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	20	340	102	1800	35	36.97	2.83	27.05	14.87	0.97	15.85
		2	80	12	401	1800	35	57.89	14.94	343.73	91.57	5.12	96.69
	Ax	1	0	Unrestricted	600	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	86	5	261	1800	21	83.44	11.38	436.24	85.90	3.87	89.77
		2	51	76	156	1800	21	55.26	5.38	206.21	34.01	1.85	35.85
	Bx	1	0	Unrestricted	370	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	80	13	543	2103	41	50.35	19.34	444.73	107.84	6.62	114.46
	Cx	1	0	Unrestricted	304	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	71	27	137	1800	13	77.28	5.57	46.12	41.76	1.91	43.67
		2	30	196	59	1800	13	57.56	2.02	17.38	13.39	0.69	14.09
		3	6	1354	12	1800	13	52.81	0.39	3.24	2.50	0.13	2.63
	Dx	1	0	Unrestricted	397	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	12	679	208	1800	130	0.13	0.01	0.09	0.11	0.00	0.11
	10	1	28	222	503	1800	130	0.39	0.05	0.92	0.77	0.00	0.77
	11	1	23	288	417	1800	130	0.30	0.03	0.54	0.50	0.00	0.50

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	102	102	0		1800	498	20		340	0.00	35
		2	401	401	0		1800	498	80		12	0.00	35
	Ax	1	600	600	0		Unrestricted	Unrestricted	0		Unrestricted	0.75	130
	B	1	261	261	0		1800	305	86		5	0.00	21
		2	156	156	0		1800	305	51		76	0.00	21
	Bx	1	370	370	0		Unrestricted	Unrestricted	0		Unrestricted	0.78	130
	C	1	543	543	0		2103	679	80		13	0.00	41
	Cx	1	304	304	0		Unrestricted	Unrestricted	0		Unrestricted	0.91	130
	D	1	137	137	0		1800	194	71		27	0.00	13
		2	59	59	0		1800	194	30		196	0.00	13
		3	12	12	0		1800	194	6		1354	0.00	13
	Dx	1	397	397	0		Unrestricted	Unrestricted	0		Unrestricted	0.83	130
	9	1	208	208	0		1800	1800	12		679	0.00	130
	10	1	503	503	0		1800	1800	28		222	0.00	130
	11	1	417	417	0		1800	1800	23		288	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	7.22	36.97	1.02	0.03	14.87	75.96	76.75	0.73	0.97
		2	3.00	57.89	4.87	1.58	91.57	101.86	365.92	42.53	5.12
	Ax	1	17.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	1.80	83.44	3.80	2.25	85.90	118.22	249.95	58.61	3.87
		2	1.80	55.26	2.13	0.27	34.01	94.35	139.91	7.28	1.85
	Bx	1	15.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	3.00	50.35	6.06	1.54	107.84	97.23	486.19	41.76	6.62
	Cx	1	17.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	8.33	77.28	2.13	0.81	41.76	110.92	130.46	21.50	1.91
		2	8.01	57.56	0.88	0.07	13.39	93.71	53.47	1.82	0.69
		3	8.27	52.81	0.17	0.00	2.50	88.79	10.60	0.06	0.13
	Dx	1	18.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	5.88	0.13	0.00	0.01	0.11	0.00	0.00	0.00	0.00
	10	1	4.05	0.39	0.00	0.05	0.77	0.00	0.00	0.00	0.00
	11	1	4.47	0.30	0.00	0.03	0.50	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	2.83	10.47	27.05	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	14.94	4.35	343.73	3.92	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	34.00	0.00	34.00	
	B	1	0.00	11.38	2.61	436.24	4.12	0.00	0.00	0.00	0.00	0.00	
		2	0.00	5.38	2.61	206.21	0.69	0.00	0.00	0.00	0.00	0.00	
	Bx	1	0.00	0.00	22.73	0.00	0.00	0.00	0.00	28.00	0.00	28.00	
	C	1	0.00	19.34	4.35	444.73	5.79	0.00	0.00	0.00	0.00	0.00	
	Cx	1	0.00	0.00	25.09	0.00	0.00	0.00	0.00	53.00	0.00	53.00	
	D	1	0.00	5.57	12.07	46.12	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	2.02	11.61	17.38	0.00	0.00	0.00	10.00	0.00	10.00	
		3	0.00	0.39	11.98	3.24	0.00	0.00	0.00	13.00	0.00	13.00	
	Dx	1	0.00	0.00	27.11	0.00	0.00	0.00	0.00	24.00	0.00	24.00	
	9	1	0.00	0.01	8.52	0.09	0.00	0.00	0.00	0.00	0.00	0.00	
	10	1	0.00	0.05	5.87	0.92	0.00	0.00	0.00	0.00	96.00	96.00	
	11	1	0.00	0.03	6.47	0.54	0.00	0.00	0.00	0.00	121.00	121.00	

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	6.14	1.25	4.90	44.19
		2	10.03	6.78	1.48	60.89
	Ax	1	85.37	2.85	30.00	17.07
	B	1	3.92	6.18	0.63	85.24
		2	2.34	2.47	0.95	57.06
	Bx	1	48.35	1.61	30.00	15.68
	C	1	13.58	8.05	1.69	53.35
	Cx	1	43.85	1.46	30.00	17.31
	D	1	9.51	3.26	2.92	85.61
		2	3.94	1.07	3.66	65.56
		3	0.83	0.20	4.06	61.08
	Dx	1	61.88	2.06	30.00	18.70
	9	1	10.19	0.35	29.35	6.01
	10	1	16.98	0.62	27.38	4.44
	11	1	15.52	0.55	28.10	4.77

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	✓	2.83	0.03	2.69	1.00	0.00	15.85
		2	0.00	0.00	✓	14.98	1.61	12.09	1.00	0.00	96.69
	Ax	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	B	1	0.00	0.00	✓	11.52	2.39	10.22	1.00	0.00	89.77
		2	0.00	0.00	✓	5.38	0.27	4.95	1.00	0.00	35.85
	Bx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	C	1	0.00	0.00	✓	19.36	1.56	14.84	1.00	0.00	114.46
	Cx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	D	1	0.00	0.00	✓	5.59	0.83	5.24	1.00	0.00	43.67
		2	0.00	0.00	✓	2.02	0.07	1.97	1.00	0.00	14.09
		3	0.00	0.00	✓	0.39	0.00	0.39	1.00	0.00	2.63
	Dx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	9	1	0.00	0.00	✓	0.01			1.00	0.00	0.11
	10	1	0.00	0.00	✓	0.05			1.00	0.00	0.77
	11	1	0.00	0.00	✓	0.03			1.00	0.00	0.50

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 14:50:26	06/09/2022 14:50:26	0.98	08:00	130	414.38	27.69	85.68	B/1	0	0	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	86	5	4470	1102	22.30	393.22	21.16	414.38

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	4470	4470	0		86		5	1102

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	8.92	22.30	21.06	6.63	393.22	37.75	1513.25	174.29	21.16

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	444.73	0.00	162.00	217.00	379.00

Network Results: Journey times

Time Segment	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)
08:00-09:00	332.41	38.77	8.57

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	414.38

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	72.1	70.4	69.0
	2	84.4	0.0	108.7	87.3
	3	82.6	84.0	0.0	64.3
	4	107.3	108.7	78.9	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	27	72.05	180.87	0.00	0.00	0.00	27	72.05	180.87
2	1	3	307	70.42	167.28	0.00	0.00	0.00	307	70.42	167.28
3	1	4	209	69.03	155.68	0.00	0.00	0.00	209	69.03	155.68
12	4	1	96	107.32	196.47	0.00	0.00	0.00	96	107.32	196.47
13	3	1	196	82.64	203.00	0.00	0.00	0.00	196	82.64	203.00
14	2	3	137	108.69	260.68	0.00	0.00	0.00	137	108.69	260.68
17	3	4	102	64.31	224.63	0.00	0.00	0.00	102	64.31	224.63
19	4	2	165	108.71	208.10	0.00	0.00	0.00	165	108.71	208.10
20	3	2	205	84.04	214.63	0.00	0.00	0.00	205	84.04	214.63
21	2	4	59	87.26	246.42	0.00	0.00	0.00	59	87.26	246.42
22	2	1	12	84.40	262.16	0.00	0.00	0.00	12	84.40	262.16
23	4	3	156	78.91	194.51	0.00	0.00	0.00	156	78.91	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		102	1800	35	0.00	20	340	44.19	36.97	75.96	
	2	(untitled)	1	1	C		401 <	1800	35	0.00	80	12	60.89	57.89	101.86	
Ax	1	(untitled)					600	Unrestricted	130	34.00	0	Unrestricted	17.07	0.00	0.00	
B	1	(untitled)	1	1	D	E	261 <	1800	21	0.00	86	5	85.24	83.44	118.22	
	2	(untitled)	1	1	D		156 <	1800	21	0.00	51	76	57.06	55.26	94.35	
Bx	1	(untitled)					370	Unrestricted	130	28.00	0	Unrestricted	15.68	0.00	0.00	
C	1	(untitled)	1	1	B		543 <	2103	41	0.00	80	13	53.35	50.35	97.23	
Cx	1	(untitled)					304	Unrestricted	130	53.00	0	Unrestricted	17.31	0.00	0.00	
D	1	(untitled)	1	1	A	E	137	1800	13	0.00	71	27	85.61	77.28	110.92	
	2	(untitled)	1	1	A	E	59	1800	13	10.00	30	196	65.56	57.56	93.71	
	3	(untitled)	1	1	A		12	1800	13	13.00	6	1354	61.08	52.81	88.79	
Dx	1	(untitled)					397	Unrestricted	130	24.00	0	Unrestricted	18.70	0.00	0.00	
9	1		1				208	1800	130	0.00	12	679	6.01	0.13	0.00	
10	1		1				503	1800	130	96.00	28	222	4.44	0.39	0.00	
11	1		1				417	1800	130	121.00	23	288	4.77	0.30	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	332.41	38.77	8.57	21.06	6.63	393.22	21.16	0.00	414.38
Bus									
Tram									
Pedestrians									
TOTAL	332.41	38.77	8.57	21.06	6.63	393.22	21.16	0.00	414.38

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

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 14:50:27	06/09/2022 14:50:27	1.00	08:00	130	562.41	37.74	95.87	C/1	1	7	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)		✓	60.19	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)			25.00	✓	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)		✓	130.68						Normal	
C	1	(untitled)			25.00	✓	Sum of lanes	2094	✓		Normal	
Cx	1	(untitled)		✓	144.24						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)		✓	155.87						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	✓	50	25.85		2094
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

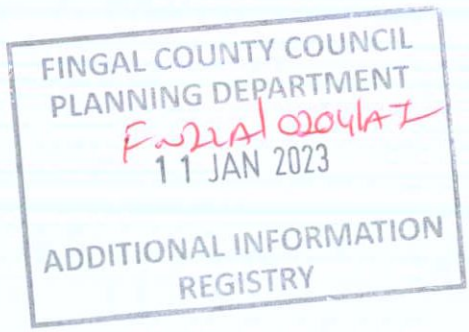
Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	130

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	106	106
	2	432	432
Ax	1	639	639
B	1	276	276
	2	161	161
Bx	1	467	467
C	1	664	664
Cx	1	330	330
D	1	144	144
	2	61	61
	3	13	13
Dx	1	421	421
9	1	218	218
10	1	538	538
11	1	437	437

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	7.22	30.00	✓	Straight	Straight Movement
	2	1	10/1	A/2	3.00	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	15.68	30.00	✓	Nearside	23.66
Cx	1	1	B/1	Cx/1	17.31	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	18.70	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	15.68	30.00	✓	Offside	43.33
Cx	1	2	A/2	Cx/1	17.31	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	18.70	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	15.68	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	17.31	30.00	✓	Offside	35.26
Dx	1	3	A/2	Dx/1	18.70	30.00	✓	Offside	74.00

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	121

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)	40	300	0	0	Traffic
	C	(untitled)	35	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	13, 60, 100, 119, 1	121	
	2	(untitled)	Single	1, 2, 3, 5, 4	23, 51, 79, 102, 125	121	
	3	(untitled)	Single	1, 2, 4, 3, 5	23, 51, 79, 107, 0	121	
	4	(untitled)	Single	1, 2, 4, 5, 3	23, 51, 79, 102, 125	121	
	5	(untitled)	Single	1, 2, 5, 3, 4	23, 51, 74, 97, 125	121	
	6	(untitled)	Single	1, 2, 5, 4, 3	23, 51, 74, 97, 125	121	
	7	(untitled)	Single	1, 3, 2, 4, 5	23, 51, 79, 107, 0	121	
	8	(untitled)	Single	1, 3, 2, 5, 4	23, 51, 79, 102, 125	121	
	9	(untitled)	Single	1, 3, 4, 2, 5	23, 51, 79, 107, 0	121	
	10	(untitled)	Single	1, 3, 4, 5, 2	23, 51, 79, 102, 125	121	

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	6	13	7	1	7
	2	✓	2	B	18	60	42	1	40
	3	✓	3	C	65	100	35	1	35
	4	✓	4	D	105	119	14	1	7
	5	✓	5	E	124	1	7	1	7

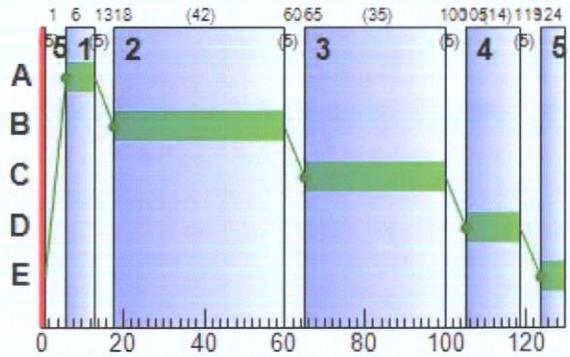
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	6	13	7
	B	1	✓	18	60	42
	C	1	✓	65	100	35
	D	1	✓	105	119	14
	E	1	✓	124	1	7

Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	65	100	35
A	2	1	1	C	65	100	35
B	1	1	1	D	105	119	14
B	2	1	1	D	105	119	14
C	1	1	1	B	18	60	42
D	1	1	1	A	6	13	7
D	2	1	1	A	6	13	7
D	3	1	1	A	6	13	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	21	323	106	1800	35	37.09	2.94	28.12	15.51	1.01	16.52
		2	87	4	432	1800	35	66.00	17.31	398.23	112.47	5.91	118.38
	Ax	1	0	Unrestricted	639	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	87	4	276	1800	21	80.80	11.71	449.06	87.97	4.11	92.08
		2	78	16	161	1800	14	83.40	6.87	263.20	52.96	2.34	55.30
	Bx	1	0	Unrestricted	467	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	96	-6	664	2094	42	81.19	30.54	702.34	212.65	10.30	222.95
	Cx	1	0	Unrestricted	330	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	65	38	144	1800	14	65.88	5.34	44.29	37.42	1.89	39.31
		2	28	227	61	1800	14	51.34	1.97	16.95	12.35	0.71	13.06
		3	12	667	13	1800	7	59.87	0.45	3.74	3.07	0.15	3.22
	Dx	1	0	Unrestricted	421	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	12	643	218	1800	130	0.14	0.01	0.10	0.12	0.00	0.12
	10	1	30	201	538	1800	130	0.43	0.06	1.08	0.90	0.00	0.90
	11	1	24	271	437	1800	130	0.32	0.04	0.60	0.55	0.00	0.55

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	106	106	0		1800	498	21		323	0.00	35
		2	432	432	0		1800	498	87		4	0.00	35
	Ax	1	639	639	0		Unrestricted	Unrestricted	0		Unrestricted	0.67	130
	B	1	276	276	0		1800	318	87		4	0.00	21
		2	161	161	0		1800	208	78		16	0.00	14
	Bx	1	467	467	0		Unrestricted	Unrestricted	0		Unrestricted	0.76	130
	C	1	664	664	0		2094	693	96	✓	-6	0.00	42
	Cx	1	330	330	0		Unrestricted	Unrestricted	0		Unrestricted	0.85	130
	D	1	144	144	0		1800	222	65		38	0.00	14
		2	61	61	0		1800	222	28		227	0.00	14
		3	13	13	0		1800	111	12		667	0.00	7
	Dx	1	421	421	0		Unrestricted	Unrestricted	0		Unrestricted	0.77	130
	9	1	218	218	0		1800	1800	12		643	0.00	130
	10	1	538	538	0		1800	1800	30		201	0.00	130
	11	1	437	437	0		1800	1800	24		271	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	7.22	37.09	1.06	0.03	15.51	75.99	79.76	0.79	1.01
		2	3.00	66.00	5.37	2.55	112.47	109.17	403.69	67.91	5.91
	Ax	1	17.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	1.80	80.80	3.76	2.44	87.97	118.82	264.38	63.55	4.11
		2	1.80	83.40	2.50	1.23	52.96	115.96	154.35	32.35	2.34
	Bx	1	15.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	3.00	81.19	7.86	7.11	212.65	123.73	638.55	183.04	10.30
	Cx	1	17.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	8.33	65.88	2.05	0.58	37.42	104.64	134.94	15.75	1.89
		2	8.01	51.34	0.82	0.05	12.35	92.96	53.85	2.85	0.71
		3	8.27	59.87	0.21	0.01	3.07	94.59	12.08	0.21	0.15
	Dx	1	18.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	5.88	0.14	0.00	0.01	0.12	0.00	0.00	0.00	0.00
	10	1	4.05	0.43	0.00	0.06	0.90	0.00	0.00	0.00	0.00
	11	1	4.47	0.32	0.00	0.04	0.55	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	2.94	10.47	28.12	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	17.31	4.35	398.23	5.44	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	31.00	0.00	31.00	
	B	1	0.00	11.71	2.61	449.06	4.27	0.00	0.00	0.00	0.00	0.00	
		2	0.00	6.87	2.61	263.20	1.58	0.00	0.00	0.00	0.00	0.00	
	Bx	1	0.00	0.00	22.73	0.00	0.00	0.00	0.00	23.00	0.00	23.00	
	C	1	0.00	30.54	4.35	702.34	14.30	0.00	0.00	0.00	0.00	0.00	
	Cx	1	0.00	0.00	25.09	0.00	0.00	0.00	0.00	48.00	0.00	48.00	
	D	1	0.00	5.34	12.07	44.29	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	1.97	11.61	16.95	0.00	0.00	0.00	0.00	0.00	0.00	
		3	0.00	0.45	11.98	3.74	0.00	0.00	0.00	7.00	0.00	7.00	
	Dx	1	0.00	0.00	27.11	0.00	0.00	0.00	0.00	11.00	0.00	11.00	
	9	1	0.00	0.01	8.52	0.10	0.00	0.00	0.00	0.00	0.00	0.00	
	10	1	0.00	0.06	5.87	1.08	0.00	0.00	0.00	0.00	109.00	109.00	
	11	1	0.00	0.04	6.47	0.60	0.00	0.00	0.00	0.00	124.00	124.00	

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	6.38	1.30	4.89	44.31
		2	10.80	8.28	1.30	69.00
	Ax	1	90.92	3.03	30.00	17.07
	B	1	4.14	6.33	0.65	82.60
		2	2.42	3.81	0.63	85.20
	Bx	1	61.03	2.03	30.00	15.68
	C	1	16.60	15.53	1.07	84.19
	Cx	1	47.60	1.59	30.00	17.31
	D	1	9.99	2.97	3.37	74.21
		2	4.07	1.01	4.05	59.34
		3	0.90	0.25	3.64	68.14
	Dx	1	65.62	2.19	30.00	18.70
	9	1	10.68	0.36	29.31	6.02
	10	1	18.16	0.67	27.15	4.48
	11	1	16.27	0.58	27.99	4.79

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	✓	2.94	0.03	2.80	1.00	0.00	16.52
		2	0.00	0.00	✓	17.43	2.67	13.95	1.00	0.00	118.38
	Ax	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	B	1	0.00	0.00	✓	11.88	4.15	10.50	1.00	0.00	92.08
		2	0.00	0.00	✓	6.92	1.28	6.42	1.00	0.00	55.30
	Bx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	C	1	0.00	0.00	✓	31.81	8.38	24.43	1.00	0.00	222.95
	Cx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	D	1	0.00	0.00	✓	5.35	1.31	4.99	1.00	0.00	39.31
		2	0.00	0.00	✓	1.97	0.05	1.92	1.00	0.00	13.06
		3	0.00	0.00	✓	0.45	0.01	0.45	1.00	0.00	3.22
	Dx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	9	1	0.00	0.00	✓	0.01			1.00	0.00	0.12
	10	1	0.00	0.00	✓	0.06			1.00	0.00	0.90
	11	1	0.00	0.00	✓	0.04			1.00	0.00	0.55

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 14:50:27	06/09/2022 14:50:27	1.00	08:00	130	562.41	37.74	95.87	C/1	1	7	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	96	-6	4907	1092	27.69	535.97	26.43	562.41

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	4907	4907	0		96	✓	-6	1092

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	8.94	27.69	23.62	14.12	535.97	42.96	1741.61	366.46	26.43

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	702.34	0.00	120.00	233.00	353.00

Network Results: Journey times

Time Segment	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)
08:00-09:00	365.58	49.93	7.32

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	562.41

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	102.9	101.3	99.9
	2	91.5	0.0	97.3	81.0
	3	90.8	92.2	0.0	64.5
	4	104.7	106.1	107.1	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	30	102.89	180.87	0.00	0.00	0.00	30	102.89	180.87
2	1	3	334	101.26	167.28	0.00	0.00	0.00	334	101.26	167.28
3	1	4	300	99.87	155.68	0.00	0.00	0.00	300	99.87	155.68
12	4	1	105	104.70	196.47	0.00	0.00	0.00	105	104.70	196.47
13	3	1	212	90.79	203.00	0.00	0.00	0.00	212	90.79	203.00
14	2	3	144	97.30	260.68	0.00	0.00	0.00	144	97.30	260.68
17	3	4	106	64.47	224.63	0.00	0.00	0.00	106	64.47	224.63
19	4	2	171	106.10	208.10	0.00	0.00	0.00	171	106.10	208.10
20	3	2	220	92.19	214.63	0.00	0.00	0.00	220	92.19	214.63
21	2	4	61	81.04	246.42	0.00	0.00	0.00	61	81.04	246.42
22	2	1	13	91.47	262.16	0.00	0.00	0.00	13	91.47	262.16
23	4	3	161	107.06	194.51	0.00	0.00	0.00	161	107.06	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		106	1800	35	0.00	21	323	44.31	37.09	75.99	
	2	(untitled)	1	1	C		432 <	1800	35	0.00	87	4	69.00	66.00	109.17	
Ax	1	(untitled)					639	Unrestricted	130	31.00	0	Unrestricted	17.07	0.00	0.00	
B	1	(untitled)	1	1	D	E	276 <	1800	21	0.00	87	4	82.60	80.80	118.82	
	2	(untitled)	1	1	D		161 <	1800	14	0.00	78	16	85.20	83.40	115.96	
Bx	1	(untitled)					467	Unrestricted	130	23.00	0	Unrestricted	15.68	0.00	0.00	
C	1	(untitled)	1	1	B		664 <	2094	42	0.00	96	-6	84.19	81.19	123.73	
Cx	1	(untitled)					330	Unrestricted	130	48.00	0	Unrestricted	17.31	0.00	0.00	
D	1	(untitled)	1	1	A	E	144	1800	14	0.00	65	38	74.21	65.88	104.64	
	2	(untitled)	1	1	A	E	61	1800	14	0.00	28	227	59.34	51.34	92.96	
	3	(untitled)	1	1	A		13	1800	7	7.00	12	667	68.14	59.87	94.59	
Dx	1	(untitled)					421	Unrestricted	130	11.00	0	Unrestricted	18.70	0.00	0.00	
9	1		1				218	1800	130	0.00	12	643	6.02	0.14	0.00	
10	1		1				538	1800	130	109.00	30	201	4.48	0.43	0.00	
11	1		1				437	1800	130	124.00	24	271	4.79	0.32	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	365.58	49.93	7.32	23.62	14.12	535.97	26.43	0.00	562.41
Bus									
Tram									
Pedestrians									
TOTAL	365.58	49.93	7.32	23.62	14.12	535.97	26.43	0.00	562.41

- *< = 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 14:50:30	06/09/2022 14:50:31	1.41	08:00	130	689.25	46.41	96.10	A/2	3	20	A/2	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)		✓	60.19	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)			25.00	✓	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)		✓	130.68						Normal	
C	1	(untitled)			25.00	✓	Sum of lanes	2103	✓		Normal	
Cx	1	(untitled)		✓	144.24						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)		✓	155.87						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	122	122
	2	479	479
Ax	1	715	715
B	1	311	311
	2	186	186
Bx	1	440	440
C	1	645	645
Cx	1	363	363
D	1	164	164
	2	70	70
	3	15	15
Dx	1	474	474
9	1	249	249
10	1	601	601
11	1	497	497

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	7.22	30.00	✓	Straight	Straight Movement
	2	1	10/1	A/2	3.00	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	15.68	30.00	✓	Nearside	23.66
Cx	1	1	B/1	Cx/1	17.31	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	18.70	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	15.68	30.00	✓	Offside	43.33
Cx	1	2	A/2	Cx/1	17.31	30.00	✓	Straight	Straight Movement
Dx	1	2	B/1	Dx/1	18.70	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	15.68	30.00	✓	Straight	Straight Movement
Cx	1	3	D/3	Cx/1	17.31	30.00	✓	Offside	35.26
Dx	1	3	A/2	Dx/1	18.70	30.00	✓	Offside	74.00

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	121

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)	40	300	0	0	Traffic
	C	(untitled)	35	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	1	100
	2	B	1	1	100
	3	C	1	1	100
	4	D	1	1	100
	5	E	1	1	100

Stage Sequences

Controller Stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	13, 59, 99, 119, 1	121	
	2	(untitled)	Single	1, 2, 3, 5, 4	23, 51, 79, 102, 125	121	
	3	(untitled)	Single	1, 2, 4, 3, 5	23, 51, 79, 107, 0	121	
	4	(untitled)	Single	1, 2, 4, 5, 3	23, 51, 79, 102, 125	121	
	5	(untitled)	Single	1, 2, 5, 3, 4	23, 51, 74, 97, 125	121	
	6	(untitled)	Single	1, 2, 5, 4, 3	23, 51, 74, 97, 125	121	
	7	(untitled)	Single	1, 3, 2, 4, 5	23, 51, 79, 107, 0	121	
	8	(untitled)	Single	1, 3, 2, 5, 4	23, 51, 79, 102, 125	121	
	9	(untitled)	Single	1, 3, 4, 2, 5	23, 51, 79, 107, 0	121	
	10	(untitled)	Single	1, 3, 4, 5, 2	23, 51, 79, 102, 125	121	

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	6	13	7	1	7
	2	✓	2	B	18	59	41	1	40
	3	✓	3	C	64	99	35	1	35
	4	✓	4	D	104	119	15	1	7
	5	✓	5	E	124	1	7	1	7

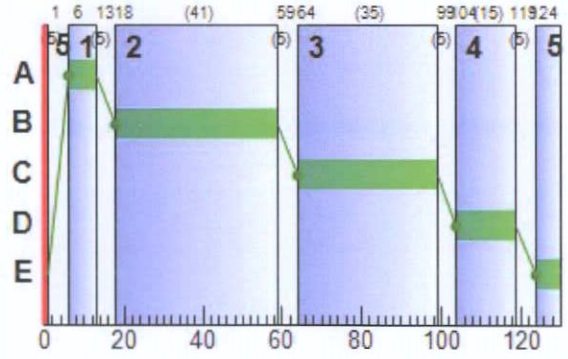
Resultant Phase Green Periods

Controller Stream	Phase	Green period	Is base green period	Start time (s)	End time (s)	Duration (s)
1	A	1	✓	6	13	7
	B	1	✓	18	59	41
	C	1	✓	64	99	35
	D	1	✓	104	119	15
	E	1	✓	124	1	7

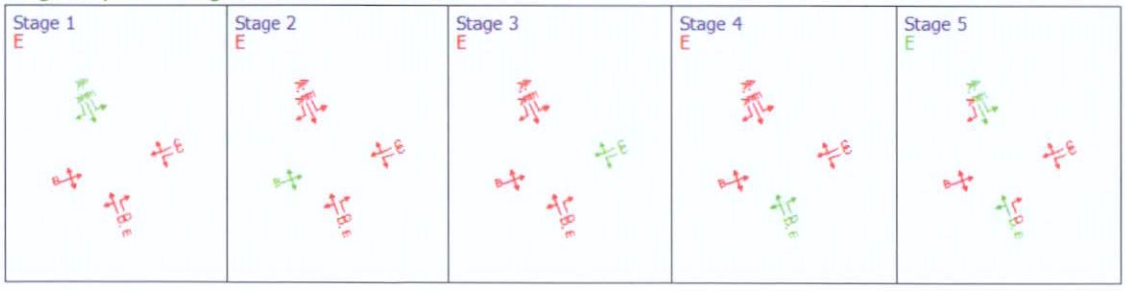
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	64	99	35
A	2	1	1	C	64	99	35
B	1	1	1	D	104	119	15
B	2	1	1	D	104	119	15
C	1	1	1	B	18	59	41
D	1	1	1	A	6	13	7
D	2	1	1	A	6	13	7
D	3	1	1	A	6	13	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	24	268	122	1800	35	37.63	3.43	32.75	18.11	1.18	19.29
		2	96	-6	479	1800	35	96.24	23.67	544.51	181.83	7.91	189.74
	Ax	1	0	Unrestricted	715	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	94	-4	311	1800	22	101.72	15.58	597.17	124.78	5.21	129.99
		2	84	7	186	1800	15	92.60	8.47	324.52	67.94	2.87	70.80
	Bx	1	0	Unrestricted	440	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	95	-5	645	2103	41	77.94	28.84	663.38	198.30	9.78	208.08
	Cx	1	0	Unrestricted	363	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	74	22	164	1800	14	74.15	6.46	53.54	47.96	2.29	50.25
		2	32	185	70	1800	14	52.26	2.29	19.73	14.43	0.83	15.26
		3	14	565	15	1800	7	60.28	0.52	4.37	3.57	0.18	3.75
	Dx	1	0	Unrestricted	474	Unrestricted	130	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	14	551	249	1800	130	0.16	0.01	0.13	0.16	0.00	0.16
	10	1	33	170	601	1800	130	0.50	0.08	1.42	1.19	0.00	1.19
	11	1	28	226	497	1800	130	0.38	0.05	0.81	0.75	0.00	0.75

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	122	122	0		1800	498	24		268	0.00	35
		2	479	479	0		1800	498	96	✓	-6	0.00	35
	Ax	1	715	715	0		Unrestricted	Unrestricted	0		Unrestricted	0.65	130
	B	1	311	311	0		1800	332	94	✓	-4	0.00	22
		2	186	186	0		1800	222	84		7	0.00	15
	Bx	1	440	440	0		Unrestricted	Unrestricted	0		Unrestricted	0.72	130
	C	1	645	645	0		2103	679	95	✓	-5	0.00	41
	Cx	1	363	363	0		Unrestricted	Unrestricted	0		Unrestricted	0.81	130
	D	1	164	164	0		1800	222	74		22	0.00	14
		2	70	70	0		1800	222	32		185	0.00	14
		3	15	15	0		1800	111	14		565	0.00	7
	Dx	1	474	474	0		Unrestricted	Unrestricted	0		Unrestricted	0.73	130
	9	1	249	249	0		1800	1800	14		551	0.00	130
	10	1	601	601	0		1800	1800	33		170	0.00	130
	11	1	497	497	0		1800	1800	28		226	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	7.22	37.63	1.24	0.04	18.11	76.91	92.74	1.09	1.18
		2	3.00	96.24	6.16	6.64	181.83	131.64	463.18	167.38	7.91
	Ax	1	17.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	1	1.80	101.72	4.27	4.52	124.78	133.48	301.73	113.39	5.21
		2	1.80	92.60	2.88	1.90	67.94	122.89	179.41	49.16	2.87
	Bx	1	15.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	1	3.00	77.94	7.70	6.27	198.30	120.88	617.27	162.40	9.78
	Cx	1	17.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	D	1	8.33	74.15	2.38	1.00	47.96	111.28	156.07	26.43	2.29
		2	8.01	52.26	0.94	0.07	14.43	94.72	62.34	3.96	0.83
		3	8.27	60.28	0.24	0.01	3.57	95.50	14.03	0.29	0.18
	Dx	1	18.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	5.88	0.16	0.00	0.01	0.16	0.00	0.00	0.00	0.00
	10	1	4.05	0.50	0.00	0.08	1.19	0.00	0.00	0.00	0.00
	11	1	4.47	0.38	0.00	0.05	0.75	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	3.43	10.47	32.75	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	23.67	4.35	544.51	10.75	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	31.00	0.00	31.00	
	B	1	0.00	15.58	2.61	597.17	7.40	0.00	0.00	0.00	0.00	0.00	
		2	0.00	8.47	2.61	324.52	2.58	0.00	0.00	0.00	0.00	0.00	
	Bx	1	0.00	0.00	22.73	0.00	0.00	0.00	0.00	22.00	0.00	22.00	
	C	1	0.00	28.84	4.35	663.38	12.95	0.00	0.00	0.00	0.00	0.00	
	Cx	1	0.00	0.00	25.09	0.00	0.00	0.00	0.00	46.00	0.00	46.00	
	D	1	0.00	6.46	12.07	53.54	0.00	0.00	0.00	0.00	0.00	0.00	
		2	0.00	2.29	11.61	19.73	0.00	0.00	0.00	0.00	0.00	0.00	
		3	0.00	0.52	11.98	4.37	0.00	0.00	0.00	7.00	0.00	7.00	
	Dx	1	0.00	0.00	27.11	0.00	0.00	0.00	0.00	6.00	0.00	6.00	
	9	1	0.00	0.01	8.52	0.13	0.00	0.00	0.00	0.00	0.00	0.00	
	10	1	0.00	0.08	5.87	1.42	0.00	0.00	0.00	0.00	130.00	130.00	
	11	1	0.00	0.05	6.47	0.81	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	7.34	1.52	4.83	44.85
		2	11.98	13.20	0.91	99.24
	Ax	1	101.73	3.39	30.00	17.07
	B	1	4.67	8.94	0.52	103.52
		2	2.79	4.88	0.57	94.40
	Bx	1	57.50	1.92	30.00	15.68
	C	1	16.13	14.50	1.11	80.94
	Cx	1	52.36	1.75	30.00	17.31
	D	1	11.38	3.76	3.03	82.47
		2	4.67	1.17	3.99	60.26
		3	1.03	0.29	3.62	68.54
	Dx	1	73.88	2.46	30.00	18.70
	9	1	12.20	0.42	29.20	6.04
	10	1	20.29	0.76	26.70	4.55
	11	1	18.50	0.67	27.64	4.85

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	✓	3.43	0.04	3.23	1.00	0.00	19.29
		2	0.00	0.00	✓	25.11	8.08	20.58	1.00	0.00	189.74
	Ax	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	B	1	0.00	0.00	✓	16.35	7.48	14.10	1.00	0.00	129.99
		2	0.00	0.00	✓	8.59	2.03	7.92	1.00	0.00	70.80
	Bx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	C	1	0.00	0.00	✓	29.77	7.19	22.96	1.00	0.00	208.08
	Cx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	D	1	0.00	0.00	✓	6.49	2.40	6.03	1.00	0.00	50.25
		2	0.00	0.00	✓	2.29	0.07	2.21	1.00	0.00	15.26
		3	0.00	0.00	✓	0.52	0.01	0.52	1.00	0.00	3.75
	Dx	1	0.00	0.00	✓	0.00			1.00	0.00	0.00
	9	1	0.00	0.00	✓	0.01			1.00	0.00	0.16
	10	1	0.00	0.00	✓	0.08			1.00	0.00	1.19
	11	1	0.00	0.00	✓	0.05			1.00	0.00	0.75

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 14:50:30	06/09/2022 14:50:31	1.41	08:00	130	689.25	46.41	96.10	A/2	3	20	A/2	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	96	-6	5331	1093	31.34	659.02	30.23	689.25

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	5331	5331	0		96	✓	-6	1093

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	8.92	31.34	25.81	20.60	659.02	45.22	1886.77	524.11	30.23

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	663.38	0.00	112.00	260.00	372.00

Network Results: Journey times

Time Segment	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)
08:00-09:00	396.45	59.62	6.65

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	689.25

Point to Point Journey Time

Average Journey Time (s) for Local Matrix: 1

		To			
		1	2	3	4
From	1	0.0	99.6	98.0	96.6
	2	91.9	0.0	105.6	82.0
	3	121.1	122.5	0.0	65.1
	4	125.7	127.1	116.3	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	32	99.65	180.87	0.00	0.00	0.00	32	99.65	180.87
2	1	3	365	98.02	167.28	0.00	0.00	0.00	365	98.02	167.28
3	1	4	248	96.63	155.68	0.00	0.00	0.00	248	96.63	155.68
12	4	1	114	125.68	196.47	0.00	0.00	0.00	114	125.68	196.47
13	3	1	234	121.10	203.00	0.00	0.00	0.00	234	121.10	203.00
14	2	3	164	105.59	260.68	0.00	0.00	0.00	164	105.59	260.68
17	3	4	122	65.09	224.63	0.00	0.00	0.00	122	65.09	224.63
19	4	2	197	127.07	208.10	0.00	0.00	0.00	197	127.07	208.10
20	3	2	245	122.49	214.63	0.00	0.00	0.00	245	122.49	214.63
21	2	4	70	81.99	246.42	0.00	0.00	0.00	70	81.99	246.42
22	2	1	15	91.90	262.16	0.00	0.00	0.00	15	91.90	262.16
23	4	3	186	116.32	194.51	0.00	0.00	0.00	186	116.32	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		122	1800	35	0.00	24	268	44.85	37.63	76.91
	2	(untitled)	1	1	C		479 <	1800	35	0.00	96	-6	99.24	96.24	131.64
Ax	1	(untitled)					715	Unrestricted	130	31.00	0	Unrestricted	17.07	0.00	0.00
B	1	(untitled)	1	1	D	E	311 <	1800	22	0.00	94	-4	103.52	101.72	133.48
	2	(untitled)	1	1	D		186 <	1800	15	0.00	84	7	94.40	92.60	122.89
Bx	1	(untitled)					440	Unrestricted	130	22.00	0	Unrestricted	15.68	0.00	0.00
C	1	(untitled)	1	1	B		645 <	2103	41	0.00	95	-5	80.94	77.94	120.88
Cx	1	(untitled)					363	Unrestricted	130	46.00	0	Unrestricted	17.31	0.00	0.00
D	1	(untitled)	1	1	A	E	164	1800	14	0.00	74	22	82.47	74.15	111.28
	2	(untitled)	1	1	A	E	70	1800	14	0.00	32	185	60.26	52.26	94.72
	3	(untitled)	1	1	A		15	1800	7	7.00	14	565	68.54	60.28	95.50
Dx	1	(untitled)					474	Unrestricted	130	6.00	0	Unrestricted	18.70	0.00	0.00
9	1		1				249	1800	130	0.00	14	551	6.04	0.16	0.00
10	1		1				601	1800	130	130.00	33	170	4.55	0.50	0.00
11	1		1				497	1800	130	130.00	28	226	4.85	0.38	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	396.45	59.62	6.65	25.81	20.60	659.02	30.23	0.00	689.25
Bus									
Tram									
Pedestrians									
TOTAL	396.45	59.62	6.65	25.81	20.60	659.02	30.23	0.00	689.25

- *< = 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 14:50:28	06/09/2022 14:50:28	0.90	08:00	130	812.34	54.87	99.31	A/2	3	20	A/2	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)		✓	60.19	✓	Sum of lanes	1800	✓		Normal	
	2	(untitled)			25.00	✓	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)		✓	130.68						Normal	
C	1	(untitled)			25.00	✓	Sum of lanes	2101	✓		Normal	
Cx	1	(untitled)		✓	144.24						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)		✓	155.87						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	✓	44	25.85		2101
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	122	122
	2	495	495
Ax	1	725	725
B	1	311	311
	2	186	186
Bx	1	457	457
C	1	670	670
Cx	1	371	371
D	1	166	166
	2	70	70
	3	15	15
Dx	1	482	482
9	1	251	251
10	1	617	617
11	1	497	497

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