Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Uniform stops (Stops per hr)	Random stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	A	1	7.19	40.09	1.97	0.11	29.57	80.74	147.89	3.10	1.89
		2	7.02	74.72	5.70	3.68	133.23	116.23	428.88	96.47	6.59
	Ax	1	17.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	1.80	93.23	4.84	4.10	126.87	126.82	332.94	104.60	5.49
		2	1.80	45.67	1.38	0.07	20.54	84.55	94.55	1.84	1.21
	Bx	1	15.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	3.00	72.11	4.58	1.89	91.87	110.46	306.53	50.26	4.47
	Cx	1	17.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	8.33	68.34	4.13	1.62	81.67	107.91	283.67	43.29	4.10
		2	8.01	47.07	1.71	0.11	25.81	86.64	117.41	3.02	1.51
		3	8.27	41.96	0.35	0.00	4.97	79.41	23.73	0.10	0.30
	Dx	1	18.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	5.88	0.36	0.00	0.05	0.66	0.00	0.00	0.00	0.00
	10	1	4.05	0.55	0.00	0.10	1.39	0.00	0.00	0.00	0.00
	11	1	4.47	0.34	0.00	0.04	0.62	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (Veh)	Mean max queue (Veh)	Max queue storage (Veh)	Utilised storage (%)	Average storage excess queue (Veh)	Average limit excess queue (Veh)	Excess queue penalty (£ per hr)	Wasted time starvation (s (per cycle))	Wasted time blocking back (s (per cycle))	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	A	1	0.00	5.51	10.42	52.92	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	19.38	10.17	190.54	2.63	0.00	0.00	0.00	0.00	0.00	
	Ax	1	0.00	0.00	24.74	0.00	0.00	0.00	0.00	32.00	0.00	32.00	
	B	1	0.00	16.27	2.61	623.57	7.48	0.00	0.00	0.00	0.00	0.00	
		2	0.00	3.52	2.61	134.87	0.10	0.00	0.00	0.00	0.00	0.00	
	Bx	1	0.00	0.00	22.74	0.00	0.00	0.00	0.00	30.00	0.00	30.00	
	C	1	0.00	13.10	4.35	301.41	3.32	0.00	0.00	0.00	0.00	0.00	
	Cx	1	0.00	0.00	25.10	0.00	0.00	0.00	0.00	40.00	0.00	40.00	
	D	1	0.00	11.97	12.07	99.22	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	4.40	11.61	37.87	0.00	0.00	0.00	0.00	0.00	0.00	
		3	0.00	0.87	11.98	7.26	0.00	0.00	0.00	25.00	0.00	25.00	
	Dx	1	0.00	0.00	27.12	0.00	0.00	0.00	0.00	34.00	0.00	34.00	
	9	1	0.00	0.05	8.52	0.55	0.00	0.00	0.00	0.00	0.00	0.00	
	10	1	0.00	0.10	5.87	1.66	0.00	0.00	0.00	0.00	74.00	74.00	
	11	1	0.00	0.04	6.47	0.67	0.00	0.00	0.00	0.00	130.00	130.00	

Traffic Stream Results: Journey times

Time Segment	Arm	Traffic Stream	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	JourneyTime (s)
08:00-09:00	A	1	11.21	2.46	4.56	47.28
		2	26.43	10.26	2.58	81.74
	Ax	1	86.50	2.88	30.00	17.07
	B	1	5.18	9.11	0.57	95.03
		2	1.71	1.50	1.14	47.47
	Bx	1	57.54	1.92	30.00	15.69
	C	1	8.08	6.74	1.20	75.11
	Cx	1	90.64	3.02	30.00	17.32
	D	1	21.03	6.45	3.26	76.66
		2	9.28	2.13	4.36	55.08
		3	2.07	0.42	4.94	50.23
	Dx	1	33.84	1.13	30.00	18.72
	9	1	23.13	0.82	28.29	6.24
	10	1	21.57	0.82	26.41	4.60
	11	1	17.09	0.61	27.87	4.81

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (Veh)	Mean End of Green Queue EoTS (Veh)	Mean End of Red Queue EoTS (Veh)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	A	1	0.00	0.00	✓	5.51	0.11	5.00	1.00	0.00	31.46
		2	0.00	0.00	✓	19.69	3.99	15.79	1.00	0.00	139.81
	Ax	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	B	1	0.00	0.00	✓	16.80	4.63	14.50	1.00	0.00	132.35
		2	0.00	0.00	✓	3.52	0.07	3.33	1.00	0.00	21.75
	Bx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	C	1	0.00	0.00	✓	13.18	1.96	11.47	1.00	0.00	96.35
	Cx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	D	1	0.00	0.00	✓	12.03	1.67	10.34	1.00	0.00	85.77
		2	0.00	0.00	✓	4.40	0.11	4.09	1.00	0.00	27.32
		3	0.00	0.00	✓	0.87	0.00	0.86	1.00	0.00	5.26
	Dx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	9	1	0.00	0.00	✓	0.05			1.00	0.00	0.66
	10	1	0.00	0.00	✓	0.10			1.00	0.00	1.39
	11	1	0.00	0.00	✓	0.04			1.00	0.00	0.62

Network Results

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 (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item w wors unsignal PRC
1	06/09/2022 14:48:00	06/09/2022 14:48:01	1.70	08:00	130	542.74	36.42	92.28	B/1	2	13	B/1	10/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/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	92	-2	5356	1133	24.48	517.18	25.56	542.74

Network Results: Flows and signals

Time Segment	Calculated flow entering (Veh/hr)	Calculated flow out (Veh/hr)	Flow discrepancy (Veh/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	5356	5356	0		92	✓	-2	1133

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Uniform stops (Stops per hr)	Random stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	9.30	24.48	24.65	11.77	517.18	38.06	1735.57	302.67	25.56

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time starvation (s (per cycle))	Wasted time blocking back (s (per cycle))	Wasted time total (s (per cycle))
08:00-09:00	623.57	0.00	161.00	204.00	365.00

Network Results: Journey times

Time Segment	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)
08:00-09:00	415.29	50.26	8.26

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	542.74

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	93.8	92.2	90.8
	2	73.8	0.0	100.0	77.0
	3	103.7	105.1	0.0	67.6
	4	117.2	118.6	69.4	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (Veh/hr)	Normal journey time (s)	Normal journey dist (m)	Bus journeydist (m)	Tram journey dist (m)	Pedestrian journey dist (m)	Calculated Total Flow (Veh/hr)	Avg journey time (s)	Avg journey dist (m)
1	1	2	18	93.83	180.96	0.00	0.00	0.00	18	93.83	180.96
2	1	3	191	92.18	167.28	0.00	0.00	0.00	191	92.18	167.28
3	1	4	114	90.80	155.77	0.00	0.00	0.00	114	90.80	155.77
12	4	1	236	117.16	196.56	0.00	0.00	0.00	236	117.16	196.56
13	3	1	362	103.66	236.58	0.00	0.00	0.00	362	103.66	236.58
14	2	3	303	99.97	260.68	0.00	0.00	0.00	303	99.97	260.68
17	3	4	187	67.57	224.46	0.00	0.00	0.00	187	67.57	224.46
19	4	2	109	118.55	208.19	0.00	0.00	0.00	109	118.55	208.19
20	3	2	90	105.06	248.21	0.00	0.00	0.00	90	105.06	248.21
21	2	4	139	77.00	246.52	0.00	0.00	0.00	139	77.00	246.52
22	2	1	30	73.78	262.25	0.00	0.00	0.00	30	73.78	262.25
23	4	3	114	69.35	194.51	0.00	0.00	0.00	114	69.35	194.51

Final Prediction Table

Traffic Stream Results

				SIGNALS			FLOWS		PERFORMANCE				PER PCU			Q
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Second phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (%)	
A	1	(untitled)	1	1	C		187	1800	35	0.00	38	140	47.28	40.09	80.74	
	2	(untitled)	1	1	C		452 <	1800	35	0.00	91	-1	81.74	74.72	116.23	
Ax	1	(untitled)					608	Unrestricted	130	32.00	0	Unrestricted	17.07	0.00	0.00	
B	1	(untitled)	1	1	D	E	345 <	1800	26	0.00	92	-2	95.03	93.23	126.82	
	2	(untitled)	1	1	D		114 <	1800	26	0.00	30	195	47.47	45.67	84.55	
Bx	1	(untitled)					440	Unrestricted	130	30.00	0	Unrestricted	15.69	0.00	0.00	
C	1	(untitled)	1	1	B		323 <	2105	23	0.00	83	8	75.11	72.11	110.46	
Cx	1	(untitled)					628	Unrestricted	130	40.00	0	Unrestricted	17.32	0.00	0.00	
D	1	(untitled)	1	1	A	E	303	1800	26	0.00	81	11	76.66	68.34	107.91	
	2	(untitled)	1	1	A	E	139	1800	26	0.00	37	142	55.08	47.07	86.64	
	3	(untitled)	1	1	A		30	1800	26	25.00	8	1022	50.23	41.96	79.41	
Dx	1	(untitled)					217	Unrestricted	130	34.00	0	Unrestricted	18.72	0.00	0.00	
9	1		1				472	1800	130	0.00	26	243	6.24	0.36	0.00	
10	1		1				639	1800	130	74.00	36	154	4.60	0.55	0.00	
11	1		1				459	1800	130	130.00	26	253	4.81	0.34	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	415.29	50.26	8.26	24.65	11.77	517.18	25.56	0.00	542.74
Bus									
Tram									
Pedestrians									
TOTAL	415.29	50.26	8.26	24.65	11.77	517.18	25.56	0.00	542.74

- *< = 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***

A2 - Scenario 2024 - Construction Phase (AM)
D2 - Scenario 2024 - Construction Phase (AM),

Summary

Data Errors and Warnings

No errors or warnings

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 (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item w wors unsignal PRC
2	06/09/2022 14:48:01	06/09/2022 14:48:03	2.38	08:00	130	886.35	60.02	106.21	C/1	2	13	C/1	10/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
Scenario 2024 - Construction Phase (AM)			✓	D2		✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
Scenario 2024 - Construction Phase (AM)					08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	L3120 Kilshane Road (East)		1
Ax	(untitled)		
B	R135 (South)		1
Bx	(untitled)		
C	L3120 Kilshane Road (West)		1
Cx	(untitled)		
D	R135 (North)		1
Dx	(untitled)		
9			1
10			1
11			1

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
A	1	(untitled)		✓	59.92	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)		✓	58.48	✓	Sum of lanes	1800	✓		Normal	
Ax	1	(untitled)		✓	142.28						Normal	
B	1	(untitled)			15.00	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)			15.00	✓	Sum of lanes	1800	✓	✓	Normal	
Bx	1	(untitled)		✓	130.77						Normal	
C	1	(untitled)			25.00	✓	Sum of lanes	2103	✓		Normal	
Cx	1	(untitled)		✓	144.33						Normal	
D	1	(untitled)		✓	69.40	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)		✓	66.73	✓	Sum of lanes	1800	✓		Normal	
	3	(untitled)		✓	68.90	✓	Sum of lanes	1800	✓		Normal	
Dx	1	(untitled)		✓	155.96						Normal	
9	1			✓	49.01	✓	Sum of lanes	1800			Normal	
10	1			✓	33.76	✓	Sum of lanes	1800			Normal	
11	1			✓	37.23	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	2	(untitled)											1800
	2	1	(untitled)											1800
Ax	1	1	(untitled)											
B	1	2	(untitled)											1800
	2	1	(untitled)											1800
Bx	1	1	(untitled)											
C	1	1	(untitled)		✓	N/A	N/A	-2	4.00	✓	43	25.85		2103
Cx	1	1	(untitled)											
D	1	3	(untitled)											1800
	2	1	(untitled)											1800
	3	2	(untitled)											1800
Dx	1	1	(untitled)											
9	1	1	(untitled)											1800
10	1	1	(untitled)											1800
11	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
(ALL)	(ALL)	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)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

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

Normal traffic - Advanced

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

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	184	184
	2	465	465
Ax	1	737	737
B	1	322	322
	2	108	108
Bx	1	537	537
C	1	567	567
Cx	1	497	497
D	1	307	307
	2	136	136
	3	32	32
Dx	1	350	350
9	1	475	475
10	1	649	649
11	1	430	430

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled	Second phase
A	1	1	C		
	2	1	C		
B	1	1	D	✓	E
	2	1	D		
C	1	1	B		
D	1	1	A	✓	E
	2	1	A	✓	E
	3	1	A		

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
C	1	3.00	30.00
9	1	5.88	30.00
10	1	4.05	30.00
11	1	4.47	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
A	1	1	10/1	A/1	7.19	30.00	✓	Straight	Straight Movement
	2	1	10/1	A/2	7.02	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	17.07	30.00	✓	Straight	Straight Movement
B	1	1	11/1	B/1	1.80	30.00	✓	Offside	98.84
	2	1	11/1	B/2	1.80	30.00	✓	Offside	96.11
Bx	1	1	A/1	Bx/1	15.69	30.00	✓	Nearside	23.54
Cx	1	1	B/1	Cx/1	17.32	30.00	✓	Nearside	33.73
D	1	1	9/1	D/1	8.33	30.00	✓	Straight	Straight Movement
	2	1	9/1	D/2	8.01	30.00	✓	Straight	Straight Movement
	3	1	9/1	D/3	8.27	30.00	✓	Straight	Straight Movement
Dx	1	1	C/1	Dx/1	18.72	30.00	✓	Nearside	25.85
Ax	1	2	D/1	Ax/1	17.07	30.00	✓	Nearside	51.65
Bx	1	2	C/1	Bx/1	15.69	30.00	✓	Offside	43.33
Cx	1	2	A/2	Cx/1	17.32	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	18.72	30.00	✓	Straight	Straight Movement
Ax	1	3	B/2	Ax/1	17.07	30.00	✓	Offside	42.21
Bx	1	3	D/2	Bx/1	15.69	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	17.32	30.00	✓	Offside	35.26
Dx	1	3	A/2	Dx/1	18.72	30.00	✓	Offside	74.12

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Visibility restricted
B	2	AllTraffic		

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		1	NetworkDefault	130	76

Controller Stream 1 - Properties

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

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	A	(untitled)	7	300	0	0	Traffic
	B	(untitled)	23	300	0	0	Traffic
	C	(untitled)	7	300	0	0	Traffic
	D	(untitled)	7	300	0	0	Traffic
	E	(untitled)	7	300	0	0	Unknown

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A	1	0	0
	2	B	1	0	0
	3	C	1	0	0
	4	D	1	0	0
	5	E	1	0	0

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, 3, 4, 5	22, 59, 97, 113, 10	76	
	2	(untitled)	Single	1, 2, 3, 5, 4	23, 51, 79, 102, 125	76	
	3	(untitled)	Single	1, 2, 4, 3, 5	23, 51, 79, 107, 0	76	
	4	(untitled)	Single	1, 2, 4, 5, 3	23, 51, 79, 102, 125	76	
	5	(untitled)	Single	1, 2, 5, 3, 4	23, 51, 74, 97, 125	76	
	6	(untitled)	Single	1, 2, 5, 4, 3	23, 51, 74, 97, 125	76	
	7	(untitled)	Single	1, 3, 2, 4, 5	23, 51, 79, 107, 0	76	
	8	(untitled)	Single	1, 3, 2, 5, 4	23, 51, 79, 102, 125	76	
	9	(untitled)	Single	1, 3, 4, 2, 5	23, 51, 79, 107, 0	76	
	10	(untitled)	Single	1, 3, 4, 5, 2	23, 51, 79, 102, 125	76	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		5	5	5	5
	B	5		5	5	5
	C	5	5		5	5
	D	5	5	5		5
	E	5	5	5	5	

Banned Stage transitions for Controller Stream 1

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

Interstage Matrix for Controller Stream 1

		To				
		1	2	3	4	5
From	1	0	5	5	5	5
	2	5	0	5	5	5
	3	5	5	0	5	5
	4	5	5	5	0	5
	5	5	5	5	5	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	15	22	7	1	7
	2	✓	2	B	27	59	32	1	23
	3	✓	3	C	64	97	33	1	7
	4	✓	4	D	102	113	11	1	7
	5	✓	5	E	118	10	22	1	7

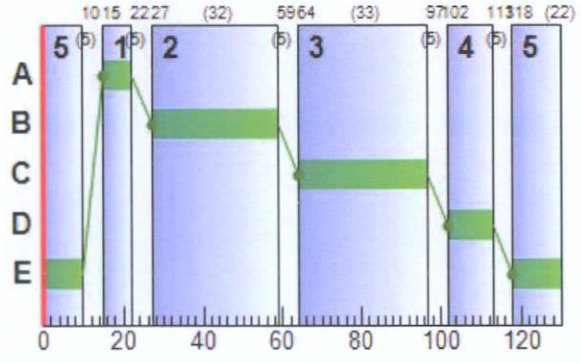
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	15	22	7
	B	1	✓	27	59	32
	C	1	✓	64	97	33
	D	1	✓	102	113	11
	E	1	✓	118	10	22

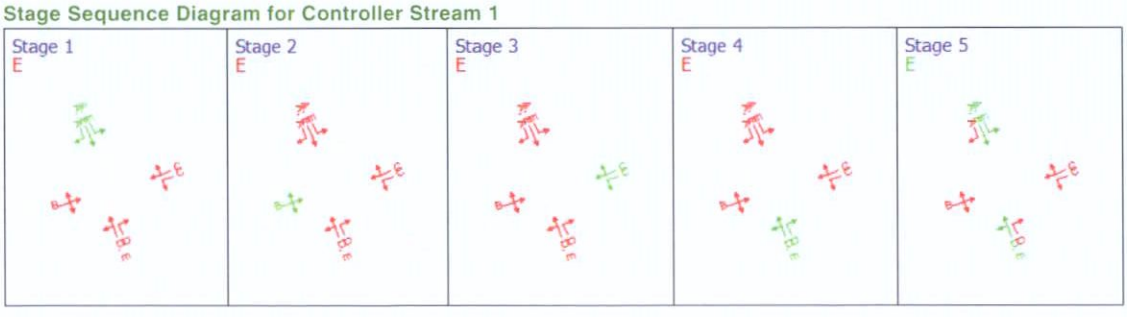
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	64	97	33
A	2	1	1	C	64	97	33
B	1	1	1	D	102	113	11
B	2	1	1	D	102	113	11
C	1	1	1	B	27	59	32
D	1	1	1	A	15	22	7
D	2	1	1	A	15	22	7
D	3	1	1	A	15	22	7

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)
08:00-09:00	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 (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (Veh)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	A	1	39	130	184	1800	33	41.93	5.54	53.19	30.43	1.90	32.33
		2	99	-9	465	1800	33	117.17	25.62	251.94	214.91	8.44	223.35
	Ax	1	0	Unrestricted	718	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	66	35	322	1800	33	47.45	10.93	419.12	60.27	3.75	64.02
		2	65	38	108	1800	11	76.29	4.33	165.95	32.50	1.48	33.98
	Bx	1	0	Unrestricted	524	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	106	-15	567	2103	32	187.31	41.44	953.08	418.91	12.67	431.58
	Cx	1	0	Unrestricted	497	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	72	26	307	1800	29	52.20	10.60	87.81	63.21	4.01	67.21
		2	32	184	136	1800	29	39.57	3.93	33.83	21.23	1.41	22.64
		3	29	212	32	1800	7	64.86	1.16	9.68	8.19	0.40	8.59
	Dx	1	0	Unrestricted	348	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	26	241	475	1800	130	0.36	0.05	0.55	0.67	0.00	0.67
	10	1	36	150	649	1800	130	0.56	0.10	1.73	1.44	0.00	1.44
	11	1	24	277	430	1800	130	0.31	0.04	0.58	0.53	0.00	0.53

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (Veh/hr)	Calculated flow out (Veh/hr)	Flow discrepancy (Veh/hr)	Adjusted flow warning	Calculated sat flow (Veh/hr)	Calculated capacity (Veh/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	A	1	184	184	0		1800	471	39		130	0.00	33
		2	465	465	0		1800	471	99	✓	-9	0.00	33
	Ax	1	718	718	19	✓	Unrestricted	Unrestricted	0		Unrestricted	0.67	130
	B	1	322	322	0		1800	485	66		35	0.00	33
		2	108	108	0		1800	166	65		38	0.00	11
	Bx	1	524	524	13	✓	Unrestricted	Unrestricted	0		Unrestricted	0.68	130
	C	1	567	534	0		2103	534	106	✓	-15	0.00	32
	Cx	1	497	497	0		Unrestricted	Unrestricted	0		Unrestricted	0.86	130
	D	1	307	307	0		1800	429	72		26	0.00	29
		2	136	136	0		1800	429	32		184	0.00	29
		3	32	32	0		1800	111	29		212	0.00	7
	Dx	1	348	348	2	✓	Unrestricted	Unrestricted	0		Unrestricted	0.70	130
	9	1	475	475	0		1800	1800	26		241	0.00	130
	10	1	649	649	0		1800	1800	36		150	0.00	130
	11	1	430	430	0		1800	1800	24		277	0.00	130

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Uniform stops (Stops per hr)	Random stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	A	1	7.19	41.93	2.02	0.12	30.43	82.50	148.35	3.44	1.90
		2	7.02	117.17	6.17	8.96	214.91	144.74	455.26	217.80	8.44
	Ax	1	17.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	1.80	47.45	3.60	0.65	60.27	92.90	281.47	17.68	3.75
		2	1.80	76.29	1.71	0.58	32.50	109.55	102.86	15.46	1.48
	Bx	1	15.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	3.00	187.31	7.19	22.31	418.91	189.21	533.78	476.32	12.67
	Cx	1	17.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	8.33	52.20	3.58	0.88	63.21	104.05	272.83	46.62	4.01
		2	8.01	39.57	1.42	0.07	21.23	82.78	108.56	4.03	1.41
		3	8.27	64.86	0.52	0.06	8.19	99.45	30.23	1.59	0.40
	Dx	1	18.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	5.88	0.36	0.00	0.05	0.67	0.00	0.00	0.00	0.00
	10	1	4.05	0.56	0.00	0.10	1.44	0.00	0.00	0.00	0.00
	11	1	4.47	0.31	0.00	0.04	0.53	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (Veh)	Mean max queue (Veh)	Max queue storage (Veh)	Utilised storage (%)	Average storage excess queue (Veh)	Average limit excess queue (Veh)	Excess queue penalty (£ per hr)	Wasted time starvation (s (per cycle))	Wasted time blocking back (s (per cycle))	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	A	1	0.00	5.54	10.42	53.19	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	25.62	10.17	251.94	7.17	0.00	0.00	0.00	0.00	0.00	
	Ax	1	0.00	0.00	24.74	0.00	0.00	0.00	0.00	27.00	0.00	27.00	
	B	1	0.00	10.93	2.61	419.12	3.01	0.00	0.00	0.00	0.00	0.00	
		2	0.00	4.33	2.61	165.95	0.39	0.00	0.00	0.00	0.00	0.00	
	Bx	1	0.00	0.00	22.74	0.00	0.00	0.00	0.00	15.00	0.00	15.00	
	C	1	0.00	41.44	4.35	953.08	27.53	0.00	0.00	0.00	0.00	0.00	
	Cx	1	0.00	0.00	25.10	0.00	0.00	0.00	0.00	35.00	0.00	35.00	
	D	1	0.00	10.60	12.07	87.81	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	3.93	11.61	33.83	0.00	0.00	0.00	0.00	0.00	0.00	
		3	0.00	1.16	11.98	9.68	0.00	0.00	0.00	5.00	0.00	5.00	
	Dx	1	0.00	0.00	27.12	0.00	0.00	0.00	0.00	11.00	0.00	11.00	
	9	1	0.00	0.05	8.52	0.55	0.00	0.00	0.00	0.00	0.00	0.00	
	10	1	0.00	0.10	5.87	1.73	0.00	0.00	0.00	0.00	120.00	120.00	
	11	1	0.00	0.04	6.47	0.58	0.00	0.00	0.00	0.00	94.00	94.00	

Traffic Stream Results: Journey times

Time Segment	Arm	Traffic Stream	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	JourneyTime (s)
08:00-09:00	A	1	11.03	2.51	4.39	49.12
		2	27.19	16.04	1.70	124.19
	Ax	1	102.18	3.41	30.00	17.07
	B	1	4.83	4.41	1.10	49.25
		2	1.62	2.34	0.69	78.09
	Bx	1	68.57	2.29	30.00	15.69
	C	1	14.18	29.97	0.47	190.31
	Cx	1	71.73	2.39	30.00	17.32
	D	1	21.30	5.16	4.13	60.52
		2	9.08	1.80	5.05	47.58
		3	2.20	0.65	3.39	73.13
	Dx	1	54.33	1.81	30.00	18.72
	9	1	23.28	0.82	28.28	6.24
	10	1	21.91	0.83	26.34	4.61
	11	1	16.01	0.57	28.03	4.78

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (Veh)	Mean End of Green Queue EoTS (Veh)	Mean End of Red Queue EoTS (Veh)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	A	1	0.00	0.00	✓	5.54	0.13	5.03	1.00	0.00	32.33
		2	0.00	0.00	✓	28.82	12.15	24.55	1.00	0.00	223.35
	Ax	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	B	1	0.00	0.00	✓	10.94	3.87	8.79	1.00	0.00	64.02
		2	0.00	0.00	✓	4.34	0.59	4.13	1.00	0.00	33.98
	Bx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	C	1	0.00	0.00	✓	58.85	39.72	54.10	1.00	0.00	431.58
	Cx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	D	1	0.00	0.00	✓	10.61	0.89	8.99	1.00	0.00	67.21
		2	0.00	0.00	✓	3.93	0.07	3.66	1.00	0.00	22.64
		3	0.00	0.00	✓	1.16	0.06	1.14	1.00	0.00	8.59
	Dx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	9	1	0.00	0.00	✓	0.05			1.00	0.00	0.67
	10	1	0.00	0.00	✓	0.10			1.00	0.00	1.44
	11	1	0.00	0.00	✓	0.04			1.00	0.00	0.53

Network Results

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 (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item w wors unsignal PRC
2	06/09/2022 14:48:01	06/09/2022 14:48:03	2.38	08:00	130	886.35	60.02	106.21	C/1	2	13	C/1	10/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/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	106	-15	5763	1117	37.49	852.29	34.06	886.35

Network Results: Flows and signals

Time Segment	Calculated flow entering (Veh/hr)	Calculated flow out (Veh/hr)	Flow discrepancy (Veh/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	5763	5730	33	✓	106	✓	-15	1117

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Uniform stops (Stops per hr)	Random stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	9.36	37.49	26.21	33.81	852.29	48.22	1933.33	782.94	34.06

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time starvation (s (per cycle))	Wasted time blocking back (s (per cycle))	Wasted time total (s (per cycle))
08:00-09:00	953.08	0.00	93.00	214.00	307.00

Network Results: Journey times

Time Segment	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)
08:00-09:00	449.44	75.00	5.99

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	886.35

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	209.0	207.4	206.0
	2	96.7	0.0	83.8	69.5
	3	146.1	147.5	0.0	69.4
	4	71.4	72.7	99.9	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (Veh/hr)	Normal journey time (s)	Normal journey dist (m)	Bus journeydist (m)	Tram journey dist (m)	Pedestrian journey dist (m)	Calculated Total Flow (Veh/hr)	Avg journey time (s)	Avg journey dist (m)
1	1	2	28	209.02	180.96	0.00	0.00	0.00	28	209.02	180.96
2	1	3	322	207.38	167.28	0.00	0.00	0.00	322	207.38	167.28
3	1	4	217	206.00	155.77	0.00	0.00	0.00	217	206.00	155.77
12	4	1	90	71.35	196.56	0.00	0.00	0.00	90	71.35	196.56
13	3	1	375	146.12	236.58	0.00	0.00	0.00	375	146.12	236.58
14	2	3	307	83.84	260.68	0.00	0.00	0.00	307	83.84	260.68
17	3	4	184	69.43	224.46	0.00	0.00	0.00	184	69.43	224.46
19	4	2	232	72.75	208.19	0.00	0.00	0.00	232	72.75	208.19
20	3	2	90	147.52	248.21	0.00	0.00	0.00	90	147.52	248.21
21	2	4	136	69.51	246.52	0.00	0.00	0.00	136	69.51	246.52
22	2	1	32	96.69	262.25	0.00	0.00	0.00	32	96.69	262.25
23	4	3	108	99.95	194.51	0.00	0.00	0.00	108	99.95	194.51

Final Prediction Table

Traffic Stream Results

				SIGNALS			FLOWS		PERFORMANCE				PER PCU		
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Second phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (%)
A	1	(untitled)	1	1	C		184	1800	33	0.00	39	130	49.12	41.93	82.50
	2	(untitled)	1	1	C		465 <	1800	33	0.00	99	-9	124.19	117.17	144.74
Ax	1	(untitled)					718	Unrestricted	130	27.00	0	Unrestricted	17.07	0.00	0.00
B	1	(untitled)	1	1	D	E	322 <	1800	33	0.00	66	35	49.25	47.45	92.90
	2	(untitled)	1	1	D		108 <	1800	11	0.00	65	38	78.09	76.29	109.55
Bx	1	(untitled)					524	Unrestricted	130	15.00	0	Unrestricted	15.69	0.00	0.00
C	1	(untitled)	1	1	B		567 <	2103	32	0.00	106	-15	190.31	187.31	189.21
Cx	1	(untitled)					497	Unrestricted	130	35.00	0	Unrestricted	17.32	0.00	0.00
D	1	(untitled)	1	1	A	E	307	1800	29	0.00	72	26	60.52	52.20	104.05
	2	(untitled)	1	1	A	E	136	1800	29	0.00	32	184	47.58	39.57	82.78
	3	(untitled)	1	1	A		32	1800	7	5.00	29	212	73.13	64.86	99.45
Dx	1	(untitled)					348	Unrestricted	130	11.00	0	Unrestricted	18.72	0.00	0.00
9	1		1				475	1800	130	0.00	26	241	6.24	0.36	0.00
10	1		1				649	1800	130	120.00	36	150	4.61	0.56	0.00
11	1		1				430	1800	130	94.00	24	277	4.78	0.31	0.00

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	449.44	75.00	5.99	26.21	33.81	852.29	34.06	0.00	886.35
Bus									
Tram									
Pedestrians									
TOTAL	449.44	75.00	5.99	26.21	33.81	852.29	34.06	0.00	886.35

- *< = 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***

A3 - Do Nothing 2040
D3 - Do Nothing 2040,

Summary

Data Errors and Warnings

No errors or warnings

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 (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item w wors unsignal PRC
3	06/09/2022 14:48:08	06/09/2022 14:48:10	2.43	08:00	130	577.27	38.62	94.18	C/1	2	13	C/1	10/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set (s)	Specific Demand Set (s)	Optimise specific Demand Set (s)	Include in report	Locked
Do Nothing 2040			✓	D3		✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
Do Nothing 2040					08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	L3120 Kilshane Road (East)		1
Ax	(untitled)		
B	R135 (South)		1
Bx	(untitled)		
C	L3120 Kilshane Road (West)		1
Cx	(untitled)		
D	R135 (North)		1
Dx	(untitled)		
9			1
10			1
11			1

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
A	1	(untitled)		✓	59.92	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)		✓	58.48	✓	Sum of lanes	1800	✓		Normal	
Ax	1	(untitled)		✓	142.28						Normal	
B	1	(untitled)			15.00	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)			15.00	✓	Sum of lanes	1800	✓	✓	Normal	
Bx	1	(untitled)		✓	130.77						Normal	
C	1	(untitled)			25.00	✓	Sum of lanes	2105	✓		Normal	
Cx	1	(untitled)		✓	144.33						Normal	
D	1	(untitled)		✓	69.40	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)		✓	66.73	✓	Sum of lanes	1800	✓		Normal	
	3	(untitled)		✓	68.90	✓	Sum of lanes	1800	✓		Normal	
Dx	1	(untitled)		✓	155.96						Normal	
9	1			✓	49.01	✓	Sum of lanes	1800			Normal	
10	1			✓	33.76	✓	Sum of lanes	1800			Normal	
11	1			✓	37.23	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	2	(untitled)											1800
	2	1	(untitled)											1800
Ax	1	1	(untitled)											
B	1	2	(untitled)											1800
	2	1	(untitled)											1800
Bx	1	1	(untitled)											
C	1	1	(untitled)		✓	N/A	N/A	-2	4.00	✓	41	25.85		2105
Cx	1	1	(untitled)											
D	1	3	(untitled)											1800
	2	1	(untitled)											1800
	3	2	(untitled)											1800
Dx	1	1	(untitled)											
9	1	1	(untitled)											1800
10	1	1	(untitled)											1800
11	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
(ALL)	(ALL)	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)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

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

Normal traffic - Advanced

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

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	213	213
	2	513	513
Ax	1	689	689
B	1	392	392
	2	129	129
Bx	1	499	499
C	1	366	366
Cx	1	713	713
D	1	344	344
	2	157	157
	3	34	34
Dx	1	247	247
9	1	535	535
10	1	726	726
11	1	521	521

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled	Second phase
A	1	1	C		
	2	1	C		
B	1	1	D	✓	E
	2	1	D		
C	1	1	B		
D	1	1	A	✓	E
	2	1	A	✓	E
	3	1	A		

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
C	1	3.00	30.00
9	1	5.88	30.00
10	1	4.05	30.00
11	1	4.47	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
A	1	1	10/1	A/1	7.19	30.00	✓	Straight	Straight Movement
	2	1	10/1	A/2	7.02	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	17.07	30.00	✓	Straight	Straight Movement
B	1	1	11/1	B/1	1.80	30.00	✓	Offside	98.84
	2	1	11/1	B/2	1.80	30.00	✓	Offside	96.11
Bx	1	1	A/1	Bx/1	15.69	30.00	✓	Nearside	23.54
Cx	1	1	B/1	Cx/1	17.32	30.00	✓	Nearside	33.73
D	1	1	9/1	D/1	8.33	30.00	✓	Straight	Straight Movement
	2	1	9/1	D/2	8.01	30.00	✓	Straight	Straight Movement
	3	1	9/1	D/3	8.27	30.00	✓	Straight	Straight Movement
Dx	1	1	C/1	Dx/1	18.72	30.00	✓	Nearside	25.85
Ax	1	2	D/1	Ax/1	17.07	30.00	✓	Nearside	51.65
Bx	1	2	C/1	Bx/1	15.69	30.00	✓	Offside	43.33
Cx	1	2	A/2	Cx/1	17.32	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	18.72	30.00	✓	Straight	Straight Movement
Ax	1	3	B/2	Ax/1	17.07	30.00	✓	Offside	42.21
Bx	1	3	D/2	Bx/1	15.69	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	17.32	30.00	✓	Offside	35.26
Dx	1	3	A/2	Dx/1	18.72	30.00	✓	Offside	74.12

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Visibility restricted
B	2	AllTraffic		

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		1	NetworkDefault	130	76

Controller Stream 1 - Properties

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

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	A	(untitled)	7	300	0	0	Traffic
	B	(untitled)	23	300	0	0	Traffic
	C	(untitled)	7	300	0	0	Traffic
	D	(untitled)	7	300	0	0	Traffic
	E	(untitled)	7	300	0	0	Unknown

Library Stages

Controller Stream	Library Stage	Phases in stage	User stage minimum (s)	Run every N cycles	Probability of running (%)
1	1	A	1	0	0
	2	B	1	0	0
	3	C	1	0	0
	4	D	1	0	0
	5	E	1	0	0

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, 3, 4, 5	20, 48, 93, 110, 8	76	
	2	(untitled)	Single	1, 2, 3, 5, 4	23, 51, 79, 102, 125	76	
	3	(untitled)	Single	1, 2, 4, 3, 5	23, 51, 79, 107, 0	76	
	4	(untitled)	Single	1, 2, 4, 5, 3	23, 51, 79, 102, 125	76	
	5	(untitled)	Single	1, 2, 5, 3, 4	23, 51, 74, 97, 125	76	
	6	(untitled)	Single	1, 2, 5, 4, 3	23, 51, 74, 97, 125	76	
	7	(untitled)	Single	1, 3, 2, 4, 5	23, 51, 79, 107, 0	76	
	8	(untitled)	Single	1, 3, 2, 5, 4	23, 51, 79, 102, 125	76	
	9	(untitled)	Single	1, 3, 4, 2, 5	23, 51, 79, 107, 0	76	
	10	(untitled)	Single	1, 3, 4, 5, 2	23, 51, 79, 102, 125	76	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		5	5	5	5
	B	5		5	5	5
	C	5	5		5	5
	D	5	5	5		5
	E	5	5	5	5	

Banned Stage transitions for Controller Stream 1

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

Interstage Matrix for Controller Stream 1

		To				
		1	2	3	4	5
From	1	0	5	5	5	5
	2	5	0	5	5	5
	3	5	5	0	5	5
	4	5	5	5	0	5
	5	5	5	5	5	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	13	20	7	1	7
	2	✓	2	B	25	48	23	1	23
	3	✓	3	C	53	93	40	1	7
	4	✓	4	D	98	110	12	1	7
	5	✓	5	E	115	8	23	1	7

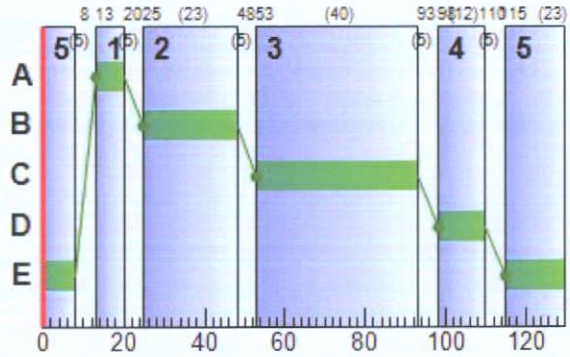
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	13	20	7
	B	1	✓	25	48	23
	C	1	✓	53	93	40
	D	1	✓	98	110	12
	E	1	✓	115	8	23

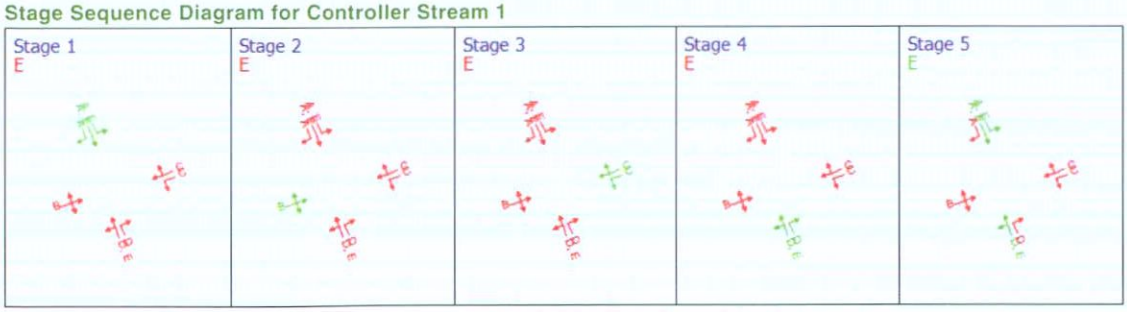
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	53	93	40
A	2	1	1	C	53	93	40
B	1	1	1	D	98	110	12
B	2	1	1	D	98	110	12
C	1	1	1	B	25	48	23
D	1	1	1	A	13	20	7
D	2	1	1	A	13	20	7
D	3	1	1	A	13	20	7

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)
08:00-09:00	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 (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Mean max queue (Veh)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	A	1	38	140	213	1800	40	36.45	6.03	57.86	30.63	2.07	32.70
		2	90	0	513	1800	40	68.12	21.31	209.48	137.85	7.25	145.10
	Ax	1	0	Unrestricted	689	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	77	18	392	1800	35	51.78	14.06	538.81	80.06	4.82	84.88
		2	72	26	129	1800	12	80.55	5.37	205.81	40.98	1.83	42.81
	Bx	1	0	Unrestricted	499	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	94	-4	366	2105	23	101.49	18.01	414.30	146.52	6.04	152.56
	Cx	1	0	Unrestricted	713	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	78	16	344	1800	30	55.63	12.38	102.56	75.49	4.74	80.23
		2	35	154	157	1800	30	39.53	4.55	39.17	24.48	1.64	26.12
		3	31	193	34	1800	7	65.52	1.24	10.33	8.79	0.43	9.21
	Dx	1	0	Unrestricted	247	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	30	203	535	1800	130	0.42	0.06	0.74	0.89	0.00	0.89
	10	1	40	123	726	1800	130	0.68	0.14	2.32	1.93	0.00	1.93
	11	1	29	211	521	1800	130	0.41	0.06	0.91	0.84	0.00	0.84

Traffic Stream Results: Flows and signals

Time Segment	Arm	Traffic Stream	Calculated flow entering (Veh/hr)	Calculated flow out (Veh/hr)	Flow discrepancy (Veh/hr)	Adjusted flow warning	Calculated sat flow (Veh/hr)	Calculated capacity (Veh/hr)	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Mean modulus of error	Actual green (s (per cycle))
08:00-09:00	A	1	213	213	0		1800	568	38		140	0.00	40
		2	513	513	0		1800	568	90	✓	0	0.00	40
	Ax	1	689	689	0		Unrestricted	Unrestricted	0		Unrestricted	0.75	130
	B	1	392	392	0		1800	512	77		18	0.00	35
		2	129	129	0		1800	180	72		26	0.00	12
	Bx	1	499	499	0		Unrestricted	Unrestricted	0		Unrestricted	0.71	130
	C	1	366	366	0		2105	389	94	✓	-4	0.00	23
	Cx	1	713	713	0		Unrestricted	Unrestricted	0		Unrestricted	0.63	130
	D	1	344	344	0		1800	443	78		16	0.00	30
		2	157	157	0		1800	443	35		154	0.00	30
		3	34	34	0		1800	111	31		193	0.00	7
	Dx	1	247	247	0		Unrestricted	Unrestricted	0		Unrestricted	0.54	130
	9	1	535	535	0		1800	1800	30		203	0.00	130
	10	1	726	726	0		1800	1800	40		123	0.00	130
	11	1	521	521	0		1800	1800	29		211	0.00	130

Traffic Stream Results: Stops and delays

Time Segment	Arm	Traffic Stream	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Uniform stops (Stops per hr)	Random stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	A	1	7.19	36.45	2.04	0.11	30.63	77.46	161.88	3.10	2.07
		2	7.02	68.12	6.07	3.64	137.85	112.71	482.30	95.89	7.25
	Ax	1	17.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	1.80	51.78	4.43	1.21	80.06	98.06	351.66	32.72	4.82
		2	1.80	80.55	2.03	0.85	40.98	112.94	123.09	22.60	1.83
	Bx	1	15.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	3.00	101.49	5.32	5.00	146.52	131.70	355.89	126.15	6.04
	Cx	1	17.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	8.33	55.63	4.02	1.29	75.49	109.93	310.09	68.05	4.74
		2	8.01	39.53	1.63	0.10	24.48	83.21	125.32	5.32	1.64
		3	8.27	65.52	0.55	0.07	8.79	99.88	32.12	1.84	0.43
	Dx	1	18.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	5.88	0.42	0.00	0.06	0.89	0.00	0.00	0.00	0.00
	10	1	4.05	0.68	0.00	0.14	1.93	0.00	0.00	0.00	0.00
	11	1	4.47	0.41	0.00	0.06	0.84	0.00	0.00	0.00	0.00

Traffic Stream Results: Queues and blocking

Time Segment	Arm	Traffic Stream	Initial queue (Veh)	Mean max queue (Veh)	Max queue storage (Veh)	Utilised storage (%)	Average storage excess queue (Veh)	Average limit excess queue (Veh)	Excess queue penalty (£ per hr)	Wasted time starvation (s (per cycle))	Wasted time blocking back (s (per cycle))	Wasted time total (s (per cycle))	Estimated blocking
08:00-09:00	A	1	0.00	6.03	10.42	57.86	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	21.31	10.17	209.48	3.39	0.00	0.00	0.00	0.00	0.00	
	Ax	1	0.00	0.00	24.74	0.00	0.00	0.00	0.00	35.00	0.00	35.00	
	B	1	0.00	14.06	2.61	538.81	4.67	0.00	0.00	0.00	0.00	0.00	
		2	0.00	5.37	2.61	205.81	0.83	0.00	0.00	0.00	0.00	0.00	
	Bx	1	0.00	0.00	22.74	0.00	0.00	0.00	0.00	15.00	0.00	15.00	
	C	1	0.00	18.01	4.35	414.30	7.11	0.00	0.00	0.00	0.00	0.00	
	Cx	1	0.00	0.00	25.10	0.00	0.00	0.00	0.00	24.00	0.00	24.00	
	D	1	0.00	12.38	12.07	102.56	0.01	0.00	0.00	0.00	0.00	0.00	
		2	0.00	4.55	11.61	39.17	0.00	0.00	0.00	0.00	0.00	0.00	
		3	0.00	1.24	11.98	10.33	0.00	0.00	0.00	5.00	0.00	5.00	
	Dx	1	0.00	0.00	27.12	0.00	0.00	0.00	0.00	15.00	0.00	15.00	
	9	1	0.00	0.06	8.52	0.74	0.00	0.00	0.00	0.00	4.00	4.00	
	10	1	0.00	0.14	5.87	2.32	0.00	0.00	0.00	0.00	79.00	79.00	
	11	1	0.00	0.06	6.47	0.91	0.00	0.00	0.00	0.00	106.00	106.00	

Traffic Stream Results: Journey times

Time Segment	Arm	Traffic Stream	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	JourneyTime (s)
08:00-09:00	A	1	12.76	2.58	4.94	43.65
		2	30.00	10.71	2.80	75.14
	Ax	1	98.03	3.27	30.00	17.07
	B	1	5.88	5.83	1.01	53.58
		2	1.94	2.95	0.66	82.35
	Bx	1	65.26	2.18	30.00	15.69
	C	1	9.15	10.62	0.86	104.49
	Cx	1	102.91	3.43	30.00	17.32
	D	1	23.87	6.11	3.91	63.96
		2	10.48	2.07	5.05	47.54
		3	2.34	0.70	3.36	73.79
	Dx	1	38.52	1.28	30.00	18.72
	9	1	26.22	0.94	27.99	6.30
	10	1	24.51	0.95	25.71	4.73
	11	1	19.40	0.71	27.49	4.87

Traffic Stream Results: Advanced

Time Segment	Arm	Traffic Stream	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	Mean Max Queue EoTS (Veh)	Mean End of Green Queue EoTS (Veh)	Mean End of Red Queue EoTS (Veh)	PCU Factor	Cost of traffic penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	A	1	0.00	0.00	✓	6.03	0.11	5.38	1.00	0.00	32.70
		2	0.00	0.00	✓	21.57	3.90	16.58	1.00	0.00	145.10
	Ax	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	B	1	0.00	0.00	✓	14.08	5.83	10.92	1.00	0.00	84.88
		2	0.00	0.00	✓	5.39	0.88	5.07	1.00	0.00	42.81
	Bx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	C	1	0.00	0.00	✓	18.87	5.86	16.64	1.00	0.00	152.56
	Cx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	D	1	0.00	0.00	✓	12.40	1.32	10.30	1.00	0.00	80.23
		2	0.00	0.00	✓	4.55	0.10	4.20	1.00	0.00	26.12
		3	0.00	0.00	✓	1.24	0.07	1.22	1.00	0.00	9.21
	Dx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	9	1	0.00	0.00	✓	0.06			1.00	0.00	0.89
	10	1	0.00	0.00	✓	0.14			1.00	0.00	1.93
	11	1	0.00	0.00	✓	0.06			1.00	0.00	0.84

Network Results

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 (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item w wors unsignal PRC
3	06/09/2022 14:48:08	06/09/2022 14:48:10	2.43	08:00	130	577.27	38.62	94.18	C/1	2	13	C/1	10/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/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	94	-4	6078	1127	22.88	548.46	28.81	577.27

Network Results: Flows and signals

Time Segment	Calculated flow entering (Veh/hr)	Calculated flow out (Veh/hr)	Flow discrepancy (Veh/hr)	Adjusted flow warning	Degree of saturation (%)	DOS Threshold exceeded	Practical reserve capacity (%)	Actual green (s (per cycle))
08:00-09:00	6078	6078	0		94	✓	-4	1127

Network Results: Stops and delays

Time Segment	Mean Cruise Time per Veh (s)	Mean Delay per Veh (s)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Mean stops per Veh (%)	Uniform stops (Stops per hr)	Random stops (Stops per hr)	Weighted cost of stops (£ per hr)
08:00-09:00	9.30	22.88	26.10	12.52	548.46	37.81	1942.35	355.67	28.81

Network Results: Queues and blocking

Time Segment	Utilised storage (%)	Excess queue penalty (£ per hr)	Wasted time starvation (s (per cycle))	Wasted time blocking back (s (per cycle))	Wasted time total (s (per cycle))
08:00-09:00	538.81	0.00	94.00	189.00	283.00

Network Results: Journey times

Time Segment	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)
08:00-09:00	471.27	54.33	8.67

Network Results: Advanced

Time Segment	Degree of saturation penalty (£ per hr)	Ped gap accepting penalty (£ per hr)	Warmed up	PCU Factor	Cost of traffic penalties (£ per hr)	Controller stream penalties (£ per hr)	Performance Index (£ per hr)
08:00-09:00	0.00	0.00	✓	1.00	0.00	0.00	577.27

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	123.2	121.6	120.2
	2	97.4	0.0	87.3	69.5
	3	97.2	98.6	0.0	64.1
	4	75.8	77.2	104.3	0.0

Path Journey Time

Path	From Location	To Location	Normal Calculated Flow (Veh/hr)	Normal journey time (s)	Normal journey dist (m)	Bus journeydist (m)	Tram journey dist (m)	Pedestrian journey dist (m)	Calculated Total Flow (Veh/hr)	Avg journey time (s)	Avg journey dist (m)
1	1	2	21	123.21	180.96	0.00	0.00	0.00	21	123.21	180.96
2	1	3	216	121.56	167.28	0.00	0.00	0.00	216	121.56	167.28
3	1	4	129	120.18	155.77	0.00	0.00	0.00	129	120.18	155.77
12	4	1	268	75.77	196.56	0.00	0.00	0.00	268	75.77	196.56
13	3	1	411	97.19	236.58	0.00	0.00	0.00	411	97.19	236.58
14	2	3	344	87.34	260.68	0.00	0.00	0.00	344	87.34	260.68
17	3	4	213	64.06	224.46	0.00	0.00	0.00	213	64.06	224.46
19	4	2	124	77.17	208.19	0.00	0.00	0.00	124	77.17	208.19
20	3	2	102	98.58	248.21	0.00	0.00	0.00	102	98.58	248.21
21	2	4	157	69.54	246.52	0.00	0.00	0.00	157	69.54	246.52
22	2	1	34	97.41	262.25	0.00	0.00	0.00	34	97.41	262.25
23	4	3	129	104.29	194.51	0.00	0.00	0.00	129	104.29	194.51

Final Prediction Table

Traffic Stream Results

				SIGNALS			FLOWS		PERFORMANCE				PER PCU		
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Second phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/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 (%)
A	1	(untitled)	1	1	C		213	1800	40	0.00	38	140	43.65	36.45	77.46
	2	(untitled)	1	1	C		513 <	1800	40	0.00	90	0	75.14	68.12	112.71
Ax	1	(untitled)					689	Unrestricted	130	35.00	0	Unrestricted	17.07	0.00	0.00
B	1	(untitled)	1	1	D	E	392 <	1800	35	0.00	77	18	53.58	51.78	98.06
	2	(untitled)	1	1	D		129 <	1800	12	0.00	72	26	82.35	80.55	112.94
Bx	1	(untitled)					499	Unrestricted	130	15.00	0	Unrestricted	15.69	0.00	0.00
C	1	(untitled)	1	1	B		366 <	2105	23	0.00	94	-4	104.49	101.49	131.70
Cx	1	(untitled)					713	Unrestricted	130	24.00	0	Unrestricted	17.32	0.00	0.00
D	1	(untitled)	1	1	A	E	344 <	1800	30	0.00	78	16	63.96	55.63	109.93
	2	(untitled)	1	1	A	E	157	1800	30	0.00	35	154	47.54	39.53	83.21
	3	(untitled)	1	1	A		34	1800	7	5.00	31	193	73.79	65.52	99.88
Dx	1	(untitled)					247	Unrestricted	130	15.00	0	Unrestricted	18.72	0.00	0.00
9	1		1				535	1800	130	4.00	30	203	6.30	0.42	0.00
10	1		1				726	1800	130	79.00	40	123	4.73	0.68	0.00
11	1		1				521	1800	130	106.00	29	211	4.87	0.41	0.00

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-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	471.27	54.33	8.67	26.10	12.52	548.46	28.81	0.00	577.27
Bus									
Tram									
Pedestrians									
TOTAL	471.27	54.33	8.67	26.10	12.52	548.46	28.81	0.00	577.27

- *< = 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***

A4 - Scenario 2040 - Operational Phase (AM)
D4 - Scenario 2040 - Operational Phase (AM),

Summary

Data Errors and Warnings

No errors or warnings

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 (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item w wors unsignal PRC
4	06/09/2022 14:48:03	06/09/2022 14:48:05	2.87	08:00	130	616.97	41.33	95.72	C/1	2	13	C/1	10/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set(s)	Optimise specific Demand Set(s)	Include in report	Locked
Scenario 2040 - Operational Phase (AM)			✓	D4		✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
Scenario 2040 - Operational Phase (AM)					08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	L3120 Kilshane Road (East)		1
Ax	(untitled)		
B	R135 (South)		1
Bx	(untitled)		
C	L3120 Kilshane Road (West)		1
Cx	(untitled)		
D	R135 (North)		1
Dx	(untitled)		
9			1
10			1
11			1

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
A	1	(untitled)		✓	59.92	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)		✓	58.48	✓	Sum of lanes	1800	✓		Normal	
Ax	1	(untitled)		✓	142.28						Normal	
B	1	(untitled)			15.00	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)			15.00	✓	Sum of lanes	1800	✓	✓	Normal	
Bx	1	(untitled)		✓	130.77						Normal	
C	1	(untitled)			25.00	✓	Sum of lanes	2105	✓		Normal	
Cx	1	(untitled)		✓	144.33						Normal	
D	1	(untitled)		✓	69.40	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)		✓	66.73	✓	Sum of lanes	1800	✓		Normal	
	3	(untitled)		✓	68.90	✓	Sum of lanes	1800	✓		Normal	
Dx	1	(untitled)		✓	155.96						Normal	
9	1			✓	49.01	✓	Sum of lanes	1800			Normal	
10	1			✓	33.76	✓	Sum of lanes	1800			Normal	
11	1			✓	37.23	✓	Sum of lanes	1800			Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Surface condition	Site quality factor	Gradient (%)	Width (m)	Use connector turning radius	Proportion that turn (%)	Turning radius (m)	Nearside lane	Saturation flow (PCU/hr)
A	1	2	(untitled)											1800
	2	1	(untitled)											1800
Ax	1	1	(untitled)											
B	1	2	(untitled)											1800
	2	1	(untitled)											1800
Bx	1	1	(untitled)											
C	1	1	(untitled)		✓	N/A	N/A	-2	4.00	✓	41	25.85		2105
Cx	1	1	(untitled)											
D	1	3	(untitled)											1800
	2	1	(untitled)											1800
	3	2	(untitled)											1800
Dx	1	1	(untitled)											
9	1	1	(untitled)											1800
10	1	1	(untitled)											1800
11	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
(ALL)	(ALL)	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)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

Normal traffic - Modelling

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

Normal traffic - Advanced

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

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	213	213
	2	522	522
Ax	1	702	702
B	1	410	410
	2	129	129
Bx	1	500	500
C	1	372	372
Cx	1	740	740
D	1	352	352
	2	157	157
	3	35	35
Dx	1	248	248
9	1	544	544
10	1	735	735
11	1	539	539

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled	Second phase
A	1	1	C		
	2	1	C		
B	1	1	D	✓	E
	2	1	D		
C	1	1	B		
D	1	1	A	✓	E
	2	1	A	✓	E
	3	1	A		

Entry Sources

Arm	Traffic Stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)
C	1	3.00	30.00
9	1	5.88	30.00
10	1	4.05	30.00
11	1	4.47	30.00

Sources

Arm	Traffic Stream	Source	Source traffic stream	Destination traffic stream	Cruise time for Normal Traffic (s)	Cruise speed for Normal Traffic (kph)	Auto turning radius	Traffic turn style	Turning radius (m)
A	1	1	10/1	A/1	7.19	30.00	✓	Straight	Straight Movement
	2	1	10/1	A/2	7.02	30.00	✓	Straight	Straight Movement
Ax	1	1	C/1	Ax/1	17.07	30.00	✓	Straight	Straight Movement
B	1	1	11/1	B/1	1.80	30.00	✓	Offside	98.84
	2	1	11/1	B/2	1.80	30.00	✓	Offside	96.11
Bx	1	1	A/1	Bx/1	15.69	30.00	✓	Nearside	23.54
Cx	1	1	B/1	Cx/1	17.32	30.00	✓	Nearside	33.73
D	1	1	9/1	D/1	8.33	30.00	✓	Straight	Straight Movement
	2	1	9/1	D/2	8.01	30.00	✓	Straight	Straight Movement
	3	1	9/1	D/3	8.27	30.00	✓	Straight	Straight Movement
Dx	1	1	C/1	Dx/1	18.72	30.00	✓	Nearside	25.85
Ax	1	2	D/1	Ax/1	17.07	30.00	✓	Nearside	51.65
Bx	1	2	C/1	Bx/1	15.69	30.00	✓	Offside	43.33
Cx	1	2	A/2	Cx/1	17.32	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	18.72	30.00	✓	Straight	Straight Movement
Ax	1	3	B/2	Ax/1	17.07	30.00	✓	Offside	42.21
Bx	1	3	D/2	Bx/1	15.69	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	17.32	30.00	✓	Offside	35.26
Dx	1	3	A/2	Dx/1	18.72	30.00	✓	Offside	74.12

Give Way Data

Arm	Traffic Stream	Opposed traffic	Use Step-wise Opposed Turn Model	Visibility restricted
B	2	AllTraffic		

Signal Timings

Network Default: 130s cycle time; 130 steps

Controller Stream 1

Controller Stream	Name	Description	Use sequence	Cycle time source	Cycle time (s)	Minimum possible cycle time (s)
1	(untitled)		1	NetworkDefault	130	76

Controller Stream 1 - Properties

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

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	✓	