

TRANSYT 15
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Filename: M23 J10 Reference Year Layout with Lane Marking Changes v05.t15

Path: \\Cbh-vfil-001\cbh\Projects\48559 Crawley Transport Study\Transport\Working Documents\Junction Modelling\HE SRN Junction Data\M23 J10 Model\M23 J10 Directional Marking Changes

Report generation date: 20/01/2022 10:17:09

»A5 - LP Scenario 2 With Mit & Lane Marking Changes AM : D5 - LP Scenario 2 With Mit & Lane Marking Changes AM* :

»A6 - LP Scenario 2 With Mit & Lane Marking Changes PM : D6 - LP Scenario 2 With Mit & Lane Marking Changes PM* :

File summary

File description

File title	M23 J10 Reference Layout
Location	Crawley
Site number	1
UTCRegion	UTC +1
Driving side	Left
Date	08/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	330610079
Enumerator	CORP\dansmith
Description	

Model and Results

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

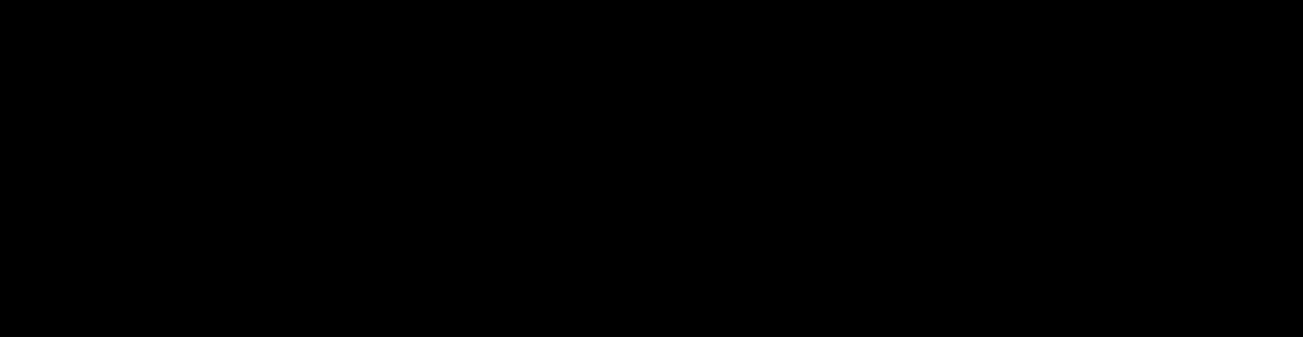
Units

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

Sorting

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

Network Diagrams



A5 - LP Scenario 2 With Mit & Lane Marking Changes AM

D5 - LP Scenario 2 With Mit & Lane Marking Changes AM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst PR
5	20/01/2022 10:11:08	20/01/2022 10:11:08	08:00	60	2921.42	194.28	134.23	17/2	6	16	211/2	17/2	17/

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
LP Scenario 2 With Mit & Lane Marking Changes AM		D5	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
LP Scenario 2 With Mit & Lane Marking Changes AM				08:00	

Local OD Matrix - Local Matrix: 1

Local Matrix Options

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

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	1073	92	313
	2	1257	0	466	0
	3	307	701	0	564
	4	1065	0	526	70

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1		101/1, 101/2	121/1, 121/2	#0000FF
	2		201/1, 201/2	221/1, 221/2	#FF0000
	3		17/1, 17/2	322/1	#00FF00
	4		401/1, 401/2	421/1, 421/2	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	11		2	3	201/1, 202/1, 321/1, 322/1	Normal	466
	12		3	4	17/1, 302/1, 421/1	Normal	419
	13		3	1	17/1, 302/2, 411/1, 121/1	Normal	307
	14		3	4	17/1, 302/2, 421/2	Normal	145
	15		3	2	17/2, 302/3, 411/2, 111/1, 221/1	Normal	701
	18		1	3	101/1, 102/2, 211/1, 321/1, 322/1	Normal	0
	19		1	4	101/2, 102/3, 211/2, 311/1, 421/1	Normal	157
	20		2	4	201/1, 202/2, 311/1, 421/1	Normal	0
	22		1	3	101/2, 102/3, 211/2, 321/2, 322/1	Normal	92
	23		1	4	101/2, 102/3, 211/2, 311/2, 421/2	Normal	157
	24		2	4	201/1, 202/2, 311/2, 421/2	Normal	0
	26		1	2	101/1, 102/2, 221/2	Normal	548
	27		1	1	101/2, 102/3, 211/2, 311/2, 411/1, 121/1	Normal	0
	28		2	1	201/1, 202/2, 311/2, 411/1, 121/1	Percentage	691
	29		4	4	401/2, 402/3, 111/2, 211/2, 311/1, 421/1	Normal	35
	30		1	2	101/2, 102/3, 211/2, 311/3, 411/2, 111/1, 221/1	Disabled	0
	31		1	1	101/2, 102/3, 211/2, 311/3, 411/2, 121/2	Normal	0
	32		2	2	201/2, 202/3, 311/3, 411/2, 111/1, 221/1	Normal	0
	33		3	4	17/2, 302/3, 411/2, 111/2, 211/2, 311/1, 421/1	Disabled	0
	34		3	4	17/2, 302/3, 411/2, 111/2, 211/2, 311/2, 421/2	Disabled	0
	35		2	1	201/2, 202/3, 311/3, 411/2, 121/2	Normal	566
	36		4	1	401/1, 402/1, 121/1	Normal	538
	37		1	2	101/1, 102/1, 221/1	Normal	525
	38		3	3	17/2, 302/3, 411/2, 111/1, 211/1, 321/1, 322/1	Normal	0
	39		2	3	201/1, 202/2, 321/2, 322/1	Normal	0
	43		3	3	17/2, 302/3, 411/2, 111/2, 211/2, 321/2, 322/1	Normal	0
	44		3	1	17/2, 302/3, 411/2, 121/2	Normal	0
	50		4	4	401/2, 402/3, 111/2, 211/2, 311/2, 421/2	Normal	35
	52		4	3	401/2, 402/3, 111/2, 211/2, 321/2, 322/1	Normal	473
	53		4	2	401/1, 402/2, 111/1, 221/1	Normal	0
	54		4	1	401/1, 402/2, 121/2	Normal	527
	56		2	3	201/2, 202/3, 311/3, 411/2, 111/2, 211/2, 321/2, 322/1	Disabled	0
57		4	1	401/2, 402/3, 111/2, 211/2, 311/2, 411/1, 121/1	Disabled	0	
58		4	1	401/2, 402/3, 111/2, 211/2, 311/3, 411/2, 121/2	Disabled	0	
59		2	3	201/2, 202/3, 311/3, 411/2, 111/1, 211/1, 321/1, 322/1	Normal	0	
60		4	3	401/1, 402/2, 111/1, 211/1, 321/1, 322/1	Percentage	53	

Signal Timings

Network Default: 60s cycle time; 60 steps

Intergreen Matrix for Controller Stream 1

		To	
		A	B
From	A		5
	B	5	

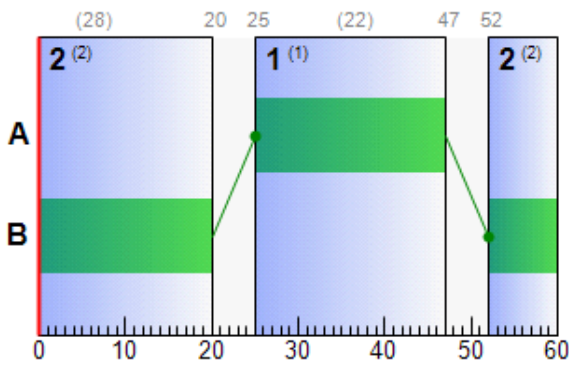
Resultant Stages

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	25	47	22	1	7
	2	✓	2	B	52	20	28	1	7

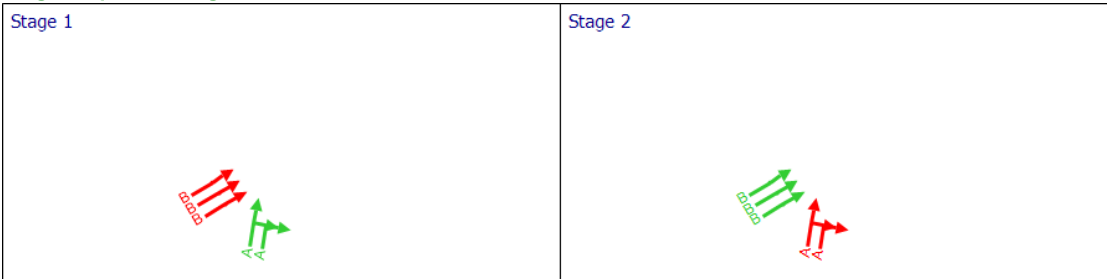
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
102	1	1	1	B	52	20	28
102	2	1	1	B	52	20	28
102	3	1	1	B	52	20	28
111	1	1	1	A	25	47	22
111	2	1	1	A	25	47	22

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Intergreen Matrix for Controller Stream 2

		To	
		A	B
From	A		5
	B	5	

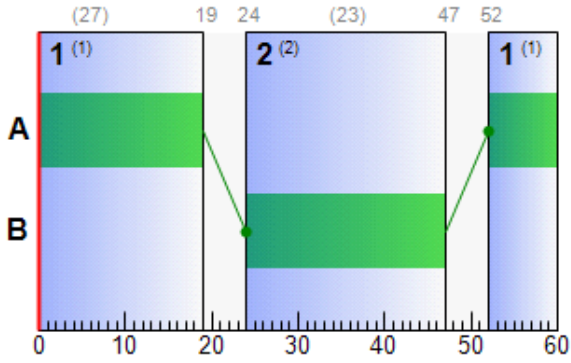
Resultant Stages

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)
2	1	✓	1	A	52	19	27	1	7
	2	✓	2	B	24	47	23	1	7

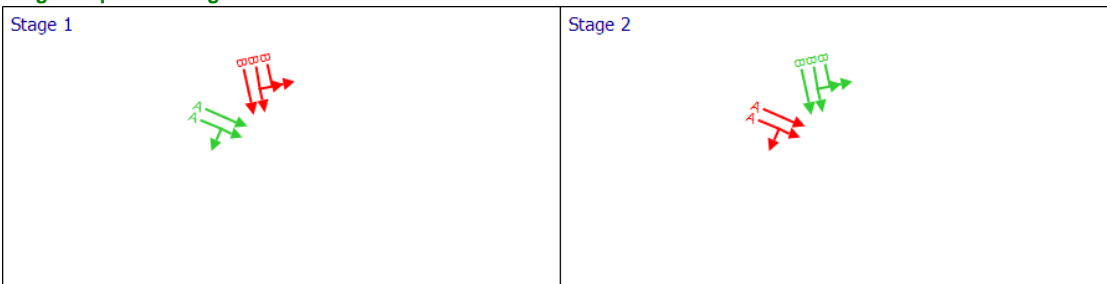
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
202	1	2	2	B	24	47	23
202	2	2	2	B	24	47	23
202	3	2	2	B	24	47	23
211	1	2	2	A	52	19	27
211	2	2	2	A	52	19	27

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



Intergreen Matrix for Controller Stream 3

		To	
		A	B
From	A		6
	B	6	

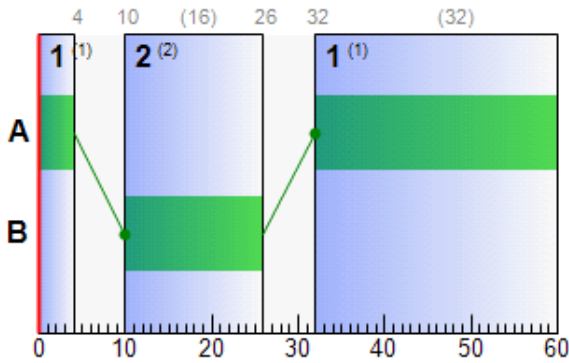
Resultant Stages

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)
3	1	✓	1	A	32	4	32	1	7
	2	✓	2	B	10	26	16	1	7

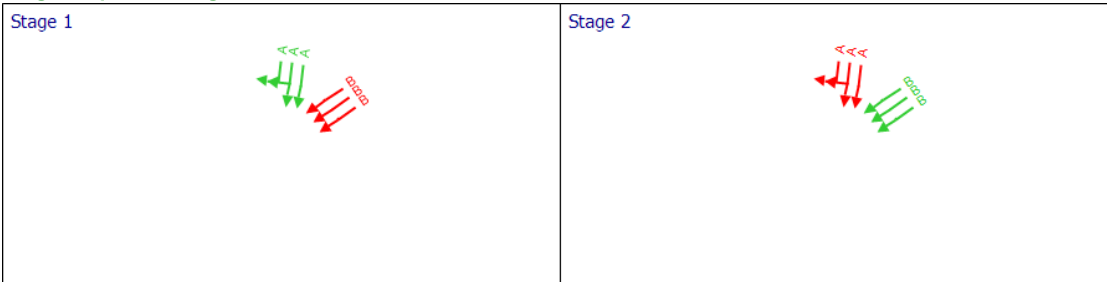
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
302	1	3	3	B	10	26	16
302	2	3	3	B	10	26	16
302	3	3	3	B	10	26	16
311	1	3	3	A	32	4	32
311	2	3	3	A	32	4	32
311	3	3	3	A	32	4	32

Phase Timings Diagram for Controller Stream 3



Stage Sequence Diagram for Controller Stream 3



Intergreen Matrix for Controller Stream 4

		To	
		A	B
From	A		5
	B	5	

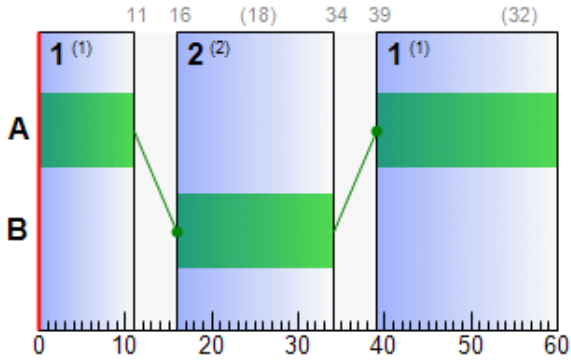
Resultant Stages

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)
4	1	✓	1	A	39	11	32	1	7
	2	✓	2	B	16	34	18	1	7

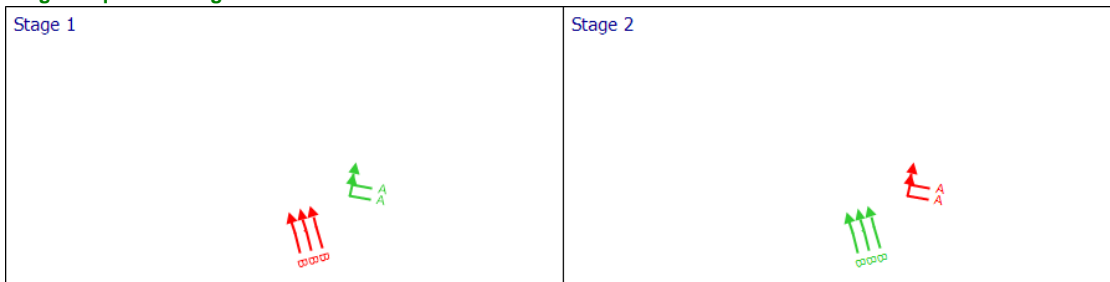
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
402	1	4	4	B	16	34	18
402	2	4	4	B	16	34	18
402	3	4	4	B	16	34	18
411	1	4	4	A	39	11	32
411	2	4	4	A	39	11	32

Phase Timings Diagram for Controller Stream 4



Stage Sequence Diagram for Controller Stream 4



Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)	
08:00-09:00	17	1	46	97	871	1910	60	0.79	0.19	0.80	2.71	0.00	2.71	
		2	134	-33	701	2073	60	477.87	99.37	419.32	1321.35	23.53	1344.88	
	101	1	54	68	1073	2005	60	1.03	0.31	1.18	4.37	0.00	4.37	
		2	19	373	406	2133	60	0.20	0.02	0.09	0.32	0.00	0.32	
	102	1	55	65	525	1989	28	13.35	6.18	32.33	27.64	4.39	32.03	
		2	55	65	548	2079	28	13.39	6.40	33.03	28.94	4.69	33.63	
		3	40	123	406	2079	28	11.33	4.08	20.73	18.15	3.07	21.22	
	111	1	76	19	575	1977	22	33.59	10.44	58.42	76.20	7.83	84.03	
		2	69	31	543	2060	22	6.45	1.12	6.13	13.82	0.83	14.65	
	121	1	0	Unrestricted	1536	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0	Unrestricted	1093	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	201	1	58	54	1157	1978	60	1.28	0.41	5.48	5.84	0.00	5.84	5.84
		2	27	238	566	2123	60	0.31	0.05	0.65	0.69	0.00	0.69	0.69
	202	1	61	47	466	2012	23	18.26	6.32	39.87	33.57	4.52	38.09	38.09
		2	79	13	691	2187	23	24.99	11.68	73.29	68.11	8.34	76.44	76.44
		3	65	38	566	2187	23	19.28	8.07	50.18	43.04	5.90	48.94	48.94
	211	1	6	1469	53	1980	27	1.04	0.14	0.58	0.22	0.10	0.32	0.32
		2	97	-7	949	2124	27	43.03	21.21	86.11	161.08	15.04	176.12	176.12
	221	1	0	Unrestricted	1047	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0	Unrestricted	548	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	302	1	74	22	419	1997	16	28.76	7.25	40.30	47.54	5.23	52.77	52.77
		2	74	22	452	2159	16	28.33	7.51	35.13	50.50	5.62	56.12	56.12
		3	86	5	522	2159	16	116.51	22.72	104.71	240.00	16.51	256.51	256.51
	311	1	18	412	192	1987	32	15.21	3.33	22.42	11.52	2.42	13.94	13.94
		2	79	14	883	2083	32	9.41	8.40	55.40	32.77	4.23	37.00	37.00
		3	50	81	566	2069	32	1.56	0.25	1.67	3.49	0.00	3.49	3.49
	321	1	27	232	519	1915	60	0.35	0.05	0.22	0.72	0.00	0.72	0.72
		2	27	227	565	2055	60	0.33	0.05	0.22	0.74	0.00	0.74	0.74
	322	1	0	Unrestricted	1084	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	401	1	58	54	1118	1917	60	1.31	0.41	3.41	5.78	0.00	5.78	5.78
		2	26	243	543	2070	60	0.31	0.05	0.13	0.66	0.00	0.66	0.66
	402	1	90	0	538	1886	18	43.61	11.39	62.58	92.55	8.28	100.84	100.84
		2	90	0	580	2030	18	42.92	12.52	68.30	98.18	8.98	107.16	107.16
		3	85	6	543	2023	18	34.45	10.11	54.74	73.78	7.48	81.27	81.27
	411	1	94	-4	998	1931	32	32.81	15.67	68.54	129.15	11.24	140.39	140.39
		2	97	-7	1088	2085	32	38.54	21.13	87.87	165.42	14.36	179.77	179.77
	421	1	0	Unrestricted	611	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0	Unrestricted	337	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Ma en of re que (PC)
17	1		3			871	1910	60	0.00	46	97	17.17	0.79	0.00	0.19	
	2		3			701 <	2073	60	44.88	134	-33	494.23	477.87	359.42	99.37 +	
101	1		1			1073	2005	60	0.00	54	68	19.06	1.03	0.00	0.31	
	2		1			406	2133	60	0.00	19	373	18.20	0.20	0.00	0.02	
102	1		1	1	B	525	1989	28	0.00	55	65	26.53	13.35	66.68	6.18	5.2
	2		1	1	B	548	2079	28	0.00	55	65	26.76	13.39	68.28	6.40	5.5
	3		1	1	B	406	2079	28	0.00	40	123	24.93	11.33	60.34	4.08	3.8
111	1		1	1	A	575	1977	22	0.00	76	19	49.82	33.59	108.51	10.44	10.0
	2		1	1	A	543	2060	22	5.00	69	31	22.37	6.45	12.17	1.12	1.1
121	1					1536	Unrestricted	60	0.00	0	Unrestricted	40.68	0.00	0.00	0.00	
	2					1093	Unrestricted	60	0.00	0	Unrestricted	41.09	0.00	0.00	0.00	
201	1		2			1157	1978	60	0.00	58	54	6.46	1.28	0.00	0.41	
	2		2			566	2123	60	0.00	27	238	5.48	0.31	0.00	0.05	
202	1		2	2	B	466	2012	23	1.26	61	47	29.19	18.26	77.30	6.32	5.5
	2		2	2	B	691	2187	23	0.15	79	13	35.99	24.99	96.23	11.68	9.3
	3		2	2	B	566	2187	23	0.16	65	38	30.37	19.28	83.11	8.07	6.8
211	1		2	2	A	53	1980	27	20.00	6	1469	22.66	1.04	15.54	0.14	0.1
	2		2	2	A	949	2124	27	0.41	97	-7	64.01	43.03	126.40	21.21	15.3
221	1					1047	Unrestricted	60	0.00	0	Unrestricted	22.50	0.00	0.00	0.00	
	2					548	Unrestricted	60	15.00	0	Unrestricted	22.68	0.00	0.00	0.00	
302	1		3	3	B	419	1997	16	0.00	74	22	43.28	28.76	99.59	7.25	6.5
	2		3	3	B	452	2159	16	0.00	74	22	43.07	28.33	99.10	7.51	6.8
	3		3	3	B	522 <	2159	16	0.10	86	5	131.48	116.51	252.12	22.72 +	22.7
311	1		3	3	A	192	1987	32	27.00	18	412	28.67	15.21	100.58	3.33	3.2
	2		3	3	A	883	2083	32	4.88	79	14	22.55	9.41	38.16	8.40	4.6
	3		3	3	A	566	2069	32	9.00	50	81	14.38	1.56	0.00	0.25	0.2
321	1		3			519	1915	60	28.00	27	232	16.16	0.35	0.00	0.05	
	2		3			565	2055	60	32.00	27	227	16.46	0.33	0.00	0.05	
322	1					1084	Unrestricted	60	0.00	0	Unrestricted	22.13	0.00	0.00	0.00	
401	1		4			1118	1917	60	0.00	58	54	9.55	1.31	0.00	0.41	
	2		4			543	2070	60	0.00	26	243	24.31	0.31	0.00	0.05	
402	1		4	4	B	538	1886	18	0.00	90	0	56.18	43.61	122.80	11.39	10.2
	2		4	4	B	580	2030	18	0.00	90	0	55.56	42.92	123.46	12.52	11.0
	3		4	4	B	543	2023	18	0.00	85	6	47.20	34.45	109.93	10.11	9.0
411	1		4	4	A	998	1931	32	1.00	94	-4	54.12	32.81	89.79	15.67	15.3
	2		4	4	A	1088 <	2085	32	0.70	97	-7	59.30	38.54	105.22	21.13 +	19.5
421	1					611	Unrestricted	60	6.00	0	Unrestricted	30.16	0.00	0.00	0.00	
	2					337	Unrestricted	60	7.00	0	Unrestricted	30.35	0.00	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	4012.84	328.05	12.23	55.98	138.31	2758.84	162.58	0.00	2921.42
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
TOTAL	4012.84	328.05	12.23	55.98	138.31	2758.84	162.58	0.00	2921.42

- | < = 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**

A6 - LP Scenario 2 With Mit & Lane Marking Changes PM

D6 - LP Scenario 2 With Mit & Lane Marking Changes PM*

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item with worst unsignalised PRC	Item with worst PR
6	20/01/2022 10:11:09	20/01/2022 10:11:09	17:00	60	1254.84	79.36	96.24	211/2	1	3	211/2	101/1	211

Analysis Set Details

Name	Description	Demand set	Include in report	Locked
LP Scenario 2 With Mit & Lane Marking Changes PM		D6	✓	

Demand Set Details

Name	Description	Composite	Demand sets	Start time (HH:mm)	Locked
LP Scenario 2 With Mit & Lane Marking Changes PM				17:00	

Local OD Matrix - Local Matrix: 1

Local Matrix Options

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

Normal Input Flows (PCU/hr)

		To			
		1	2	3	4
From	1	0	1306	11	660
	2	937	0	517	0
	3	311	510	0	553
	4	301	0	540	88

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1		101/1, 101/2	121/1, 121/2	#0000FF
	2		201/1, 201/2	221/1, 221/2	#FF0000
	3		17/1, 17/2	322/1	#00FF00
	4		401/1, 401/2	421/1, 421/2	#FFFF00

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	11		2	3	201/1, 202/1, 321/1, 322/1	Normal	517
	12		3	4	17/1, 302/1, 421/1	Normal	415
	13		3	1	17/1, 302/2, 411/1, 121/1	Normal	311
	14		3	4	17/1, 302/2, 421/2	Normal	138
	15		3	2	17/2, 302/3, 411/2, 111/1, 221/1	Normal	510
	18		1	3	101/1, 102/2, 211/1, 321/1, 322/1	Normal	2
	19		1	4	101/2, 102/3, 211/2, 311/1, 421/1	Normal	330
	20		2	4	201/1, 202/2, 311/1, 421/1	Normal	0
	22		1	3	101/2, 102/3, 211/2, 321/2, 322/1	Normal	9
	23		1	4	101/2, 102/3, 211/2, 311/2, 421/2	Normal	330
	24		2	4	201/1, 202/2, 311/2, 421/2	Normal	0
	26		1	2	101/1, 102/2, 221/2	Normal	666
	27		1	1	101/2, 102/3, 211/2, 311/2, 411/1, 121/1	Normal	0
	28		2	1	201/1, 202/2, 311/2, 411/1, 121/1	Percentage	562
	29		4	4	401/2, 402/3, 111/2, 211/2, 311/1, 421/1	Normal	44
	30		1	2	101/2, 102/3, 211/2, 311/3, 411/2, 111/1, 221/1	Disabled	0
	31		1	1	101/2, 102/3, 211/2, 311/3, 411/2, 121/2	Normal	0
	32		2	2	201/2, 202/3, 311/3, 411/2, 111/1, 221/1	Normal	0
	33		3	4	17/2, 302/3, 411/2, 111/2, 211/2, 311/1, 421/1	Disabled	0
	34		3	4	17/2, 302/3, 411/2, 111/2, 211/2, 311/2, 421/2	Disabled	0
	35		2	1	201/2, 202/3, 311/3, 411/2, 121/2	Normal	375
	36		4	1	401/1, 402/1, 121/1	Normal	249
	37		1	2	101/1, 102/1, 221/1	Normal	640
	38		3	3	17/2, 302/3, 411/2, 111/1, 211/1, 321/1, 322/1	Normal	0
	39		2	3	201/1, 202/2, 321/2, 322/1	Normal	0
	43		3	3	17/2, 302/3, 411/2, 111/2, 211/2, 321/2, 322/1	Normal	0
	44		3	1	17/2, 302/3, 411/2, 121/2	Normal	0
	50		4	4	401/2, 402/3, 111/2, 211/2, 311/2, 421/2	Normal	44
	52		4	3	401/2, 402/3, 111/2, 211/2, 321/2, 322/1	Normal	324
	53		4	2	401/1, 402/2, 111/1, 221/1	Normal	0
	54		4	1	401/1, 402/2, 121/2	Normal	52
	56		2	3	201/2, 202/3, 311/3, 411/2, 111/2, 211/2, 321/2, 322/1	Disabled	0
57		4	1	401/2, 402/3, 111/2, 211/2, 311/2, 411/1, 121/1	Disabled	0	
58		4	1	401/2, 402/3, 111/2, 211/2, 311/3, 411/2, 121/2	Disabled	0	
59		2	3	201/2, 202/3, 311/3, 411/2, 111/1, 211/1, 321/1, 322/1	Normal	0	
60		4	3	401/1, 402/2, 111/1, 211/1, 321/1, 322/1	Percentage	216	

Signal Timings

Network Default: 60s cycle time; 60 steps

Intergreen Matrix for Controller Stream 1

		To	
		A	B
From	A		5
	B	5	

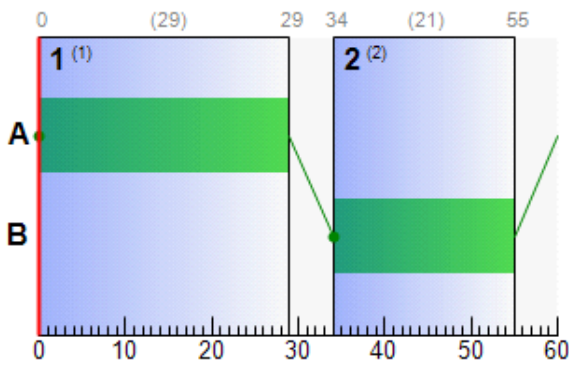
Resultant Stages

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	0	29	29	1	7
	2	✓	2	B	34	55	21	1	7

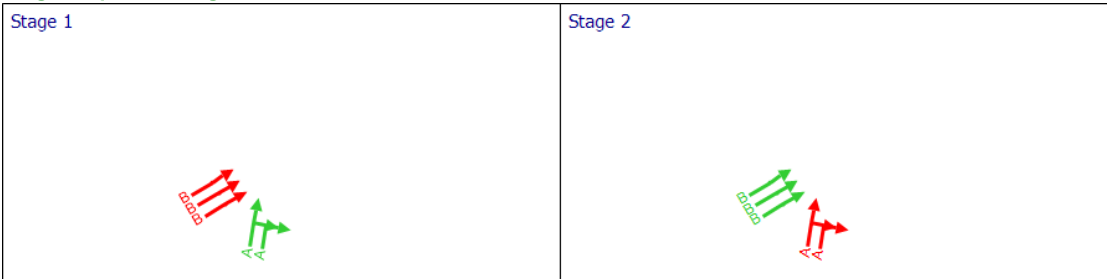
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
102	1	1	1	B	34	55	21
102	2	1	1	B	34	55	21
102	3	1	1	B	34	55	21
111	1	1	1	A	0	29	29
111	2	1	1	A	0	29	29

Phase Timings Diagram for Controller Stream 1



Stage Sequence Diagram for Controller Stream 1



Intergreen Matrix for Controller Stream 2

		To	
		A	B
From	A		5
	B	5	

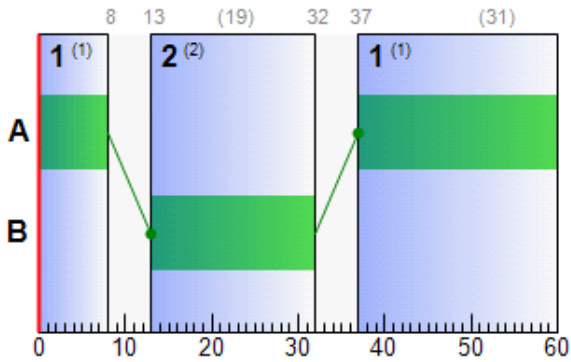
Resultant Stages

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)
2	1	✓	1	A	37	8	31	1	7
	2	✓	2	B	13	32	19	1	7

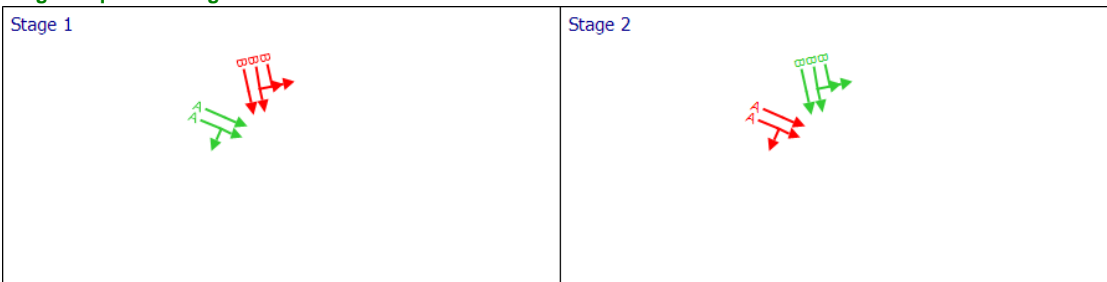
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
202	1	2	2	B	13	32	19
202	2	2	2	B	13	32	19
202	3	2	2	B	13	32	19
211	1	2	2	A	37	8	31
211	2	2	2	A	37	8	31

Phase Timings Diagram for Controller Stream 2



Stage Sequence Diagram for Controller Stream 2



Intergreen Matrix for Controller Stream 3

		To	
		A	B
From	A		6
	B	6	

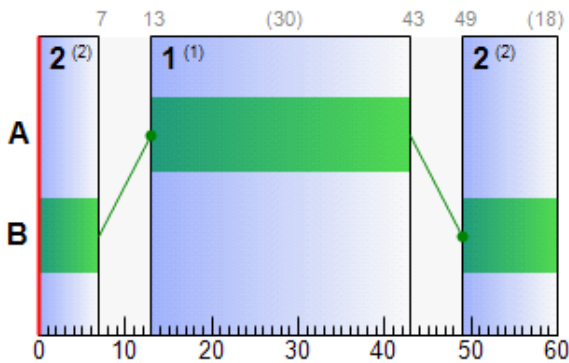
Resultant Stages

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)
3	1	✓	1	A	13	43	30	1	7
	2	✓	2	B	49	7	18	1	7

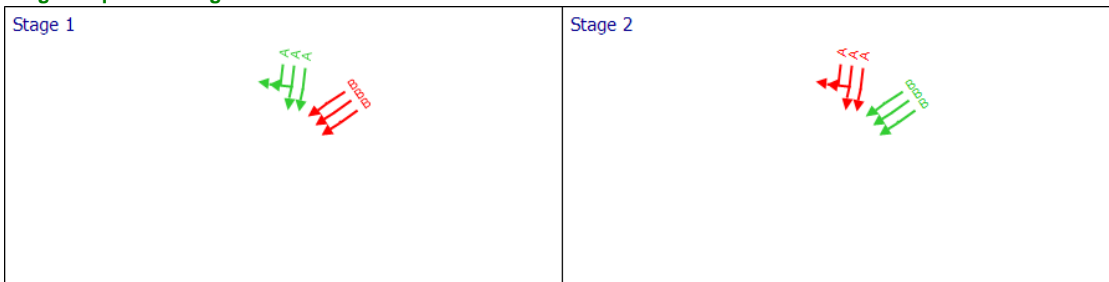
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
302	1	3	3	B	49	7	18
302	2	3	3	B	49	7	18
302	3	3	3	B	49	7	18
311	1	3	3	A	13	43	30
311	2	3	3	A	13	43	30
311	3	3	3	A	13	43	30

Phase Timings Diagram for Controller Stream 3



Stage Sequence Diagram for Controller Stream 3



Intergreen Matrix for Controller Stream 4

		To	
		A	B
From	A		5
	B	5	

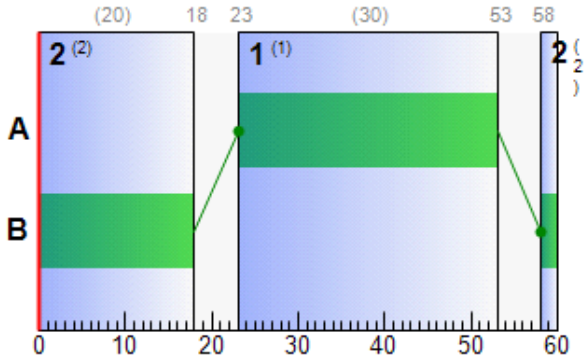
Resultant Stages

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)
4	1	✓	1	A	23	53	30	1	7
	2	✓	2	B	58	18	20	1	7

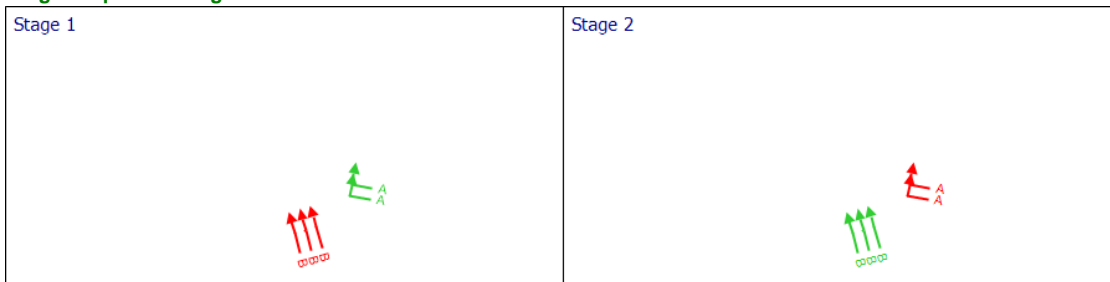
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
402	1	4	4	B	58	18	20
402	2	4	4	B	58	18	20
402	3	4	4	B	58	18	20
411	1	4	4	A	23	53	30
411	2	4	4	A	23	53	30

Phase Timings Diagram for Controller Stream 4



Stage Sequence Diagram for Controller Stream 4



Traffic Stream Results

Traffic Stream Results: Vehicle summary

Time Segment	Arm	Traffic Stream	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s per cycle)	Mean Delay per Veh (s)	Mean max queue (PCU)	Utilised storage (%)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)	
17:00-18:00	17	1	45	99	864	1910	60	0.78	0.19	0.79	2.65	0.00	2.65	
		2	25	266	510	2073	60	0.28	0.04	0.17	0.57	0.00	0.57	
	101	1	65	38	1308	2005	60	1.68	0.61	2.33	8.66	0.00	8.66	
		2	31	187	669	2133	60	0.39	0.07	0.27	1.02	0.00	1.02	
	102	1	88	3	640	1989	21	34.69	12.17	63.73	87.58	8.94	96.52	
		2	88	3	668	2079	21	34.25	13.08	67.46	90.25	9.33	99.58	
		3	88	3	669	2079	21	34.44	13.12	66.62	90.87	9.37	100.24	
	111	1	74	22	726	1965	29	19.59	12.40	69.39	56.11	8.82	64.93	
		2	40	125	412	2060	29	3.06	0.59	3.24	4.98	0.44	5.42	
	121	1	0	Unrestricted	1122	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0	Unrestricted	427	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	201	1	55	65	1079	1978	60	1.09	0.33	4.35	4.64	0.00	4.64	
		2	18	410	375	2123	60	0.18	0.02	0.25	0.27	0.00	0.27	
	202	1	84	7	517	2012	19	33.42	9.51	60.06	68.14	6.88	75.02	
		2	78	16	562	2187	19	27.47	9.33	58.55	60.89	6.97	67.86	
		3	52	74	375	2187	19	19.23	5.09	31.67	28.44	3.82	32.26	
	211	1	21	329	218	1980	31	2.43	2.50	10.52	2.09	0.67	2.76	
		2	96	-6	1081	2106	31	37.76	21.53	87.39	161.01	14.02	175.03	
	221	1	0	Unrestricted	1150	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0	Unrestricted	666	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	302	1	66	37	415	1997	18	23.40	6.27	34.82	38.30	4.70	43.01	
		2	66	37	449	2159	18	23.27	6.82	31.90	41.21	5.09	46.30	
		3	75	20	510	2159	18	26.97	8.52	39.29	54.26	6.23	60.49	
	311	1	36	147	374	1987	30	12.52	6.73	45.29	18.47	4.77	23.24	
		2	88	3	936	2092	30	16.65	9.88	65.12	61.48	9.06	70.54	
		3	35	157	375	2069	30	1.39	0.20	1.35	2.06	0.15	2.21	
	321	1	38	134	735	1915	60	0.58	0.12	0.52	1.70	0.00	1.70	
		2	16	455	333	2055	60	0.17	0.02	0.07	0.22	0.00	0.22	
	322	1	0	Unrestricted	1068	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00	
	401	1	27	234	517	1917	60	0.35	0.05	0.42	0.71	0.00	0.71	
		2	20	352	412	2070	60	0.22	0.02	0.07	0.35	0.00	0.35	
	402	1	38	139	249	1886	20	16.26	3.10	17.04	15.97	2.29	18.26	
2		38	139	268	2030	20	16.22	3.32	18.10	17.15	2.49	19.64		
3		58	55	412	2023	20	19.69	5.58	30.22	32.00	4.20	36.20		
411	1	88	3	873	1931	30	29.94	13.74	60.09	103.11	10.23	113.34		
	2	84	7	885	2085	30	20.57	12.56	52.25	71.82	9.42	81.23		
421	1	0	Unrestricted	789	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00		
	2	0	Unrestricted	512	Unrestricted	60	0.00	0.00	0.00	0.00	0.00	0.00		

Final Prediction Table

Traffic Stream Results

Arm	Traffic Stream	Name	Traffic node	SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES	
				Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)	Max end of re queu (PCU)
17	1		3			864	1910	60	0.00	45	99	17.16	0.78	0.00	0.19	
	2		3			510	2073	60	0.00	25	266	16.63	0.28	0.00	0.04	
101	1		1			1308	2005	60	0.00	65	38	19.70	1.68	0.00	0.61	
	2		1			669	2133	60	0.00	31	187	18.39	0.39	0.00	0.07	
102	1		1	1	B	640	1989	21	0.00	88	3	47.87	34.69	111.41	12.17	10.5
	2		1	1	B	668	2079	21	0.00	88	3	47.63	34.25	111.34	13.08	10.8
	3		1	1	B	669	2079	21	0.00	88	3	48.03	34.44	111.70	13.12	10.9
111	1		1	1	A	726	1965	29	0.00	74	22	35.83	19.59	96.94	12.40	9.83
	2		1	1	A	412	2060	29	12.00	40	125	18.98	3.06	8.60	0.59	0.59
121	1					1122	Unrestricted	60	0.00	0	Unrestricted	40.68	0.00	0.00	0.00	
	2					427	Unrestricted	60	0.00	0	Unrestricted	41.09	0.00	0.00	0.00	
201	1		2			1079	1978	60	0.00	55	65	6.27	1.09	0.00	0.33	
	2		2			375	2123	60	0.00	18	410	5.36	0.18	0.00	0.02	
202	1		2	2	B	517	2012	19	1.69	84	7	44.35	33.42	106.08	9.51	8.43
	2		2	2	B	562	2187	19	0.15	78	16	38.47	27.47	98.91	9.33	8.19
	3		2	2	B	375	2187	19	0.16	52	74	30.32	19.23	81.26	5.09	4.74
211	1		2	2	A	218	1980	31	18.55	21	329	24.05	2.43	24.67	2.50	0.34
	2		2	2	A	1081	2106	31	0.00	96	-6	58.74	37.76	103.43	21.53	18.2
221	1					1150	Unrestricted	60	0.00	0	Unrestricted	22.50	0.00	0.00	0.00	
	2					666	Unrestricted	60	16.00	0	Unrestricted	22.68	0.00	0.00	0.00	
302	1		3	3	B	415	1997	18	0.00	66	37	37.92	23.40	90.42	6.27	5.80
	2		3	3	B	449	2159	18	0.00	66	37	38.01	23.27	90.36	6.82	6.11
	3		3	3	B	510	2159	18	0.10	75	20	41.94	26.97	97.43	8.52	7.47
311	1		3	3	A	374	1987	30	19.00	36	147	25.98	12.52	101.67	6.73	5.10
	2		3	3	A	936	2092	30	1.38	88	3	29.79	16.65	77.21	9.88	8.26
	3		3	3	A	375	2069	30	11.00	35	157	14.21	1.39	3.18	0.20	0.20
321	1		3			735	1915	60	26.00	38	134	16.39	0.58	0.00	0.12	
	2		3			333	2055	60	46.00	16	455	16.30	0.17	0.00	0.02	
322	1					1068	Unrestricted	60	0.00	0	Unrestricted	22.13	0.00	0.00	0.00	
401	1		4			517	1917	60	0.00	27	234	8.59	0.35	0.00	0.05	
	2		4			412	2070	60	0.00	20	352	24.22	0.22	0.00	0.02	
402	1		4	4	B	249	1886	20	0.00	38	139	28.82	16.26	73.22	3.10	2.88
	2		4	4	B	268	2030	20	0.00	38	139	28.87	16.22	74.07	3.32	3.16
	3		4	4	B	412	2023	20	0.00	58	55	32.44	19.69	81.23	5.58	5.21
411	1		4	4	A	873	1931	30	3.00	88	3	51.25	29.94	93.46	13.74	13.4
	2		4	4	A	885	2085	30	3.70	84	7	41.33	20.57	84.87	12.56	12.0
421	1					789	Unrestricted	60	0.00	0	Unrestricted	30.16	0.00	0.00	0.00	
	2					512	Unrestricted	60	0.00	0	Unrestricted	30.35	0.00	0.00	0.00	

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	3693.86	202.49	18.24	44.66	34.71	1126.96	127.89	0.00	1254.84
Bus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pedestrians									
TOTAL	3693.86	202.49	18.24	44.66	34.71	1126.96	127.89	0.00	1254.84

- | < = 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**

