TRANSYT 15

Filename: DS Sheriff Street - Castleforbes Road.t15
Path: G:\2018\lp180159\Calcs\transyt
Report generation date: 26/11/2019 13:01:40

»A1 - DS 2022 AM : D1 - DS2022 AM* :
»A2 - DS 2022 PM : D2 - DS2022 PM* :
»A3 - DS 2027 AM : D3 - DS2027 AM* :
»A4 - DS 2027 PM : D4 - DS2027 PM* :
»A5 - DS 2037 AM : D5 - DS2037 AM* :
»A6 - DS 2037 PM : D6 - DS2037 PM* :

File summary

File description

File title	(untitled)
Location	
Site number	
UTCRegion	
Driving side	Left
Date	13/11/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	HEADOFFICE\gendyh
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	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

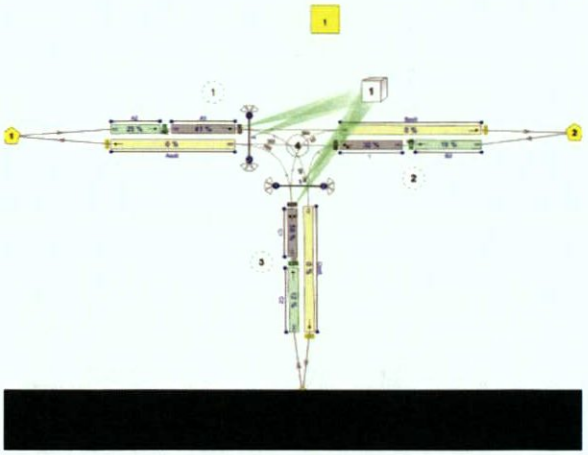
Units

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	mpg	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	✓

Network Diagrams



A1 - DS 2022 AM
D1 - DS2022 AM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	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	Its wit wor ove PR
1	26/11/2019 13:01:21	26/11/2019 13:01:21	08:00	100	59.13	3.74	44.08	A1/1	0	0	A1/1	A2/1	A1/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
DS 2022 AM		D1	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
DS2022 AM				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	36	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (m/s^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	86

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (m/s^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
Aexit			
Bexit			
Cexit			
A1			4
B1			4
C1			4
A2			1
B2			2
C2			3

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
Aexit	1				83.64						Normal	
Bexit	1				47.82						Normal	
Cexit	1				9.65						Normal	
A1	1				21.08	✓	Sum of lanes	1800	✓		Normal	
B1	1				10.28	✓	Sum of lanes	1800	✓		Normal	
C1	1				7.79	✓	Sum of lanes	1800	✓		Normal	
A2	1				10.68	✓	Sum of lanes	1800			Normal	
B2	1				1.00	✓	Sum of lanes	1800			Normal	
C2	1				1.77	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
Aexit	1	1	(untitled)			
Bexit	1	1	(untitled)			
Cexit	1	1	(untitled)			
A1	1	1	(untitled)			1800
B1	1	1	(untitled)			1800
C1	1	1	(untitled)			1800
A2	1	1	(untitled)			1800
B2	1	1	(untitled)			1800
C2	1	1	(untitled)			1800

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
Aexit	1	NetworkDefault	100	100	100		10.00		
Bexit	1	NetworkDefault	100	100	100		8.00		
Cexit	1	NetworkDefault	100	100	100		1.00		
A1	1	NetworkDefault	100	100	100		3.00		
B1	1	NetworkDefault	100	100	100		1.00		
C1	1	NetworkDefault	100	100	100		1.00		
A2	1	NetworkDefault	100	100	100		1.00		
B2	1	NetworkDefault	100	100	100		0.00		
C2	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto-cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	100

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
Aexit	1	280	280
Bexit	1	388	388
Cexit	1	222	222
A1	1	484	484
B1	1	281	281
C1	1	134	134
A2	1	484	484
B2	1	281	281
C2	1	134	134

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A1	1	1	A	
B1	1	1	B	
C1	1	1	C	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	6.58	4.38	5.40
2	(untitled)				Farside	5.96	3.97	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	E	
2	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

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
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

From \ To	1	2	3
1	0	331	153
2	212	0	69
3	77	57	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	(untitled)	A2/1	Aexit/1	#0000FF
	2	(untitled)	B2/1	Bexit/1	#FF0000
	3	(untitled)	C2/1	Cexit/1	#00FF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1	2	A2/1, A1/1, Bexit/1	Normal	331
	2		1	3	A2/1, A1/1, Cexit/1	Normal	153
	3		3	2	C2/1, C1/1, Bexit/1	Normal	57
	4		3	1	C2/1, C1/1, Aexit/1	Normal	77
	5		2	1	B2/1, B1/1, Aexit/1	Normal	212
	6		2	3	B2/1, B1/1, Cexit/1	Normal	69

Signal Timings

Network Default: 100s cycle time; 100 steps

Phases

Controller stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	23	300	0	0	Traffic	
	B	(untitled)	23	300	0	0	Traffic	
	C	(untitled)	20	300	0	0	Traffic	
	D	(untitled)	3	300	0	0	Pedestrian	0
	E	(untitled)	3	300	0	0	Pedestrian	0

Library Stages

Controller stream	Library stage	Phases in stage	User stage minimum (s)
1	1	A, B	1
	2	C	1
	3	E, D	1

Losing / Gaining Phase Delays

Controller stream	Delay	Type	Phase	From stage	To stage	Relative delay
1	1	Losing	D	3	1	1

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3	54, 79, 87

Intergreen Matrix for Controller Stream 1

From \ To	A	B	C	D	E
A			5	5	7
B			5	7	6
C	5	5		6	5
D	6	6	6		
E	7	7	7		

Interstage Matrix for Controller Stream 1

From \ To	1	2	3
1	0	5	7
2	5	0	6
3	7	7	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	94	54	60	1	23
	2	✓	2	C	59	79	20	1	20
	3	✓	3	E, D	85	87	3	1	2

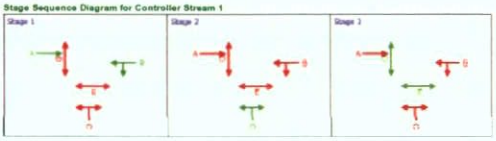
Resultant Phase Green Periods

Controller stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	94	54	60
	B	1	✓	94	54	60
	C	1	✓	59	79	20
	D	1	✓	85	88	3
	E	1	✓	84	87	3

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A1	1	4	1	A	94	54	60
B1	1	4	1	B	94	54	60
C1	1	4	1	C	59	79	20

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)
08:00-09:00	1	0.00	0.00	0.00	0.00

Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity	Calculated flow entering (PCU/hr)	Calculated sat flow	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	Aexit	1	0	Unrestricted	289	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	0	Unrestricted	388	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	0	Unrestricted	222	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	44	104	484	1800	60	11.69	7.30	243.30	22.33	3.18	25.51
	B1	1	26	252	281	1800	60	9.58	3.63	363.46	10.62	1.58	12.20
	C1	1	36	154	134	1800	20	36.33	3.26	326.09	19.20	1.27	20.47
	A2	1	27	236	484	1800	100	0.37	0.05	4.94	0.70	0.00	0.70
	B2	1	16	477	281	1800	100	0.18	0.01	8.30	0.20	0.00	0.20
	C2	1	7	1109	134	1800	100	0.08	0.00	0.97	0.04	0.00	0.04

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow	Calculated capacity	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	Aexit	1	289	289	0		Unrestricted	Unrestricted	0		Unrestricted	0.69	100
	Bexit	1	388	388	0		Unrestricted	Unrestricted	0		Unrestricted	0.85	100
	Cexit	1	222	222	0		Unrestricted	Unrestricted	0		Unrestricted	0.77	100
	A1	1	484	484	0		1800	1098	44		104	0.00	60
	B1	1	281	281	0		1800	1098	26		252	0.00	60
	C1	1	134	134	0		1800	378	36		154	0.00	20
	A2	1	484	484	0		1800	1800	27		236	0.00	100
	B2	1	281	281	0		1800	1800	16		477	0.00	100
	C2	1	134	134	0		1800	1800	7		1109	0.00	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	Aexit	1	7.64	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	5.74	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	1.15	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	2.53	11.69	1.57	22.33	52.44	253.81	3.18
	B1	1	1.23	9.58	0.75	10.62	44.93	126.24	1.58
	C1	1	1.00	36.33	1.36	19.20	86.41	115.78	1.27
	A2	1	1.28	0.37	0.05	0.70	0.00	0.00	0.00
	B2	1	1.00	0.18	0.01	0.20	0.00	0.00	0.00
	C2	1	1.00	0.08	0.00	0.04	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	Aexit	1	0.00	0.00	10.00	0.00	0.00	16.00	
	Bexit	1	0.00	0.00	8.00	0.00	0.00	19.00	
	Cexit	1	0.00	0.00	1.00	0.00	0.00	39.00	
	A1	1	0.00	7.30	3.00	243.30	0.00	0.00	
	B1	1	0.00	3.63	1.00	363.46	0.00	0.00	
	C1	1	0.00	3.26	1.00	326.09	0.00	0.00	
	A2	1	0.00	0.05	1.00	4.94	0.00	32.00	
	B2	1	0.00	0.01	0.17	8.30	0.00	34.00	
	C2	1	0.00	0.00	0.31	0.97	0.00	61.00	

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
1	26/11/2019 13:01:21	26/11/2019 13:01:21	08:00	100	59.13	3.74	44.08	A1/1	0	0	A1/1	A2/1	A1/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	44	0	2897	740	4.99	53.10	6.03	59.13

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	2897	2897	0		44		104	762

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	2.75	4.99	3.74	53.10	18.38	486.84	6.03

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	363.46	0.00	200.00

A2 - DS 2022 PM
D2 - DS2022 PM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
2	26/11/2019 13:01:21	26/11/2019 13:01:22	17:15	100	73.04	4.68	58.56	C1/1	0	0	C1/1	A2/1	C1/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
DS 2022 PM		D2	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
DS2022 PM				17:15	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (m*[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (m*[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
Aexit			
Bexit			
Cexit			
A1			4
B1			4
C1			4
A2			1
B2			2
C2			3

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
Aexit	1				63.64						Normal	
Bexit	1				47.82						Normal	
Cexit	1				9.55						Normal	
A1	1				21.06	✓	Sum of lanes	1800	✓		Normal	
B1	1				10.28	✓	Sum of lanes	1800	✓		Normal	
C1	1				7.79	✓	Sum of lanes	1800	✓		Normal	
A2	1				10.68	✓	Sum of lanes	1800			Normal	
B2	1				1.00	✓	Sum of lanes	1800			Normal	
C2	1				1.77	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use IRR67	Saturation flow (PCU/hr)
Aexit	1	1	(untitled)			
Bexit	1	1	(untitled)			
Cexit	1	1	(untitled)			
A1	1	1	(untitled)			1800
B1	1	1	(untitled)			1800
C1	1	1	(untitled)			1800
A2	1	1	(untitled)			1800
B2	1	1	(untitled)			1800
C2	1	1	(untitled)			1800

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
Aexit	1	NetworkDefault	100	100	100		10.00		
Bexit	1	NetworkDefault	100	100	100		8.00		
Cexit	1	NetworkDefault	100	100	100		1.00		
A1	1	NetworkDefault	100	100	100		3.00		
B1	1	NetworkDefault	100	100	100		1.00		
C1	1	NetworkDefault	100	100	100		1.00		
A2	1	NetworkDefault	100	100	100		1.00		
B2	1	NetworkDefault	100	100	100		0.00		
C2	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto-cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-included	NetworkDefault	0.50	✓	100

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
Aexit	1	425	425
Bexit	1	388	388
Cexit	1	124	124
A1	1	409	409
B1	1	318	318
C1	1	210	210
A2	1	409	409
B2	1	318	318
C2	1	210	210

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A1	1	1	A	
B1	1	1	B	
C1	1	1	C	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	6.58	4.38	5.40
2	(untitled)				Farside	5.96	3.97	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	E	
2	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

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
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

From \ To	1	2	3
1	0	328	81
2	275	0	43
3	150	60	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	(untitled)	A2/1	Aexit/1	#0000FF
	2	(untitled)	B2/1	Bexit/1	#FF0000
	3	(untitled)	C2/1	Cexit/1	#00FF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1	2	A2/1, A1/1, Bexit/1	Normal	328
	2		1	3	A2/1, A1/1, Cexit/1	Normal	81
	3		3	2	C2/1, C1/1, Bexit/1	Normal	60
	4		3	1	C2/1, C1/1, Aexit/1	Normal	150
	5		2	1	B2/1, B1/1, Aexit/1	Normal	275
	6		2	3	B2/1, B1/1, Cexit/1	Normal	43

Signal Timings

Network Default: 100s cycle time; 100 steps

Phases

Controller stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	23	300	0	0	Traffic	
	B	(untitled)	23	300	0	0	Traffic	
	C	(untitled)	20	300	0	0	Traffic	
	D	(untitled)	3	300	0	0	Pedestrian	0
	E	(untitled)	3	300	0	0	Pedestrian	0

Library Stages

Controller stream	Library stage	Phases in stage	User stage minimum (s)
1	1	A, B	1
	2	C	1
	3	D, E	1

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3	54, 79, 88

Intergreen Matrix for Controller Stream 1

From \ To	A	B	C	D	E
A			5	5	7
B			5	7	6
C	0	5		6	5
D	0	0	8		
E	7	7	7		

Interstage Matrix for Controller Stream 1

From \ To	1	2	3
1	0	5	7
2	5	0	6
3	7	7	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	95	54	59	1	23
	2	✓	2	C	59	79	20	1	20
	3	✓	3	D,E	85	88	3	1	3

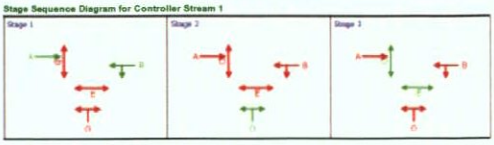
Resultant Phase Green Periods

Controller stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	95	54	59
	B	1	✓	95	54	59
	C	1	✓	59	79	20
	D	1	✓	85	88	3
	E	1	✓	84	88	4

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A1	1	4	1	A	95	54	59
B1	1	4	1	B	95	54	59
C1	1	4	1	C	59	79	20

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)
17:15-18:15	1	0.00	0.00	0.00	0.00

Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity	Calculated flow entering (PCU/hr)	Calculated sat flow	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:15-18:15	AexIt	1	0	Unrestricted	426	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	BexIt	1	0	Unrestricted	388	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	CexIt	1	0	Unrestricted	124	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	38	138	409	1800	59	11.37	5.91	196.98	18.34	2.59	20.94
	B1	1	29	206	318	1800	59	10.42	4.30	430.14	13.07	1.89	14.95
	C1	1	56	62	210	1800	20	41.23	5.84	563.52	34.15	2.15	36.30
	A2	1	23	296	409	1800	100	0.29	0.03	3.34	0.47	0.00	0.47
	B2	1	18	409	318	1800	100	0.21	0.02	10.90	0.27	0.00	0.27
	C2	1	12	671	210	1800	100	0.13	0.01	2.51	0.11	0.00	0.11

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow	Calculated capacity	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
17:15-18:15	AexIt	1	425	425	0		Unrestricted	Unrestricted	0		Unrestricted	0.71	100
	BexIt	1	388	388	0		Unrestricted	Unrestricted	0		Unrestricted	0.63	100
	CexIt	1	124	124	0		Unrestricted	Unrestricted	0		Unrestricted	0.79	100
	A1	1	409	409	0		1800	1080	38		138	0.00	59
	B1	1	318	318	0		1800	1080	29		206	0.00	59
	C1	1	210	210	0		1800	378	56		62	0.00	20
	A2	1	409	409	0		1800	1800	23		296	0.00	100
	B2	1	318	318	0		1800	1800	18		409	0.00	100
	C2	1	210	210	0		1800	1800	12		671	0.00	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:15-18:15	AexIt	1	7.64	0.00	0.00	0.00	0.00	0.00	0.00
	BexIt	1	5.74	0.00	0.00	0.00	0.00	0.00	0.00
	CexIt	1	1.15	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	2.53	11.37	1.29	18.34	50.56	206.79	2.59
	B1	1	1.23	10.42	0.92	13.07	47.28	150.36	1.89
	C1	1	1.00	41.23	2.40	34.15	93.55	196.47	2.15
	A2	1	1.28	0.29	0.03	0.47	0.00	0.00	0.00
	B2	1	1.00	0.21	0.02	0.27	0.00	0.00	0.00
	C2	1	1.00	0.13	0.01	0.11	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
17:15-18:15	AexIt	1	0.00	0.00	10.00	0.00	0.00	14.00	
	BexIt	1	0.00	0.00	8.00	0.00	0.00	16.00	
	CexIt	1	0.00	0.00	1.00	0.00	0.00	40.00	
	A1	1	0.00	5.91	3.00	196.98	0.00	0.00	
	B1	1	0.00	4.30	1.00	430.14	0.00	0.00	
	C1	1	0.00	5.54	1.00	563.52	0.00	0.00	
	A2	1	0.00	0.03	1.00	3.34	0.00	26.00	
	B2	1	0.00	0.02	0.17	10.90	0.00	38.00	
	C2	1	0.00	0.01	0.31	2.51	0.00	78.00	

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
2	26/11/2019 13:01:21	26/11/2019 13:01:22	17:15	100	73.04	4.68	56.56	C1/1	0	0	C1/1	A2/1	C1/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:15-18:15	56	0	2811	738	5.99	66.41	6.63	73.04

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
17:15-18:15	2811	2811	0		56		62	752

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:15-18:15	2.96	5.99	4.68	66.41	19.09	553.61	6.63

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
17:15-18:15	553.52	0.00	212.00

A3 - DS 2027 AM
D3 - DS2027 AM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
3	26/11/2019 13:01:22	26/11/2019 13:01:22	08:00	100	62.51	3.95	46.08	A1/1	0	0	A1/1	A2/1	A1/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
DS 2027 AM		D3	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
DS2027 AM				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	6.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (m/s^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (m/s^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	16, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
AexIt			
BexIt			
CexIt			
A1			4
B1			4
C1			4
A2			1
B2			2
C2			3

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
Aexit	1				63.64						Normal	
Bexit	1				47.82						Normal	
Cexit	1				9.55						Normal	
A1	1				21.08	✓	Sum of lanes	1800	✓		Normal	
B1	1				10.28	✓	Sum of lanes	1800	✓		Normal	
C1	1				7.79	✓	Sum of lanes	1800	✓		Normal	
A2	1				10.68	✓	Sum of lanes	1800			Normal	
B2	1				1.00	✓	Sum of lanes	1800			Normal	
C2	1				1.77	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
Aexit	1	1	(untitled)			
Bexit	1	1	(untitled)			
Cexit	1	1	(untitled)			
A1	1	1	(untitled)			1800
B1	1	1	(untitled)			1800
C1	1	1	(untitled)			1800
A2	1	1	(untitled)			1800
B2	1	1	(untitled)			1800
C2	1	1	(untitled)			1800

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
Aexit	1	NetworkDefault	100	100	100		10.00		
Bexit	1	NetworkDefault	100	100	100		8.00		
Cexit	1	NetworkDefault	100	100	100		1.00		
A1	1	NetworkDefault	100	100	100		3.00		
B1	1	NetworkDefault	100	100	100		1.00		
C1	1	NetworkDefault	100	100	100		1.00		
A2	1	NetworkDefault	100	100	100		1.00		
B2	1	NetworkDefault	100	100	100		0.00		
C2	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-to-Service	Vehicle-to-Service	Type of random parameter	Random parameter	Auto-cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-included	NetworkDefault	0.50	✓	100

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
Aexit	1	304	304
Bexit	1	408	408
Cexit	1	227	227
A1	1	506	506
B1	1	295	295
C1	1	138	138
A2	1	506	506
B2	1	295	295
C2	1	138	138

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A1	1	1	A	
B1	1	1	B	
C1	1	1	C	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	5.58	4.38	5.40
2	(untitled)				Farside	5.98	3.97	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	E	
2	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

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
1	(untitled)	✓	✓	Path Equilisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

From \ To	1	2	3
1	0	349	157
2	225	0	70
3	79	59	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	(untitled)	A2/1	Aexit/1	#0000FF
	2	(untitled)	B2/1	Bexit/1	#FF0000
	3	(untitled)	C2/1	Cexit/1	#00FF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path Items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1	2	A2/1, A1/1, Bexit/1	Normal	349
	2		1	3	A2/1, A1/1, Cexit/1	Normal	157
	3		3	2	C2/1, C1/1, Bexit/1	Normal	59
	4		3	1	C2/1, C1/1, Aexit/1	Normal	79
	5		2	1	B2/1, B1/1, Aexit/1	Normal	225
	6		2	3	B2/1, B1/1, Cexit/1	Normal	70

Signal Timings

Network Default: 100s cycle time; 100 steps

Phases

Controller stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	23	300	0	0	Traffic	
	B	(untitled)	23	300	0	0	Traffic	
	C	(untitled)	20	300	0	0	Traffic	
	D	(untitled)	3	300	0	0	Pedestrian	0
	E	(untitled)	3	300	0	0	Pedestrian	0

Library Stages

Controller stream	Library stage	Phases in stage	User stage minimum (s)
1	1	A, B	1
	2	C	1
	3	E, D	1

Losing / Gaining Phase Delays

Controller stream	Delay	Type	Phase	From stage	To stage	Relative delay
1	1	Losing	D	3	1	1

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3	54, 79, 87

Intergreen Matrix for Controller Stream 1

From \ To	A	B	C	D	E
A			5	5	7
B			5	7	8
C	5	5		8	5
D	8	8	8		
E	7	7	7		

Interstage Matrix for Controller Stream 1

From \ To	1	2	3
1	0	5	7
2	5	0	8
3	7	7	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	84	54	60	1	23
	2	✓	2	C	59	79	20	1	20
	3	✓	3	E,D	85	87	2	1	2

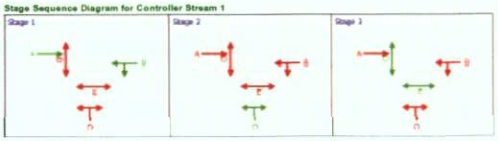
Resultant Phase Green Periods

Controller stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	84	54	60
	B	1	✓	84	54	60
	C	1	✓	59	79	20
	D	1	✓	85	88	3
	E	1	✓	84	87	3

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A1	1	4	1	A	84	54	60
B1	1	4	1	B	84	54	60
C1	1	4	1	C	59	79	20

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)
08:00-09:00	1	0.00	0.00	0.00	0.00

Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation + (%)	Practical reserve capacity	Calculated flow entering (PCU/hr)	Calculated sat flow	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	AexIt	1	0	Unrestricted	304	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	BexIt	1	0	Unrestricted	408	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	CexIt	1	0	Unrestricted	227	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	46	96	506	1800	60	11.98	7.79	259.56	23.91	3.38	27.29
	B1	1	27	236	296	1800	60	9.70	3.82	381.88	11.29	1.67	12.96
	C1	1	37	147	138	1800	20	36.54	3.36	336.29	19.89	1.31	21.20
	A2	1	28	220	506	1800	100	0.39	0.05	5.49	0.78	0.00	0.78
	B2	1	16	449	296	1800	100	0.20	0.02	9.23	0.23	0.00	0.23
	C2	1	8	1074	138	1800	100	0.08	0.00	1.04	0.05	0.00	0.05

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow	Calculated capacity	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	AexIt	1	304	304	0		Unrestricted	Unrestricted	0		Unrestricted	0.68	100
	BexIt	1	408	408	0		Unrestricted	Unrestricted	0		Unrestricted	0.64	100
	CexIt	1	227	227	0		Unrestricted	Unrestricted	0		Unrestricted	0.77	100
	A1	1	506	506	0		1800	1098	46		96	0.00	60
	B1	1	296	296	0		1800	1098	27		236	0.00	60
	C1	1	138	138	0		1800	378	37		147	0.00	20
	A2	1	506	506	0		1800	1800	28		220	0.00	100
	B2	1	296	296	0		1800	1800	16		449	0.00	100
	C2	1	138	138	0		1800	1800	8		1074	0.00	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	AexIt	1	7.64	0.00	0.00	0.00	0.00	0.00	0.00
	BexIt	1	5.74	0.00	0.00	0.00	0.00	0.00	0.00
	CexIt	1	1.15	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	2.53	11.98	1.68	23.91	53.34	269.88	3.38
	B1	1	1.23	9.70	0.80	11.29	45.25	133.48	1.67
	C1	1	1.00	36.54	1.40	19.89	86.80	119.50	1.31
	A2	1	1.28	0.39	0.05	0.78	0.00	0.00	0.00
	B2	1	1.00	0.20	0.02	0.23	0.00	0.00	0.00
	C2	1	1.00	0.08	0.00	0.05	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	AexIt	1	0.00	0.00	10.00	0.00	0.00	15.00	
	BexIt	1	0.00	0.00	8.00	0.00	0.00	16.00	
	CexIt	1	0.00	0.00	1.00	0.00	0.00	39.00	
	A1	1	0.00	7.79	3.00	259.56	0.00	0.00	
	B1	1	0.00	3.82	1.00	381.88	0.00	0.00	
	C1	1	0.00	3.36	1.00	336.29	0.00	0.00	
	A2	1	0.00	0.05	1.00	5.49	0.00	36.00	
	B2	1	0.00	0.02	0.17	9.23	0.00	36.00	
	C2	1	0.00	0.00	0.31	1.04	0.00	62.00	

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
3	26/11/2019 13:01:22	26/11/2019 13:01:22	08:00	100	62.51	3.95	46.08	A1/1	0	0	A1/1	A2/1	A1/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	46	0	2817	740	5.05	56.14	6.37	62.51

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	2817	2817	0		46		96	752

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	2.76	5.05	3.95	56.14	18.56	522.86	6.37

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	381.88	0.00	202.00

A4 - DS 2027 PM
D4 - DS2027 PM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit ove PR
4	26/11/2019 13:01:22	26/11/2019 13:01:22	17:15	100	77.54	4.97	57.41	C1/1	0	0	C1/1	A2/1	C1/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
DS 2027 PM		D4	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
DS2027 PM				17:15	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-to-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
AexIt			
BexIt			
CexIt			
A1			4
B1			4
C1			4
A2			1
B2			2
C2			3

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow sources	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
Aexit	1				63.64						Normal	
Bexit	1				47.82						Normal	
Cexit	1				9.55						Normal	
A1	1				21.08	✓	Sum of lanes	1800	✓		Normal	
B1	1				10.28	✓	Sum of lanes	1800	✓		Normal	
C1	1				7.79	✓	Sum of lanes	1800	✓		Normal	
A2	1				10.68	✓	Sum of lanes	1800			Normal	
B2	1				1.00	✓	Sum of lanes	1800			Normal	
C2	1				1.77	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR87	Saturation flow (PCU/hr)
Aexit	1	1	(untitled)			
Bexit	1	1	(untitled)			
Cexit	1	1	(untitled)			
A1	1	1	(untitled)			1800
B1	1	1	(untitled)			1800
C1	1	1	(untitled)			1800
A2	1	1	(untitled)			1800
B2	1	1	(untitled)			1800
C2	1	1	(untitled)			1800

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
Aexit	1	NetworkDefault	100	100	100		10.00		
Bexit	1	NetworkDefault	100	100	100		8.00		
Cexit	1	NetworkDefault	100	100	100		1.00		
A1	1	NetworkDefault	100	100	100		3.00		
B1	1	NetworkDefault	100	100	100		1.00		
C1	1	NetworkDefault	100	100	100		1.00		
A2	1	NetworkDefault	100	100	100		1.00		
B2	1	NetworkDefault	100	100	100		0.00		
C2	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-included	NetworkDefault	0.50	✓	100

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
Aexit	1	446	446
Bexit	1	409	409
Cexit	1	128	128
A1	1	431	431
B1	1	336	336
C1	1	217	217
A2	1	431	431
B2	1	336	336
C2	1	217	217

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A1	1	1	A	
B1	1	1	B	
C1	1	1	C	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Parallel	6.58	4.38	5.40
2	(untitled)				Parallel	5.96	3.97	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	E	
2	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

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
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

From \ To	1	2	3
1	0	348	83
2	290	0	46
3	156	61	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	(untitled)	A2/1	Aexit/1	#0000FF
	2	(untitled)	B2/1	Bexit/1	#FF0000
	3	(untitled)	C2/1	Cexit/1	#00FF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1	2	A2/1, A1/1, Bexit/1	Normal	348
	2		1	3	A2/1, A1/1, Cexit/1	Normal	83
	3		3	2	C2/1, C1/1, Bexit/1	Normal	61
	4		3	1	C2/1, C1/1, Aexit/1	Normal	156
	5		2	1	B2/1, B1/1, Aexit/1	Normal	290
	6		2	3	B2/1, B1/1, Cexit/1	Normal	46

Signal Timings

Network Default: 100s cycle time; 100 steps

Phases

Controller stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	23	300	0	0	Traffic	
	B	(untitled)	23	300	0	0	Traffic	
	C	(untitled)	20	300	0	0	Traffic	
	D	(untitled)	3	300	0	0	Pedestrian	0
	E	(untitled)	3	300	0	0	Pedestrian	0

Library Stages

Controller stream	Library stage	Phases in stage	User stage minimum (s)
1	1	A, B	1
	2	C	1
	3	D, E	1

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3	54, 79, 88

Intergreen Matrix for Controller Stream 1

From \ To	A	B	C	D	E
A			5	5	7
B			5	7	8
C	5	5		8	5
D	8	8	6		
E	7	7	7		

Interstage Matrix for Controller Stream 1

From \ To	1	2	3
1	0	5	7
2	5	0	6
3	7	7	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	95	54	59	1	23
	2	✓	2	C	59	79	20	1	20
	3	✓	3	D,E	85	88	3	1	3

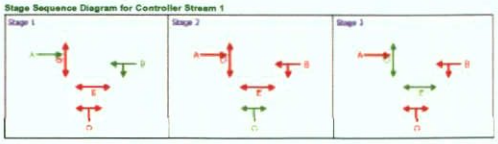
Resultant Phase Green Periods

Controller stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	95	54	59
	B	1	✓	95	54	59
	C	1	✓	59	79	20
	D	1	✓	85	88	3
	E	1	✓	84	88	4

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A1	1	4	1	A	95	54	59
B1	1	4	1	B	95	54	59
C1	1	4	1	C	59	79	20

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)
17:15-18:15	1	0.00	0.00	0.00	0.00

Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity	Calculated flow entering (PCU/hr)	Calculated sat flow	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:15-18:15	Axs8	1	0	Unrestricted	446	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	0	Unrestricted	409	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	0	Unrestricted	128	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	40	126	431	1800	59	11.63	6.36	211.93	19.77	2.79	22.56
	B1	1	31	190	335	1800	59	10.58	4.63	462.94	13.98	2.01	15.99
	C1	1	57	57	217	1800	20	41.83	5.75	574.71	35.60	2.23	38.04
	A2	1	24	276	431	1800	100	0.31	0.04	3.77	0.54	0.00	0.54
	B2	1	19	384	335	1800	100	0.23	0.02	12.23	0.30	0.00	0.30
	C2	1	12	647	217	1800	100	0.14	0.01	2.69	0.12	0.00	0.12

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow	Calculated capacity	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
17:15-18:15	Axs8	1	446	446	0		Unrestricted	Unrestricted	0		Unrestricted	0.71	100
	Bexit	1	409	409	0		Unrestricted	Unrestricted	0		Unrestricted	0.62	100
	Cexit	1	128	128	0		Unrestricted	Unrestricted	0		Unrestricted	0.79	100
	A1	1	431	431	0		1800	1080	40		126	0.00	59
	B1	1	335	335	0		1800	1080	31		190	0.00	59
	C1	1	217	217	0		1800	378	57		57	0.00	20
	A2	1	431	431	0		1800	1800	24		276	0.00	100
	B2	1	335	335	0		1800	1800	19		384	0.00	100
	C2	1	217	217	0		1800	1800	12		647	0.00	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:15-18:15	Axs8	1	7.64	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	5.74	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	1.15	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	2.53	11.63	1.39	19.77	51.54	222.13	2.79
	B1	1	1.23	10.58	0.98	13.98	47.84	160.28	2.01
	C1	1	1.00	41.83	2.52	35.80	94.12	204.24	2.23
	A2	1	1.28	0.31	0.04	0.54	0.00	0.00	0.00
	B2	1	1.00	0.23	0.02	0.30	0.00	0.00	0.00
	C2	1	1.00	0.14	0.01	0.12	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
17:15-18:15	Axs8	1	0.00	0.00	10.00	0.00	0.00	13.00	
	Bexit	1	0.00	0.00	8.00	0.00	0.00	16.00	
	Cexit	1	0.00	0.00	1.00	0.00	0.00	40.00	
	A1	1	0.00	6.36	3.00	211.93	0.00	0.00	
	B1	1	0.00	4.63	1.00	462.94	0.00	0.00	
	C1	1	0.00	5.75	1.00	574.71	0.00	0.00	
	A2	1	0.00	0.04	1.00	3.77	0.00	29.00	
	B2	1	0.00	0.02	0.17	12.23	0.00	40.00	
	C2	1	0.00	0.01	0.31	2.69	0.00	79.00	

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
4	26/11/2019 13:01:22	26/11/2019 13:01:22	17:15	100	77.64	4.97	57.41	C1/1	0	0	C1/1	A2/1	C1/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:15-18:15	57	0	2949	736	6.06	70.51	7.03	77.54

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
17:15-18:15	2949	2949	0		57		57	762

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:15-18:15	2.96	6.06	4.97	70.51	19.89	586.64	7.03

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
17:15-18:15	574.71	0.00	217.00

A5 - DS 2037 AM
D5 - DS2037 AM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
5	26/11/2019 13:01:22	26/11/2019 13:01:23	08:00	100	68.07	4.31	48.80	A1/1	0	0	A1/1	A2/1	A1/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
D5 2037 AM		D5	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
DS2037 AM				08:00	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	36	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	86

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (ms^[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	60, 60, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
Axs8			
Bexit			
Cexit			
A1			4
B1			4
C1			4
A2			1
B2			2
C2			3

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
Aexit	1				63.64						Normal	
Bexit	1				47.82						Normal	
Cexit	1				9.55						Normal	
A1	1				21.08	✓	Sum of lanes	1800	✓		Normal	
B1	1				10.28	✓	Sum of lanes	1800	✓		Normal	
C1	1				7.79	✓	Sum of lanes	1800	✓		Normal	
A2	1				10.68	✓	Sum of lanes	1800			Normal	
B2	1				1.00	✓	Sum of lanes	1800			Normal	
C2	1				1.77	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
Aexit	1	1	(untitled)			
Bexit	1	1	(untitled)			
Cexit	1	1	(untitled)			
A1	1	1	(untitled)			1800
B1	1	1	(untitled)			1800
C1	1	1	(untitled)			1800
A2	1	1	(untitled)			1800
B2	1	1	(untitled)			1800
C2	1	1	(untitled)			1800

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
Aexit	1	NetworkDefault	100	100	100		10.00		
Bexit	1	NetworkDefault	100	100	100		8.00		
Cexit	1	NetworkDefault	100	100	100		1.00		
A1	1	NetworkDefault	100	100	100		3.00		
B1	1	NetworkDefault	100	100	100		1.00		
C1	1	NetworkDefault	100	100	100		1.00		
A2	1	NetworkDefault	100	100	100		1.00		
B2	1	NetworkDefault	100	100	100		0.00		
C2	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto-cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-included	NetworkDefault	0.50	✓	100

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
Aexit	1	318	318
Bexit	1	427	427
Cexit	1	232	232
A1	1	527	527
B1	1	307	307
C1	1	143	143
A2	1	527	527
B2	1	307	307
C2	1	143	143

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A1	1	1	A	
B1	1	1	B	
C1	1	1	C	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	6.58	4.38	5.40
2	(untitled)				Farside	5.96	3.97	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
2	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

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
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

From \ To	1	2	3
1	0	366	161
2	236	0	71
3	82	61	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	(untitled)	A2/1	Aexit/1	#0000FF
	2	(untitled)	B2/1	Bexit/1	#FF0000
	3	(untitled)	C2/1	Cexit/1	#00FF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1	2	A2/1, A1/1, Bexit/1	Normal	366
	2		1	3	A2/1, A1/1, Cexit/1	Normal	161
	3		3	2	C2/1, C1/1, Bexit/1	Normal	61
	4		3	1	C2/1, C1/1, Aexit/1	Normal	82
	5		2	1	B2/1, B1/1, Aexit/1	Normal	236
	6		2	3	B2/1, B1/1, Cexit/1	Normal	71

Signal Timings

Network Default: 100s cycle time; 100 steps

Phases

Controller stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	23	300	0	0	Traffic	
	B	(untitled)	23	300	0	0	Traffic	
	C	(untitled)	20	300	0	0	Traffic	
	D	(untitled)	3	300	0	0	Pedestrian	0
	E	(untitled)	3	300	0	0	Pedestrian	0

Library Stages

Controller stream	Library stage	Phases in stage	User stage minimum (s)
1	1	A, B	1
	2	C	1
	3	D, E	1

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3	64, 79, 88

Intergreen Matrix for Controller Stream 1

From \ To	A	B	C	D	E
A			5	5	7
B			5	7	6
C	6	5		6	5
D	6	6	6		
E	7	7	7		

Interstage Matrix for Controller Stream 1

From \ To	1	2	3
1	0	9	7
2	5	0	6
3	7	7	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	95	54	59	1	23
	2	✓	2	C	59	79	20	1	20
	3	✓	3	D,E	86	88	3	1	3

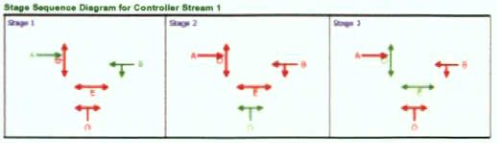
Resultant Phase Green Periods

Controller stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	95	54	59
	B	1	✓	95	54	59
	C	1	✓	59	79	20
	D	1	✓	86	88	3
	E	1	✓	84	88	4

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A1	1	4	1	A	95	54	59
B1	1	4	1	B	95	54	59
C1	1	4	1	C	59	79	20

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)
08:00-09:00	1	0.00	0.00	0.00	0.00

Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity	Calculated flow entering (PCU/hr)	Calculated sat flow	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	Aexit	1	0	Unrestricted	318	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	0	Unrestricted	427	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	0	Unrestricted	232	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	49	84	527	1800	59	12.90	8.43	280.99	26.81	3.69	30.50
	B1	1	28	217	307	1800	59	10.31	4.15	414.97	12.49	1.81	14.29
	C1	1	38	138	143	1800	20	36.79	3.49	349.10	20.76	1.36	22.11
	A2	1	29	207	527	1800	100	0.41	0.06	6.06	0.86	0.00	0.86
	B2	1	17	428	307	1800	100	0.21	0.02	10.08	0.25	0.00	0.25
	C2	1	8	1033	143	1800	100	0.09	0.00	1.11	0.05	0.00	0.05

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow	Calculated capacity	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	Aexit	1	318	318	0		Unrestricted	Unrestricted	0		Unrestricted	0.69	100
	Bexit	1	427	427	0		Unrestricted	Unrestricted	0		Unrestricted	0.65	100
	Cexit	1	232	232	0		Unrestricted	Unrestricted	0		Unrestricted	0.79	100
	A1	1	527	527	0		1800	1080	49		84	0.00	59
	B1	1	307	307	0		1800	1080	28		217	0.00	59
	C1	1	143	143	0		1800	378	38		138	0.00	20
	A2	1	527	527	0		1800	1800	29		207	0.00	100
	B2	1	307	307	0		1800	1800	17		428	0.00	100
	C2	1	143	143	0		1800	1800	8		1033	0.00	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	Aexit	1	7.64	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	5.74	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	1.15	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	2.53	12.90	1.89	26.81	55.83	294.21	3.69
	B1	1	1.23	10.31	0.88	12.49	47.00	144.29	1.81
	C1	1	1.00	36.79	1.46	20.75	86.77	124.08	1.36
	A2	1	1.28	0.41	0.06	0.86	0.00	0.00	0.00
	B2	1	1.00	0.21	0.02	0.25	0.00	0.00	0.00
	C2	1	1.00	0.09	0.00	0.05	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	Aexit	1	0.00	0.00	10.00	0.00	0.00	16.00	
	Bexit	1	0.00	0.00	8.00	0.00	0.00	16.00	
	Cexit	1	0.00	0.00	1.00	0.00	0.00	40.00	
	A1	1	0.00	8.43	3.00	280.99	0.00	0.00	
	B1	1	0.00	4.15	1.00	414.97	0.00	0.00	
	C1	1	0.00	3.49	1.00	349.10	0.00	0.00	
	A2	1	0.00	0.06	1.00	6.06	0.00	38.00	
	B2	1	0.00	0.02	0.17	10.08	0.00	37.00	
	C2	1	0.00	0.00	0.31	1.11	0.00	63.00	

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
5	26/11/2019 13:01:22	26/11/2019 13:01:23	08:00	100	68.07	4.31	48.80	A1/1	0	0	A1/1	A2/1	A1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	49	0	2931	738	5.29	61.21	6.86	68.07

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	2931	2931	0		49		84	752

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	2.77	5.29	4.31	61.21	19.19	562.58	6.86

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
08:00-09:00	414.97	0.00	210.00

A6 - DS 2037 PM
D6 - DS2037 PM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit wor ove PR
6	26/11/2019 13:01:23	26/11/2019 13:01:23	17:15	100	79.53	5.09	58.73	C1/1	0	0	C1/1	A2/1	C1/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
DS 2037 PM		D6	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
DS2037 PM				17:15	

Network Options

Network timings

Network cycle time (s)	Restrict to SCOOT cycle times	Time segment length (min)	Number of time segments	Modelled time period (min)
100		60	1	60

Signals options

Start displacement (s)	End displacement (s)
2	3

Advanced

Phase minimum broken penalty (£)	Phase maximum broken penalty (£)	Intergreen broken penalty (£)	Starting Red-with-Amber (s)
10000.00	10000.00	10000.00	2

Traffic options

Traffic model	Vehicle flow scaling factor (%)	Pedestrian flow scaling factor (%)	Cruise times or speeds
Platoon Dispersion (PDM)	100	100	Cruise Speeds

Advanced

Resolution	DOS Threshold (%)	Cruise scaling factor (%)	Use link stop weightings	Use link delay weightings	Exclude pedestrians from results calculation	Random delay mode	Type of Vehicle-in-Service	Type of random parameter	PCU Length (m)	Calculate results for Path Segments	Generate PDM Profile Data
1	90	100	✓	✓		Complex	Uniform (TRANSYT)	Uniform (TRANSYT)	5.75		✓

Normal Traffic parameters

Dispersion type	Dispersion coefficient	Travel time coefficient
Default	35	80

Normal Traffic Types

Name	PCU Factor
Normal	1.00

Bus parameters

Name	PCU Factor	Dispersion type	Acceleration (mm*[-2])	Stationary time coefficient	Cruise time coefficient
Bus	1.00	Default	0.94	30	85

Tram parameters

Name	PCU Factor	Dispersion type	Acceleration (mm*[-2])	Stationary time coefficient	Cruise time coefficient
Tram	1.00	Default	0.94	100	100

Pedestrian parameters

Dispersion type
Default

Optimisation options

Enable optimisation	Auto redistribute	Optimisation level	Enable OUT Profile accuracy
✓	✓	Offsets And Green Splits	✓

Advanced

Optimisation type	Hill climb increments	OUTProfile accuracy	Use enhanced optimisation	Auto optimisation order	Optimisation order	Master controller	Offsets relative to master controller	Master controller offset after each run
Hill Climb (Fast)	15, 40, -1, 15, 40, 1, -1, 1	50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05		✓	1			Do nothing

Economics

Vehicle Monetary Value Of Delay (£ per PCU-hr)	Vehicle Monetary Value Of Stops (£ per 100 stops)	Pedestrian monetary value of delay (£ per Ped-hr)
14.20	2.60	14.20

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
Aexit			
Bexit			
Cexit			
A1			4
B1			4
C1			4
A2			1
B2			2
C2			3

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
Aexit	1				83.64						Normal	
Bexit	1				47.82						Normal	
Cexit	1				9.55						Normal	
A1	1				21.08	✓	Sum of lanes	1800	✓		Normal	
B1	1				10.26	✓	Sum of lanes	1800	✓		Normal	
C1	1				7.79	✓	Sum of lanes	1800	✓		Normal	
A2	1				10.68	✓	Sum of lanes	1800			Normal	
B2	1				1.00	✓	Sum of lanes	1800			Normal	
C2	1				1.77	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
Aexit	1	1	(untitled)			
Bexit	1	1	(untitled)			
Cexit	1	1	(untitled)			
A1	1	1	(untitled)			1800
B1	1	1	(untitled)			1800
C1	1	1	(untitled)			1800
A2	1	1	(untitled)			1800
B2	1	1	(untitled)			1800
C2	1	1	(untitled)			1800

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
Aexit	1	NetworkDefault	100	100	100		10.00		
Bexit	1	NetworkDefault	100	100	100		8.00		
Cexit	1	NetworkDefault	100	100	100		1.00		
A1	1	NetworkDefault	100	100	100		3.00		
B1	1	NetworkDefault	100	100	100		1.00		
C1	1	NetworkDefault	100	100	100		1.00		
A2	1	NetworkDefault	100	100	100		1.00		
B2	1	NetworkDefault	100	100	100		0.00		
C2	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not included	NetworkDefault	0.50	✓	100

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
Aexit	1	463	463
Bexit	1	428	428
Cexit	1	132	132
A1	1	462	462
B1	1	349	349
C1	1	222	222
A2	1	462	462
B2	1	349	349
C2	1	222	222

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A1	1	1	A	
B1	1	1	B	
C1	1	1	C	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)				Farside	6.58	4.38	5.40
2	(untitled)				Farside	5.96	3.97	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
1	1	E	
2	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		9.00		

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
1	(untitled)	✓	✓	Path Equalisation			✓			✓	1.25		

Normal Input Flows (PCU/hr)

From \ To	1	2	3
1	0	366	86
2	303	0	46
3	160	62	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	(untitled)	A2/1	Aexit/1	#0000FF
	2	(untitled)	B2/1	Bexit/1	#FF0000
	3	(untitled)	C2/1	Cexit/1	#00FF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	1		1	2	A2/1, A1/1, Bexit/1	Normal	366
	2		1	3	A2/1, A1/1, Cexit/1	Normal	86
	3		3	2	C2/1, C1/1, Bexit/1	Normal	62
	4		3	1	C2/1, C1/1, Aexit/1	Normal	160
	5		2	1	B2/1, B1/1, Aexit/1	Normal	303
	6		2	3	B2/1, B1/1, Cexit/1	Normal	46

Signal Timings

Network Default: 100s cycle time; 100 steps

Phases

Controller stream	Phase	Name	Minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	23	300	0	0	Traffic	
	B	(untitled)	23	300	0	0	Traffic	
	C	(untitled)	20	300	0	0	Traffic	
	D	(untitled)	3	300	0	0	Pedestrian	0
	E	(untitled)	3	300	0	0	Pedestrian	0

Library Stages

Controller stream	Library stage	Phases in stage	User stage minimum (s)
1	1	A, B	1
	2	C	1
	3	E, D	1

Losing / Gaining Phase Delays

Controller stream	Delay	Type	Phase	From stage	To stage	Relative delay
1	1	Losing	D	3	1	1

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends
1	1	(untitled)	Single	1, 2, 3	54, 79, 87

Intergreen Matrix for Controller Stream 1

From \ To	A	B	C	D	E
A			5	5	7
B			5	7	6
C	5	5		6	5
D	6	6	6		
E	7	7	7		

Interstage Matrix for Controller Stream 1

From \ To	1	2	3
1	0	6	7
2	5	0	6
3	7	7	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	94	54	60	1	23
	2	✓	2	C	59	79	20	1	20
	3	✓	3	E,D	85	87	2	1	3

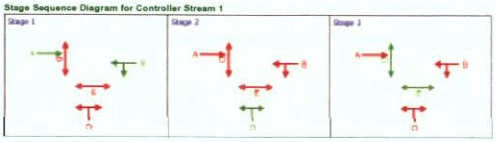
Resultant Phase Green Periods

Controller stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	94	54	60
	B	1	✓	94	54	60
	C	1	✓	59	79	20
	D	1	✓	85	88	3
	E	1	✓	84	87	3

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A1	1	4	1	A	94	54	60
B1	1	4	1	B	94	54	60
C1	1	4	1	C	59	79	20

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)
17:15-18:15	1	0.00	0.00	0.00	0.00

Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity	Calculated flow entering (PCU/hr)	Calculated sat flow	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:15-18:15	Aexit	1	0	Unrestricted	463	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	0	Unrestricted	428	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	0	Unrestricted	132	Unrestricted	100	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	41	119	462	1800	60	11.30	6.67	222.42	20.15	2.88	23.03
	B1	1	32	183	349	1800	60	10.20	4.73	472.73	14.04	2.06	16.11
	C1	1	59	53	222	1800	20	42.29	5.96	596.26	37.03	2.31	39.34
	A2	1	25	258	462	1800	100	0.34	0.04	4.21	0.60	0.00	0.60
	B2	1	19	364	349	1800	100	0.24	0.02	13.40	0.33	0.00	0.33
	C2	1	12	630	222	1800	100	0.14	0.01	2.82	0.12	0.00	0.12

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Calculated sat flow	Calculated capacity	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity	Mean modulus of error	Actual green (s (per cycle))
17:15-18:15	Aexit	1	463	463	0		Unrestricted	Unrestricted	0		Unrestricted	0.69	100
	Bexit	1	428	428	0		Unrestricted	Unrestricted	0		Unrestricted	0.60	100
	Cexit	1	132	132	0		Unrestricted	Unrestricted	0		Unrestricted	0.77	100
	A1	1	462	462	0		1800	1098	41		119	0.00	60
	B1	1	349	349	0		1800	1098	32		183	0.00	60
	C1	1	222	222	0		1800	378	59		53	0.00	20
	A2	1	462	462	0		1800	1800	25		258	0.00	100
	B2	1	349	349	0		1800	1800	19		364	0.00	100
	C2	1	222	222	0		1800	1800	12		630	0.00	100

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:15-18:15	Aexit	1	7.64	0.00	0.00	0.00	0.00	0.00	0.00
	Bexit	1	5.74	0.00	0.00	0.00	0.00	0.00	0.00
	Cexit	1	1.15	0.00	0.00	0.00	0.00	0.00	0.00
	A1	1	2.53	11.30	1.42	20.15	50.88	229.96	2.88
	B1	1	1.23	10.20	0.99	14.04	47.17	164.64	2.06
	C1	1	1.00	42.29	2.61	37.03	94.94	210.76	2.31
	A2	1	1.28	0.34	0.04	0.60	0.00	0.00	0.00
	B2	1	1.00	0.24	0.02	0.33	0.00	0.00	0.00
	C2	1	1.00	0.14	0.01	0.12	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (PCU)	Mean max queue (PCU)	Max queue storage (PCU)	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))	Estimated blocking
17:15-18:15	Aexit	1	0.00	0.00	10.00	0.00	0.00	12.00	
	Bexit	1	0.00	0.00	8.00	0.00	0.00	15.00	
	Cexit	1	0.00	0.00	1.00	0.00	0.00	39.00	
	A1	1	0.00	6.67	3.00	222.42	0.00	0.00	
	B1	1	0.00	4.73	1.00	472.73	0.00	0.00	
	C1	1	0.00	5.96	1.00	596.26	0.00	0.00	
	A2	1	0.00	0.04	1.00	4.21	0.00	30.00	
	B2	1	0.00	0.02	0.17	13.40	0.00	39.00	
	C2	1	0.00	0.01	0.31	2.82	0.00	81.00	

Generated on 26/11/2019 13:02:55 using TRANSYT 15 (15.5.2.7994)

Network Results

Run Summary

Analysis set used	Run start time	Run finish time	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	Ite wit ove PR
6	26/11/2019 13:01:23	26/11/2019 13:01:23	17:15	100	79.53	5.09	58.73	C1/1	0	0	C1/1	A2/1	C1/

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:15-18:15	59	0	3069	740	5.97	72.28	7.25	79.53

Network Results: Flows and signals

Time Segment	Calculated flow entering (PCU/hr)	Calculated flow out (PCU/hr)	Flow discrepancy (PCU/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
17:15-18:15	3069	3069	0		59		53	752

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Total delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Total stops (Stops per hr)	Weighted cost of stops (£ per hr)
17:15-18:15	2.96	5.97	5.09	72.28	19.73	605.36	7.25

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time total (s (per cycle))
17:15-18:15	596.26	0.00	216.00