.00	3	2957	10.30	0.02	0.00	0.00	100	100	0.00	0.01
4Ax	1					148	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			10	3600	120	120.00	0	32300	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					250	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			114	1019	120	0.00	11	705	9.62	0.22	0.00	0.01	100	100	0.00	0.10
4Cc	1		41			140	3600	120	0.00	4	2214	10.30	0.02	0.00	0.00	100	100	0.00	0.01
4Cx	1					74	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			0	1231	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4Dc	1		42			254	3600	120	0.00	7	1176	10.32	0.04	0.00	0.00	100	100	0.00	0.04
4Dx	1		13			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7A	1		7			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7B	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
7Cx	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8A	1		8			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Ax	1		15			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8B	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
8Cx	1		12			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9A	1		9			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Ax	1		11			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9B	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Bx	1					0	Unrestricted	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			0	0	120	120.00	0	-100	0.00	0.00	0.00	0.00	100	100	0.00	0.00
9Cx	1		10			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D1	1		1	1	A	0	1800	37	38.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
	2		1	1	B	0	1800	4	5.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
1D2	1		16			0	1800	120	120.00	0	Unrestricted	0.00	0.00	0.00	0.00	100	100	0.00	0.00
4B1	1		44			102	1567	120	0.00	7	1282	9.47	0.08	0.00	0.00	100	100	0.00	0.03
	2		44			102	748	120	0.00	14	560	9.77	0.38	0.00	0.01	100	100	0.00	0.15
4B2	1		14			204	1800	120	0.00	11	694	4.00	0.13	0.00	0.01	100	100	0.00	0.10

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	527.22	44.73	11.79	27.15	385.55	24.11	0.00	409.66
Bus								
Tram								
Pedestrians								
TOTAL	527.22	44.73	11.79	27.15	385.55	24.11	0.00	409.66

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:30:49

«A1 - : D17 - 2043 Operational, Weekday AM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday AM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2043 Operational				
Network	D17	388.82	25.70	79% (TS 1D1/2)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D17 - 2043 Operational, Weekday AM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:30:45	26/07/2023 08:30:48	3.18	08:15	100	388.82	25.70	78.80	1D1/2	0	0	1D1/2	4D/1	1D1/2	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 Operational	Weekday AM Peak				08:15		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	115	411	154
	1-2	163	0	220	119
	1-3	510	87	0	33
	1-4	201	66	40	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	201
	2		1-1	1-4	1A/2, 1Dx/1	Normal	154
	3		1-1	1-2	1A/1, 1Bx/1	Normal	115
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	66
	5		1-2	1-4	1B/2, 1Dx/1	Normal	119
	6		1-2	1-1	1B/2, 1Ax/1	Normal	163
	7		1-1	1-3	1A/1, 1Cx/1	Normal	411
	8		1-2	1-3	1B/1, 1Cx/1	Normal	220
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	40
	10		1-3	1-2	1C/2, 1Bx/1	Normal	87
	11		1-3	1-4	1C/1, 1Dx/1	Normal	33
	12		1-3	1-1	1C/1, 1Ax/1	Normal	510

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	14	1	0
	4-2	34	2	68	205
	4-3	2	43	0	12
	4-4	0	306	25	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	43
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	2
	4		4-3	4-4	4C/1, 4Dx/1	Normal	12
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	1
	12		4-1	4-2	4A/1, 4Bx/1	Normal	14
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	34
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	51
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	68
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	155
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	25
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	306
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	17	198
	7-2	35	0	29
	7-3	279	15	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
7	7-1	(untitled)	7A/1	7Ax/1	#A52A2A
	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	17
	3		7-2	7-1	7B/1, 7Ax/1	Normal	35
	4		7-1	7-3	7A/1, 7Cx/1	Normal	198
	5		7-2	7-3	7B/1, 7Cx/1	Normal	29
	6		7-3	7-1	7C/1, 7Ax/1	Normal	279
	7		7-3	7-2	7C/1, 7Bx/1	Normal	15

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	7	307
	8-2	14	0	16
	8-3	201	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	7
	3		8-2	8-1	8B/1, 8Ax/1	Normal	14
	5		8-1	8-3	8A/1, 8Cx/1	Normal	307
	6		8-2	8-3	8B/1, 8Cx/1	Normal	16
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	201
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	7

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	3	224
	9-2	7	0	10
	9-3	287	6	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	6
	3		9-2	9-3	9B/1, 9Cx/1	Normal	10
	5		9-2	9-1	9B/1, 9Ax/1	Normal	7
	6		9-3	9-1	9C/1, 9Ax/1	Normal	287
	7		9-1	9-2	9A/1, 9Bx/1	Normal	3
	8		9-1	9-3	9A/1, 9Cx/1	Normal	224

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	18, 72, 102, 4	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

	To						
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	10	18	8	1	4
	2	✓	4	C,G	24	72	48	1	4
	3	✓	5	E,F	79	102	23	1	2
	4	✓	3	A,D,E,H	109	4	15	1	2

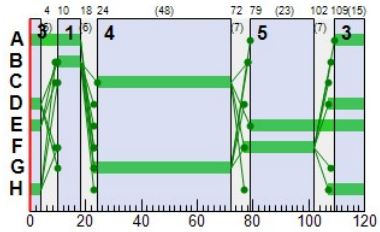
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	109	18	29
	B	1	✓	10	18	8
	C	1	✓	24	72	48
	D	1	✓	107	4	17
	E	1	✓	79	4	45
	F	1	✓	77	102	25
	G	1	✓	23	72	49
	H	1	✓	107	4	17

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	24	72	48
1A	2	1	1	D	107	4	17
1B	1	1	1	E	79	4	45
1B	2	1	1	F	77	102	25
1C	1	1	1	G	23	72	49
1C	2	1	1	H	107	4	17
1D1	1	1	1	A	109	18	29
1D1	2	1	1	B	10	18	8

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
08:15-09:15	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			209	1800	120	0.00	12	675	58.99	0.13	0.00	0.01	100	100	0.00	0.11
RRWB	1		13			331	1800	120	0.00	18	389	57.14	0.23	0.00	0.02	100	100	0.00	0.29
1A	1		1	1	C	526 <	1800	48	0.00	72	26	39.85	35.75	86.66	15.50 +	100	100	0.00	79.89
	2		1	1	D	154	1800	17	0.00	57	58	60.25	56.13	98.60	5.12	100	100	0.00	36.00
1Ax	1					875	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	220	1800	45	0.00	32	182	36.35	27.22	69.80	5.21	100	100	0.00	25.55
	2		1	1	F	282	1800	25	0.00	72	24	64.50	55.36	100.82	9.61	100	100	0.00	65.14
1Bx	1					268	Unrestricted	120	33.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	543	1800	49	0.00	72	24	49.95	35.43	86.63	16.02	100	100	0.00	81.79
	2		1	1	H	87	1800	17	0.00	32	179	63.17	48.72	90.67	2.66	100	100	0.00	17.71
1Cx	1					671	Unrestricted	120	0.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			306	1800	120	30.00	17	429	17.19	0.20	0.00	0.02	100	100	0.00	0.25
4A	1		43			15	1076	120	120.00	1	6356	9.45	0.02	0.00	0.00	100	100	0.00	0.00
4Ac	1		43			376	3600	120	0.00	10	762	10.34	0.06	0.00	0.01	100	100	0.00	0.09
4Ax	1					36	Unrestricted	120	120.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			26	3600	120	120.00	1	12362	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					365	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			57	964	120	120.00	6	1422	9.51	0.12	0.00	0.00	100	100	0.00	0.03
4Cc	1		41			242	3600	120	0.00	7	1239	10.32	0.04	0.00	0.00	100	100	0.00	0.03
4Cx	1					94	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			331	1332	120	0.00	25	262	9.84	0.45	0.00	0.04	100	100	0.00	0.58
4Dc	1		42			81	3600	120	0.00	2	3900	10.29	0.01	0.00	0.00	100	100	0.00	0.00
4Dx	1		13			218	1800	120	0.00	12	643	16.27	0.14	0.00	0.01	100	100	0.00	0.12
7A	1		7			216	1800	120	0.00	12	650	4.29	0.14	0.00	0.01	100	100	0.00	0.12
7Ax	1		15			314	1800	120	0.00	17	416	2.97	0.21	0.00	0.02	100	100	0.00	0.26
7B	1		7			64	499	120	0.00	13	602	1.90	0.53	0.00	0.01	100	100	0.00	0.13
7Bx	1					32	Unrestricted	120	120.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			294	1650	120	4.00	18	405	13.56	0.24	0.00	0.02	100	100	0.00	0.27
7Cx	1		11			228	1800	120	0.00	13	611	13.89	0.14	0.00	0.01	100	100	0.00	0.13
8A	1		8			314	1800	120	0.00	17	416	4.35	0.21	0.00	0.02	100	100	0.00	0.26
8Ax	1		15			216	1800	120	0.00	12	650	3.16	0.14	0.00	0.01	100	100	0.00	0.12
8B	1		8			30	471	120	120.00	6	1314	2.38	0.26	0.00	0.00	100	100	0.00	0.03
8Bx	1					14	Unrestricted	120	120.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			209	1708	120	0.00	12	635	13.10	0.15	0.00	0.01	100	100	0.00	0.12
8Cx	1		12			323	1800	120	0.00	18	402	13.82	0.22	0.00	0.02	100	100	0.00	0.28
9A	1		9			228	1800	120	0.00	13	611	3.58	0.14	0.00	0.01	100	100	0.00	0.13
9Ax	1		11			294	1800	120	8.00	16	451	4.62	0.20	0.00	0.02	100	100	0.00	0.23
9B	1		9			17	491	120	120.00	3	2498	2.51	0.13	0.00	0.00	100	100	0.00	0.01
9Bx	1					9	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			293	1746	120	11.00	17	436	31.94	0.21	0.00	0.02	100	100	0.00	0.24
9Cx	1		10			235	1800	120	0.00	13	590	31.98	0.15	0.00	0.01	100	100	0.00	0.14
1D1	1		1	1	A	202	1800	29	0.00	45	101	48.39	41.25	85.69	5.84	100	100	0.00	34.99
	2		1	1	B	106	1800	8	0.00	79	14	104.94	97.89	129.55	4.74	100	100	0.00	42.81
1D2	1		16			308	1800	120	0.00	17	426	7.50	0.21	0.00	0.02	100	100	0.00	0.25
4B1	1		44			155	1557	120	0.00	10	804	9.52	0.13	0.00	0.01	100	100	0.00	0.08
	2		44			155	741	120	0.00	21	330	10.04	0.64	0.00	0.03	100	100	0.00	0.39
4B2	1		14			310	1800	120	0.00	17	423	4.08	0.21	0.00	0.02	100	100	0.00	0.25

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1216.25	66.24	18.36	25.70	364.92	23.89	0.00	388.82
Bus								
Tram								
Pedestrians								
TOTAL	1216.25	66.24	18.36	25.70	364.92	23.89	0.00	388.82

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: A034 TRANSYT Model 20230720.t16
Path: J:\A_JOBS\Job-A034\B_DOCUMENTS\1.0 Planning\Transport\Traffic Modelling
Report generation date: 26/07/2023 08:31:25

«A1 - : D18 - 2043 Operational, Weekday PM Peak :
»Summary
»Roundabouts
»T-Junctions
»Local OD Matrix - Local Matrix: 1
»Local OD Matrix - Local Matrix: 4
»Local OD Matrix - Local Matrix: 7
»Local OD Matrix - Local Matrix: 8
»Local OD Matrix - Local Matrix: 9
»Signal Timings
»Final Prediction Table

Summary of network performance

	Weekday PM Peak				
	Set ID	PI (€ per hr)	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	2043 Operational				
Network	D18	358.23	23.67	76% (TS 1A/1)	0 (0%)

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

File summary

File description

File title	Tinakilly
Location	Rathnew, Co. Wicklow
Site number	
UTCRegion	
Driving side	Left
Date	20/07/2023
Version	
Status	
Identifier	
Client	
Jobnumber	A034
Enumerator	GF
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	Display controller phase minimums

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
€	kph	m	l/100km	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

A1 -
D18 - 2043 Operational, Weekday PM Peak

Summary

Data Errors and Warnings

Severity	Area	Item	Description
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 1 and OD Matrix 1. (Traffic Stream 1Dx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 9 and OD Matrix 9. (Traffic Stream 9Cx/1)
Warning	OD Matrix Flows	Local Matrix 9	Flow Inconsistency between OD Matrix 1 and OD Matrix 9.
Warning	OD Matrix Flows	Local Matrix 1	Flow Inconsistency between OD Matrix 9 and OD Matrix 1.

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (€ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst overall PRC	Network within capacity
1	26/07/2023 08:31:21	26/07/2023 08:31:23	2.90	16:30	100	358.23	23.67	76.48	1A/1	0	0	1A/1	4B1/2	1A/1	✓

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
					✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 Operational	Weekday PM Peak				16:30		✓

Roundabouts

Roundabouts

Roundabout	Name	Roundabout type	Lighting
4		Standard	Normal/unknown

Entries

Roundabout	Entry	Name	Description	Auto assign priority	Type	Entry	Number of circulating items	Circulating 1	Calculate slope intercept	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Slope	Intercept (PCU/hr)
4	A			✓	TrafficStream	4A/1	1	4Ac/1	✓	4.30	4.80	4.90	9.00	34.00	41.00	0.54	1278
	B			✓	TrafficStream	4B1/1	1	4Bc/1	✓	4.20	5.70	11.50	22.00	34.00	35.00	0.62	1573
	C			✓	TrafficStream	4C/1	1	4Cc/1	✓	3.20	3.60	2.90	18.00	34.00	17.00	0.54	1095
	D			✓	TrafficStream	4D/1	1	4Dc/1	✓	3.00	5.00	23.30	20.00	34.00	31.00	0.59	1380

T-Junctions

T-Junctions

T-Junction	Name	Description	Auto assign priority	Type	Traffic direction on Arm A	Entry aB	Entry aC	Exit a	Traffic direction on Arm B	Entry bA	Entry bC	Exit b	Traffic direction on Arm C	Entry cA	Entry cB	Exit c	Calculate Slope and Intercept
7			✓	TrafficStream	Two-Way	7A/1	7A/1	7Ax/1	Two-Way	7B/1	7B/1	7Bx/1	Two-Way	7C/1	7C/1	7Cx/1	✓
8			✓	TrafficStream	Two-Way	8A/1	8A/1	8Ax/1	Two-Way	8B/1	8B/1	8Bx/1	Two-Way	8C/1	8C/1	8Cx/1	✓
9			✓	TrafficStream	Two-Way	9A/1	9A/1	9Ax/1	Two-Way	9B/1	9B/1	9Bx/1	Two-Way	9C/1	9C/1	9Cx/1	✓

T-Junction Majors

T-Junction	Left Carriageway Width (m)	Right Carriageway Width (m)	Kerbed Central Reserve Width (m)	Width for C-B traffic (m)	Visibility for C-B traffic (m)
7	8.00	8.00	0.00	2.80	146.00
8	8.00	8.00	0.00	3.00	250.00
9	8.00	8.00	0.00	3.00	248.00

T-Junction Minors

T-Junction	B-C Lane Width (m)	B-A Lane Width (m)	B-C Visibility (m)	B-A Visibility (m)
7	2.60	2.60	144.00	62.00
8	2.80	2.80	4.00	38.00
9	2.80	2.80	45.00	22.00

T-Junction Slope Intercept

T-Junction	BCIntercept (PCU/hr)	BC- aBSlope	BC- aCSlope	BAIntercept (PCU/hr)	BA- aBSlope	BA- aCSlope	BA- cASlope	BA- cBSlope	CBIntercept (PCU/hr)	CB- aBSlope	CB- aCSlope
7	636	0.09	0.23	534	0.09	0.22	0.14	0.32	702	0.25	0.25
8	635	0.09	0.22	488	0.08	0.20	0.13	0.29	781	0.28	0.28
9	625	0.09	0.22	493	0.08	0.21	0.13	0.30	780	0.28	0.28

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		1-1	1-2	1-3	1-4
From	1-1	0	159	472	209
	1-2	83	0	99	65
	1-3	430	136	0	38
	1-4	157	96	53	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1-1		1A/2, 1A/1	1Ax/1	#0000FF
	1-2		1B/2, 1B/1	1Bx/1	#FF0000
	1-3		1C/2, 1C/1	1Cx/1	#FF0000
	1-4		1D2/1	1Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1-4	1-1	1D2/1, 1D1/1, 1Ax/1	Normal	157
	2		1-1	1-4	1A/2, 1Dx/1	Normal	209
	3		1-1	1-2	1A/1, 1Bx/1	Normal	159
	4		1-4	1-2	1D2/1, 1D1/2, 1Bx/1	Normal	96
	5		1-2	1-4	1B/2, 1Dx/1	Normal	65
	6		1-2	1-1	1B/2, 1Ax/1	Normal	83
	7		1-1	1-3	1A/1, 1Cx/1	Normal	472
	8		1-2	1-3	1B/1, 1Cx/1	Normal	99
	9		1-4	1-3	1D2/1, 1D1/2, 1Cx/1	Normal	53
	10		1-3	1-2	1C/2, 1Bx/1	Normal	136
	11		1-3	1-4	1C/1, 1Dx/1	Normal	38
	12		1-3	1-1	1C/1, 1Ax/1	Normal	430

Local OD Matrix - Local Matrix: 4

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
4		✓	✓	Lane Balancing			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To			
		4-1	4-2	4-3	4-4
From	4-1	0	144	10	0
	4-2	138	2	49	261
	4-3	10	78	0	31
	4-4	0	227	17	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
4	4-1		4A/1	4Ax/1	#00FF00
	4-2		4B2/1	4Bx/1	#FFFF00
	4-3		4C/1	4Cx/1	#0000FF
	4-4		RRWB/1	4Dx/1	#FF0000

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
4	1		4-3	4-3	4C/1, 4Dc/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	0
	2		4-3	4-2	4C/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	78
	3		4-3	4-1	4C/1, 4Dc/1, 4Ax/1	Normal	10
	4		4-3	4-4	4C/1, 4Dx/1	Normal	31
	9		4-1	4-1	4A/1, 4Bc/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	10		4-1	4-4	4A/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	11		4-1	4-3	4A/1, 4Bc/1, 4Cx/1	Normal	10
	12		4-1	4-2	4A/1, 4Bx/1	Normal	144
	13		4-2	4-2	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	2
	14		4-2	4-1	4B2/1, 4B1/1, 4Cc/1, 4Dc/1, 4Ax/1	Normal	138
	15		4-2	4-4	4B2/1, 4B1/1, 4Cc/1, 4Dx/1	Normal	36
	16		4-2	4-3	4B2/1, 4B1/1, 4Cx/1	Normal	49
	17		4-2	4-2	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ac/1, 4Bx/1	Normal	0
	18		4-2	4-1	4B2/1, 4B1/2, 4Cc/1, 4Dc/1, 4Ax/1	Normal	0
	19		4-2	4-4	4B2/1, 4B1/2, 4Cc/1, 4Dx/1	Normal	225
	20		4-4	4-4	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cc/1, 4Dx/1	Normal	0
	21		4-4	4-3	RRWB/1, 4D/1, 4Ac/1, 4Bc/1, 4Cx/1	Normal	17
	22		4-4	4-2	RRWB/1, 4D/1, 4Ac/1, 4Bx/1	Normal	227
	23		4-4	4-1	RRWB/1, 4D/1, 4Ax/1	Normal	0

Local OD Matrix - Local Matrix: 7

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
7		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		7-1	7-2	7-3
From	7-1	0	35	247
	7-2	20	0	16
	7-3	218	29	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
	7-1	(untitled)	7A/1	7Ax/1	#A52A2A

7	7-2	(untitled)	7B/1	7Bx/1	#A52A2A
	7-3	(untitled)	7C/1	7Cx/1	#A52A2A

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
7	2		7-1	7-2	7A/1, 7Bx/1	Normal	35
	3		7-2	7-1	7B/1, 7Ax/1	Normal	20
	4		7-1	7-3	7A/1, 7Cx/1	Normal	247
	5		7-2	7-3	7B/1, 7Cx/1	Normal	16
	6		7-3	7-1	7C/1, 7Ax/1	Normal	218
	7		7-3	7-2	7C/1, 7Bx/1	Normal	29

Local OD Matrix - Local Matrix: 8

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
8		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		8-1	8-2	8-3
From	8-1	0	16	222
	8-2	10	0	13
	8-3	272	19	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
8	8-1	(untitled)	8A/1	8Ax/1	#6495ED
	8-2	(untitled)	8B/1	8Bx/1	#6495ED
	8-3	(untitled)	RREB/1	8Cx/1	#6495ED

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
8	2		8-1	8-2	8A/1, 8Bx/1	Normal	16
	3		8-2	8-1	8B/1, 8Ax/1	Normal	10
	5		8-1	8-3	8A/1, 8Cx/1	Normal	222
	6		8-2	8-3	8B/1, 8Cx/1	Normal	13
	7		8-3	8-1	RREB/1, 8C/1, 8Ax/1	Normal	272
	8		8-3	8-2	RREB/1, 8C/1, 8Bx/1	Normal	19

Local OD Matrix - Local Matrix: 9

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
9		✓	✓	Path Equalisation			✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To		
		9-1	9-2	9-3
From	9-1	0	5	258
	9-2	3	0	8
	9-3	244	7	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
9	9-1	(untitled)	9A/1	9Ax/1	#B48894
	9-2	(untitled)	9B/1	9Bx/1	#B48894
	9-3	(untitled)	9C/1	9Cx/1	#B48894

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
9	2		9-3	9-2	9C/1, 9Bx/1	Normal	7
	3		9-2	9-3	9B/1, 9Cx/1	Normal	8
	5		9-2	9-1	9B/1, 9Ax/1	Normal	3
	6		9-3	9-1	9C/1, 9Ax/1	Normal	244
	7		9-1	9-2	9A/1, 9Bx/1	Normal	5
	8		9-1	9-3	9A/1, 9Cx/1	Normal	258

Signal Timings

Network Default: 100s cycle time; 100 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		6	Manual	120	38

Controller Stream 1 - Properties

Controller Stream	Manufacturer name	Type	Model number	(Telephone) Line Number	Site number	Grid reference	Gaining delay type
1	Unspecified						Absolute

Controller Stream 1 - Optimisation

Controller Stream	Allow offset optimisation	Allow green split optimisation	Optimisation level	Auto redistribute	Enable stage constraint
1	✓	✓	Offsets And Green Splits	✓	

Phases

Controller Stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type
1	(ALL)	(untitled)	4	300	0	0	Traffic

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A, B	1	1	100
	2	A, C, D	1	1	100
	3	A, D, E, H	1	1	100
	4	C, G	1	1	100
	5	E, F	1	1	100
	6	E, G, H	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 5, 6	24, 54, 84, 113	39	
	2	(untitled)	Single	1, 2, 6, 5	24, 54, 84, 113	40	
	3	(untitled)	Single	1, 3, 4, 5	24, 53, 83, 113	40	
	4	(untitled)	Single	1, 3, 5, 4	24, 53, 83, 113	39	
	5	(untitled)	Single	1, 4, 3, 5	24, 54, 84, 113	42	
	6	(untitled)	Single	1, 4, 5, 3	15, 75, 93, 117	38	
	7	(untitled)	Single	1, 5, 2, 6	24, 53, 83, 113	42	
	8	(untitled)	Single	1, 5, 3, 4	24, 53, 84, 113	41	
	9	(untitled)	Single	1, 5, 4, 3	24, 53, 83, 114	40	
	10	(untitled)	Single	1, 5, 6, 2	24, 53, 83, 114	39	

Intergreen Matrix for Controller Stream 1

		To							
		A	B	C	D	E	F	G	H
From	A						5	5	
	B			6	5	5	5	5	5
	C		6			7	5		5
	D		6				5	6	
	E		5	5					
	F	7	6	5	5			6	5
	G	7	6		5		5		
	H		5	6			6		

Banned Stage transitions for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1						
	2						
	3						
	4						
	5						
	6						

Interstage Matrix for Controller Stream 1

		To					
		1	2	3	4	5	6
From	1	0	6	5	6	5	5
	2	6	0	7	6	7	7
	3	6	6	0	6	6	6
	4	7	7	7	0	7	7
	5	7	7	7	6	0	6
	6	7	7	7	6	6	0

Resultant Stages

Controller Stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A,B	3	15	12	1	4
	2	✓	4	C,G	21	75	54	1	4
	3	✓	5	E,F	82	93	11	1	2
	4	✓	3	A,D,E,H	100	117	17	1	2

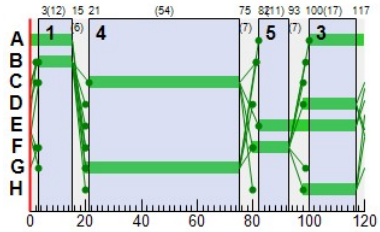
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	100	15	35
	B	1	✓	3	15	12
	C	1	✓	21	75	54
	D	1	✓	98	117	19
	E	1	✓	82	117	35
	F	1	✓	80	93	13
	G	1	✓	20	75	55
	H	1	✓	98	117	19

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
1A	1	1	1	C	21	75	54
1A	2	1	1	D	98	117	19
1B	1	1	1	E	82	117	35
1B	2	1	1	F	80	93	13
1C	1	1	1	G	20	75	55
1C	2	1	1	H	98	117	19
1D1	1	1	1	A	100	15	35
1D1	2	1	1	B	3	15	12

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1

Resultant penalties

Time Segment	Controller stream	Phase min max penalty (€ per hr)	Intergreen broken penalty (€ per hr)	Stage constraint broken penalty (€ per hr)	Cost of controller stream penalties (€ per hr)
16:30-17:30	1	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	WEIGHTS		PENALTIES	P.I.
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Delay weighting multiplier (%)	Stop weighting multiplier (%)	Cost of traffic penalties (€ per hr)	P.I.
RREB	1		12			291	1800	120	0.00	16	457	59.05	0.19	0.00	0.02	100	100	0.00	0.22
RRWB	1		13			244	1800	120	0.00	14	564	57.07	0.16	0.00	0.01	100	100	0.00	0.15
1A	1		1	1	C	631 <	1800	54	0.00	76	18	38.16	34.06	86.90	18.75 +	100	100	0.00	91.65
	2		1	1	D	209 <	1800	19	0.00	70	29	64.62	60.49	103.63	7.34 +	100	100	0.00	52.59
1Ax	1					670	Unrestricted	120	4.00	0	Unrestricted	9.31	0.00	0.00	0.00	100	100	0.00	0.00
1B	1		1	1	E	99	1800	35	0.00	18	391	41.00	31.87	72.97	2.44	100	100	0.00	13.35
	2		1	1	F	148	1800	13	0.00	70	28	79.68	70.54	110.42	5.53	100	100	0.00	43.23
1Bx	1					391	Unrestricted	120	18.00	0	Unrestricted	13.97	0.00	0.00	0.00	100	100	0.00	0.00
1C	1		1	1	G	468	1800	55	0.00	56	62	40.26	25.75	72.48	11.53	100	100	0.00	51.79
	2		1	1	H	136	1800	19	0.00	45	99	64.46	50.02	92.86	4.27	100	100	0.00	28.41
1Cx	1					624	Unrestricted	120	2.00	0	Unrestricted	19.13	0.00	0.00	0.00	100	100	0.00	0.00
1Dx	1		10			312	1800	120	42.00	17	419	17.20	0.21	0.00	0.02	100	100	0.00	0.26
4A	1		43			154	1104	120	0.00	14	545	9.69	0.26	0.00	0.01	100	100	0.00	0.16
4Ac	1		43			324	3600	120	0.00	9	900	10.33	0.05	0.00	0.00	100	100	0.00	0.06
4Ax	1					148	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4Bc	1		44			27	3600	120	120.00	1	11900	10.26	0.00	0.00	0.00	100	100	0.00	0.00
4Bx	1					451	Unrestricted	120	0.00	0	Unrestricted	16.12	0.00	0.00	0.00	100	100	0.00	0.00
4C	1		41			119	877	120	0.00	14	564	9.72	0.32	0.00	0.01	100	100	0.00	0.15
4Cc	1		41			401	3600	120	0.00	11	708	10.34	0.06	0.00	0.01	100	100	0.00	0.10
4Cx	1					76	Unrestricted	120	0.00	0	Unrestricted	16.13	0.00	0.00	0.00	100	100	0.00	0.00
4D	1		42			244	1246	120	0.00	20	360	9.75	0.35	0.00	0.02	100	100	0.00	0.34
4Dc	1		42			228	3600	120	0.00	6	1321	10.31	0.03	0.00	0.00	100	100	0.00	0.03
4Dx	1		13			292	1800	120	0.00	16	455	16.32	0.19	0.00	0.02	100	100	0.00	0.22
7A	1		7			282	1800	120	0.00	16	474	4.33	0.19	0.00	0.01	100	100	0.00	0.21
7Ax	1		15			238	1800	120	11.00	13	581	2.91	0.15	0.00	0.01	100	100	0.00	0.14
7B	1		7			36	488	120	120.00	7	1120	1.66	0.29	0.00	0.00	100	100	0.00	0.04
7Bx	1					64	Unrestricted	120	73.00	0	Unrestricted	2.70	0.00	0.00	0.00	100	100	0.00	0.00
7C	1		7			247	1479	120	21.00	17	439	13.57	0.24	0.00	0.02	100	100	0.00	0.24
7Cx	1		11			263	1800	120	0.00	15	516	13.92	0.17	0.00	0.01	100	100	0.00	0.18
8A	1		8			238	1800	120	9.00	13	581	4.30	0.15	0.00	0.01	100	100	0.00	0.14
8Ax	1		15			282	1800	120	0.00	16	474	3.21	0.19	0.00	0.01	100	100	0.00	0.21
8B	1		8			23	487	120	120.00	5	1805	2.30	0.18	0.00	0.00	100	100	0.00	0.02
8Bx	1					35	Unrestricted	120	107.00	0	Unrestricted	3.64	0.00	0.00	0.00	100	100	0.00	0.00
8C	1		8			291	1637	120	0.00	18	406	13.19	0.24	0.00	0.02	100	100	0.00	0.27
8Cx	1		12			235	1800	120	0.00	13	589	13.75	0.15	0.00	0.01	100	100	0.00	0.14
9A	1		9			263	1800	120	0.00	15	516	3.61	0.17	0.00	0.01	100	100	0.00	0.18
9Ax	1		11			247	1800	120	24.00	14	556	4.58	0.16	0.00	0.01	100	100	0.00	0.15
9B	1		9			11	511	120	120.00	2	4079	2.45	0.08	0.00	0.00	100	100	0.00	0.00
9Bx	1					12	Unrestricted	120	120.00	0	Unrestricted	3.91	0.00	0.00	0.00	100	100	0.00	0.00
9C	1		9			251	1726	120	25.00	15	519	31.91	0.18	0.00	0.01	100	100	0.00	0.18
9Cx	1		10			266	1800	120	0.00	15	509	32.01	0.17	0.00	0.01	100	100	0.00	0.18
1D1	1		1	1	A	157	1800	35	0.00	29	210	40.71	33.57	76.11	4.07	100	100	0.00	22.29
	2		1	1	B	149	1800	12	0.00	76	18	86.68	79.64	117.41	5.94	100	100	0.00	49.00
1D2	1		16			306	1800	120	0.00	17	429	7.49	0.20	0.00	0.02	100	100	0.00	0.25
4B1	1		44			225	1556	120	0.00	14	522	9.59	0.20	0.00	0.01	100	100	0.00	0.17
	2		44			225	741	120	0.00	30	196	10.45	1.06	0.00	0.07	100	100	0.00	0.94
4B2	1		14			450	1800	120	0.00	25	260	4.20	0.33	0.00	0.04	100	100	0.00	0.59

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Total delay (PCU-hr/hr)	Weighted cost of delay (€ per hr)	Weighted cost of stops (€ per hr)	Excess queue penalty (€ per hr)	Performance Index (€ per hr)
Normal traffic	1264.57	65.83	19.21	23.67	336.15	22.07	0.00	358.23
Bus								
Tram								
Pedestrians								
TOTAL	1264.57	65.83	19.21	23.67	336.15	22.07	0.00	358.23

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***