

Appendix L

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.0.4.1693		
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Filename: 216175 - A5080_Queensbury Way - V2.j10

Path: O:\Cardiff\Vectos\CardiffShare\Projects\W210000\216175 - Chapel Lane, Halton\Technical\D - Transport Assessment\Modelling\Arcady

Report generation date: 17/05/2023 16:44:45

»2022, AM
 »2022, PM
 »2025 + Com, AM
 »2025 + Com, PM
 »2025 + Com + Dev, AM
 »2025 + Com + Dev, PM
 »2028 + Com, AM
 »2028 + Com, PM
 »2028 + Com + Dev, AM
 »2028 + Com + Dev, PM
 »2033 + Com, AM
 »2033 + Com, PM
 »2033 + Com + Dev, AM
 »2033 + Com + Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2022						
1 - A5080 (E)	0.8	4.61	0.46	2.3	8.40	0.70
2 - Queensbury Way	0.9	4.87	0.47	0.4	3.87	0.30
3 - A5080 (W)	0.7	6.27	0.41	0.6	5.59	0.39
2025 + Com						
1 - A5080 (E)	0.9	4.89	0.49	2.6	9.06	0.72
2 - Queensbury Way	0.9	5.11	0.48	0.5	4.01	0.32
3 - A5080 (W)	0.7	6.49	0.42	0.7	5.91	0.42
2025 + Com + Dev						
1 - A5080 (E)	1.0	5.00	0.50	3.1	10.34	0.76
2 - Queensbury Way	0.9	5.19	0.49	0.5	4.16	0.33
3 - A5080 (W)	1.0	7.39	0.49	0.8	6.14	0.44
2028 + Com						
1 - A5080 (E)	1.0	4.97	0.49	2.7	9.33	0.73
2 - Queensbury Way	1.0	5.20	0.49	0.5	4.05	0.32
3 - A5080 (W)	0.7	6.63	0.43	0.7	5.98	0.42
2028 + Com + Dev						
1 - A5080 (E)	1.0	5.08	0.51	3.2	10.70	0.77
2 - Queensbury Way	1.0	5.28	0.50	0.5	4.20	0.33
3 - A5080 (W)	1.0	7.55	0.50	0.8	6.21	0.44
2033 + Com						
1 - A5080 (E)	1.0	5.09	0.51	2.9	9.88	0.75
2 - Queensbury Way	1.0	5.38	0.51	0.5	4.11	0.33
3 - A5080 (W)	0.8	6.84	0.44	0.8	6.12	0.43
2033 + Com + Dev						
1 - A5080 (E)	1.1	5.21	0.52	3.5	11.46	0.78
2 - Queensbury Way	1.0	5.47	0.51	0.5	4.28	0.34
3 - A5080 (W)	1.0	7.82	0.51	0.8	6.34	0.45

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	23/08/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTOS\ben.stone
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022	AM	ONE HOUR	07:45	09:15	15	✓
D2	2022	PM	ONE HOUR	16:15	17:45	15	✓
D3	2025 + Com	AM	ONE HOUR	07:45	09:15	15	✓
D4	2025 + Com	PM	ONE HOUR	16:15	17:45	15	✓
D5	2025 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓
D7	2028 + Com	AM	ONE HOUR	07:45	09:15	15	✓
D8	2028 + Com	PM	ONE HOUR	16:15	17:45	15	✓
D9	2028 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D10	2028 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓
D11	2033 + Com	AM	ONE HOUR	07:45	09:15	15	✓
D12	2033 + Com	PM	ONE HOUR	16:15	17:45	15	✓
D13	2033 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D14	2033 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2022, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.09	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A5080 (E)		
2	Queensbury Way		
3	A5080 (W)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - A5080 (E)	3.40	4.37	3.8	28.7	39.5	11.1		
2 - Queensbury Way	3.66	8.27	6.0	51.0	39.5	8.1		
3 - A5080 (W)	3.79	4.46	2.8	16.1	39.5	16.5		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A5080 (E)	0.585	1288
2 - Queensbury Way	0.670	1673
3 - A5080 (W)	0.575	1308

The slope and intercept shown above include any corrections and adjustments.

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
1 - A5080 (E)	Percentage	Match queue data	120.00

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	594	100.000
2 - Queensbury Way		ONE HOUR	✓	584	100.000
3 - A5080 (W)		ONE HOUR	✓	356	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
1 - A5080 (E)		64	253	277
2 - Queensbury Way		411	0	173
3 - A5080 (W)		295	61	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
1 - A5080 (E)		20	2	3
2 - Queensbury Way		2	0	1
3 - A5080 (W)		3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.46	4.61	0.8	A	545	818
2 - Queensbury Way	0.47	4.87	0.9	A	536	804
3 - A5080 (W)	0.41	6.27	0.7	A	327	490

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	447	112	46	1449	0.309	445	577	0.0	0.4	3.582	A
2 - Queensbury Way	440	110	256	1466	0.300	438	235	0.0	0.4	3.495	A
3 - A5080 (W)	268	67	356	1064	0.252	267	337	0.0	0.3	4.510	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	534	133	55	1443	0.370	533	691	0.4	0.6	3.957	A
2 - Queensbury Way	525	131	306	1431	0.367	524	282	0.4	0.6	3.970	A
3 - A5080 (W)	320	80	427	1022	0.313	320	404	0.3	0.5	5.118	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	654	164	67	1434	0.456	653	846	0.6	0.8	4.602	A
2 - Queensbury Way	643	161	375	1383	0.465	642	345	0.6	0.9	4.853	A
3 - A5080 (W)	392	98	522	967	0.405	391	495	0.5	0.7	6.255	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	654	164	67	1434	0.456	654	848	0.8	0.8	4.614	A
2 - Queensbury Way	643	161	375	1382	0.465	643	346	0.9	0.9	4.869	A
3 - A5080 (W)	392	98	523	966	0.406	392	495	0.7	0.7	6.269	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	534	133	55	1442	0.370	535	694	0.8	0.6	3.972	A
2 - Queensbury Way	525	131	307	1430	0.367	526	283	0.9	0.6	3.988	A
3 - A5080 (W)	320	80	428	1022	0.313	321	405	0.7	0.5	5.145	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	447	112	46	1449	0.309	448	581	0.6	0.4	3.600	A
2 - Queensbury Way	440	110	257	1465	0.300	440	237	0.6	0.4	3.514	A
3 - A5080 (W)	268	67	358	1062	0.252	268	339	0.5	0.3	4.536	A

2022, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	6.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.77	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2022	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	914	100.000
2 - Queensbury Way		ONE HOUR	✓	361	100.000
3 - A5080 (W)		ONE HOUR	✓	376	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	69	489	356
	2 - Queensbury Way	291	0	70
	3 - A5080 (W)	265	111	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.70	8.40	2.3	A	839	1258
2 - Queensbury Way	0.30	3.87	0.4	A	331	497
3 - A5080 (W)	0.39	5.59	0.6	A	345	518

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	688	172	83	1461	0.471	685	469	0.0	0.9	4.616	A
2 - Queensbury Way	272	68	318	1428	0.190	271	449	0.0	0.2	3.107	A
3 - A5080 (W)	283	71	270	1132	0.250	282	319	0.0	0.3	4.228	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	822	205	100	1450	0.567	820	561	0.9	1.3	5.701	A
2 - Queensbury Way	325	81	381	1386	0.234	324	538	0.2	0.3	3.391	A
3 - A5080 (W)	338	85	323	1101	0.307	338	382	0.3	0.4	4.714	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1006	252	122	1434	0.702	1002	687	1.3	2.3	8.256	A
2 - Queensbury Way	397	99	466	1328	0.299	397	658	0.3	0.4	3.863	A
3 - A5080 (W)	414	103	396	1059	0.391	413	467	0.4	0.6	5.569	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1006	252	122	1434	0.702	1006	688	2.3	2.3	8.402	A
2 - Queensbury Way	397	99	468	1327	0.299	397	661	0.4	0.4	3.871	A
3 - A5080 (W)	414	103	396	1058	0.391	414	469	0.6	0.6	5.586	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	822	205	100	1450	0.567	826	563	2.3	1.3	5.807	A
2 - Queensbury Way	325	81	384	1384	0.235	325	542	0.4	0.3	3.403	A
3 - A5080 (W)	338	85	324	1100	0.307	339	385	0.6	0.4	4.733	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	688	172	84	1461	0.471	690	471	1.3	0.9	4.679	A
2 - Queensbury Way	272	68	321	1427	0.191	272	453	0.3	0.2	3.120	A
3 - A5080 (W)	283	71	271	1131	0.250	284	321	0.4	0.3	4.250	A

2025 + Com, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.34	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.34	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 + Com	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	635	100.000
2 - Queensbury Way		ONE HOUR	✓	600	100.000
3 - A5080 (W)		ONE HOUR	✓	366	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	65	272	298
	2 - Queensbury Way	424	0	176
	3 - A5080 (W)	304	62	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	20	2	3
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.49	4.89	0.9	A	583	874
2 - Queensbury Way	0.48	5.11	0.9	A	551	826
3 - A5080 (W)	0.42	6.49	0.7	A	336	504

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	478	120	46	1450	0.330	476	594	0.0	0.5	3.689	A
2 - Queensbury Way	452	113	272	1455	0.311	450	250	0.0	0.4	3.577	A
3 - A5080 (W)	276	69	367	1057	0.261	274	355	0.0	0.3	4.587	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	571	143	56	1443	0.396	570	712	0.5	0.6	4.121	A
2 - Queensbury Way	539	135	326	1417	0.381	539	300	0.4	0.6	4.096	A
3 - A5080 (W)	329	82	439	1015	0.324	329	426	0.3	0.5	5.239	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	699	175	68	1435	0.487	698	871	0.6	0.9	4.878	A
2 - Queensbury Way	661	165	399	1366	0.484	659	367	0.6	0.9	5.084	A
3 - A5080 (W)	403	101	537	958	0.421	402	521	0.5	0.7	6.465	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	699	175	68	1435	0.487	699	873	0.9	0.9	4.894	A
2 - Queensbury Way	661	165	400	1366	0.484	661	368	0.9	0.9	5.105	A
3 - A5080 (W)	403	101	538	957	0.421	403	522	0.7	0.7	6.494	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	571	143	56	1443	0.396	572	715	0.9	0.7	4.137	A
2 - Queensbury Way	539	135	327	1416	0.381	541	301	0.9	0.6	4.116	A
3 - A5080 (W)	329	82	441	1014	0.324	330	427	0.7	0.5	5.269	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	478	120	47	1449	0.330	479	598	0.7	0.5	3.710	A
2 - Queensbury Way	452	113	274	1454	0.311	452	252	0.6	0.5	3.596	A
3 - A5080 (W)	276	69	369	1056	0.261	276	357	0.5	0.4	4.618	A

2025 + Com, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	7.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 + Com	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	941	100.000
2 - Queensbury Way		ONE HOUR	✓	382	100.000
3 - A5080 (W)		ONE HOUR	✓	396	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	70	504	367
	2 - Queensbury Way	311	0	71
	3 - A5080 (W)	283	113	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.72	9.06	2.6	A	863	1295
2 - Queensbury Way	0.32	4.01	0.5	A	351	526
3 - A5080 (W)	0.42	5.91	0.7	A	363	545

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	708	177	85	1460	0.485	705	498	0.0	0.9	4.743	A
2 - Queensbury Way	288	72	327	1422	0.202	287	462	0.0	0.3	3.167	A
3 - A5080 (W)	298	75	286	1123	0.266	297	328	0.0	0.4	4.352	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	846	211	101	1449	0.584	844	596	0.9	1.4	5.937	A
2 - Queensbury Way	343	86	392	1378	0.249	343	554	0.3	0.3	3.477	A
3 - A5080 (W)	356	89	342	1090	0.327	356	393	0.4	0.5	4.899	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1036	259	124	1433	0.723	1031	730	1.4	2.5	8.865	A
2 - Queensbury Way	421	105	479	1320	0.319	420	677	0.3	0.5	3.999	A
3 - A5080 (W)	436	109	419	1045	0.417	435	480	0.5	0.7	5.892	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1036	259	124	1433	0.723	1036	731	2.5	2.6	9.059	A
2 - Queensbury Way	421	105	481	1318	0.319	421	679	0.5	0.5	4.010	A
3 - A5080 (W)	436	109	419	1045	0.417	436	482	0.7	0.7	5.912	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	846	211	102	1448	0.584	850	598	2.6	1.4	6.065	A
2 - Queensbury Way	343	86	395	1376	0.250	344	557	0.5	0.3	3.490	A
3 - A5080 (W)	356	89	343	1089	0.327	357	396	0.7	0.5	4.923	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	708	177	85	1460	0.485	710	501	1.4	1.0	4.816	A
2 - Queensbury Way	288	72	330	1420	0.202	288	466	0.3	0.3	3.179	A
3 - A5080 (W)	298	75	287	1122	0.266	299	331	0.5	0.4	4.375	A

2025 + Com + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.68	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.68	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	650	100.000
2 - Queensbury Way		ONE HOUR	✓	600	100.000
3 - A5080 (W)		ONE HOUR	✓	427	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	65	272	313
	2 - Queensbury Way	424	0	176
	3 - A5080 (W)	365	62	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	20	2	3
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.50	5.00	1.0	A	596	895
2 - Queensbury Way	0.49	5.19	0.9	A	551	826
3 - A5080 (W)	0.49	7.39	1.0	A	392	588

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	489	122	46	1450	0.337	487	640	0.0	0.5	3.731	A
2 - Queensbury Way	452	113	283	1447	0.312	450	250	0.0	0.5	3.604	A
3 - A5080 (W)	321	80	367	1057	0.304	320	367	0.0	0.4	4.871	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	584	146	56	1444	0.405	584	767	0.5	0.7	4.182	A
2 - Queensbury Way	539	135	339	1408	0.383	539	300	0.5	0.6	4.139	A
3 - A5080 (W)	384	96	439	1015	0.378	383	439	0.4	0.6	5.692	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	716	179	68	1435	0.499	714	938	0.7	1.0	4.987	A
2 - Queensbury Way	661	165	415	1355	0.488	659	367	0.6	0.9	5.165	A
3 - A5080 (W)	470	118	537	958	0.491	469	537	0.6	0.9	7.344	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	716	179	68	1435	0.499	716	940	1.0	1.0	5.003	A
2 - Queensbury Way	661	165	416	1354	0.488	661	368	0.9	0.9	5.187	A
3 - A5080 (W)	470	118	538	957	0.491	470	538	0.9	1.0	7.393	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	584	146	56	1444	0.405	586	770	1.0	0.7	4.201	A
2 - Queensbury Way	539	135	341	1407	0.383	541	301	0.9	0.6	4.160	A
3 - A5080 (W)	384	96	441	1014	0.379	385	441	1.0	0.6	5.736	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	489	122	47	1450	0.338	490	644	0.7	0.5	3.755	A
2 - Queensbury Way	452	113	285	1446	0.312	452	252	0.6	0.5	3.624	A
3 - A5080 (W)	321	80	369	1056	0.304	322	369	0.6	0.4	4.909	A

2025 + Com + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	8.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	986	100.000
2 - Queensbury Way		ONE HOUR	✓	382	100.000
3 - A5080 (W)		ONE HOUR	✓	416	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	70	504	412
	2 - Queensbury Way	311	0	71
	3 - A5080 (W)	303	113	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.76	10.34	3.1	B	905	1357
2 - Queensbury Way	0.33	4.16	0.5	A	351	526
3 - A5080 (W)	0.44	6.14	0.8	A	382	573

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	742	186	85	1460	0.508	738	513	0.0	1.0	4.960	A
2 - Queensbury Way	288	72	361	1399	0.206	287	462	0.0	0.3	3.231	A
3 - A5080 (W)	313	78	286	1122	0.279	312	362	0.0	0.4	4.432	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	886	222	101	1448	0.612	884	614	1.0	1.5	6.356	A
2 - Queensbury Way	343	86	432	1351	0.254	343	553	0.3	0.3	3.570	A
3 - A5080 (W)	374	93	342	1090	0.343	373	433	0.4	0.5	5.024	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1086	271	124	1433	0.758	1080	751	1.5	3.0	10.035	B
2 - Queensbury Way	421	105	528	1287	0.327	420	676	0.3	0.5	4.150	A
3 - A5080 (W)	458	115	419	1045	0.438	457	529	0.5	0.8	6.113	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1086	271	124	1433	0.758	1085	753	3.0	3.1	10.344	B
2 - Queensbury Way	421	105	531	1285	0.327	421	679	0.5	0.5	4.164	A
3 - A5080 (W)	458	115	419	1044	0.439	458	532	0.8	0.8	6.137	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	886	222	102	1448	0.612	892	616	3.1	1.6	6.542	A
2 - Queensbury Way	343	86	436	1349	0.255	344	558	0.5	0.3	3.586	A
3 - A5080 (W)	374	93	343	1089	0.343	375	437	0.8	0.5	5.049	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	742	186	85	1460	0.509	745	516	1.6	1.0	5.051	A
2 - Queensbury Way	288	72	364	1397	0.206	288	466	0.3	0.3	3.247	A
3 - A5080 (W)	313	78	287	1121	0.279	314	365	0.5	0.4	4.459	A

2028 + Com, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.43	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2028 + Com	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	644	100.000
2 - Queensbury Way		ONE HOUR	✓	608	100.000
3 - A5080 (W)		ONE HOUR	✓	372	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	66	276	302
	2 - Queensbury Way	430	0	178
	3 - A5080 (W)	309	63	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	20	2	3
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.49	4.97	1.0	A	591	886
2 - Queensbury Way	0.49	5.20	1.0	A	558	837
3 - A5080 (W)	0.43	6.63	0.7	A	341	512

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	485	121	47	1449	0.335	483	603	0.0	0.5	3.717	A
2 - Queensbury Way	458	114	276	1452	0.315	456	254	0.0	0.5	3.608	A
3 - A5080 (W)	280	70	372	1054	0.266	279	360	0.0	0.4	4.632	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	579	145	57	1443	0.401	578	723	0.5	0.7	4.165	A
2 - Queensbury Way	547	137	330	1414	0.387	546	304	0.5	0.6	4.141	A
3 - A5080 (W)	334	84	445	1012	0.331	334	431	0.4	0.5	5.313	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	709	177	69	1434	0.494	708	884	0.7	1.0	4.950	A
2 - Queensbury Way	669	167	404	1362	0.491	668	373	0.6	1.0	5.177	A
3 - A5080 (W)	410	102	545	953	0.430	409	528	0.5	0.7	6.596	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	709	177	69	1434	0.495	709	886	1.0	1.0	4.966	A
2 - Queensbury Way	669	167	405	1362	0.492	669	373	1.0	1.0	5.198	A
3 - A5080 (W)	410	102	546	953	0.430	410	528	0.7	0.7	6.627	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	579	145	57	1442	0.401	580	726	1.0	0.7	4.181	A
2 - Queensbury Way	547	137	332	1413	0.387	548	305	1.0	0.6	4.166	A
3 - A5080 (W)	334	84	447	1011	0.331	335	432	0.7	0.5	5.339	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	485	121	48	1449	0.335	486	607	0.7	0.5	3.738	A
2 - Queensbury Way	458	114	277	1451	0.315	458	256	0.6	0.5	3.628	A
3 - A5080 (W)	280	70	374	1053	0.266	281	362	0.5	0.4	4.664	A

2028 + Com, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	7.39	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.39	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2028 + Com	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	951	100.000
2 - Queensbury Way		ONE HOUR	✓	386	100.000
3 - A5080 (W)		ONE HOUR	✓	400	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	71	509	371
	2 - Queensbury Way	314	0	72
	3 - A5080 (W)	286	114	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.73	9.33	2.7	A	873	1309
2 - Queensbury Way	0.32	4.05	0.5	A	354	531
3 - A5080 (W)	0.42	5.98	0.7	A	367	551

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	716	179	85	1460	0.490	712	503	0.0	1.0	4.792	A
2 - Queensbury Way	291	73	331	1420	0.205	290	467	0.0	0.3	3.183	A
3 - A5080 (W)	301	75	289	1121	0.269	300	332	0.0	0.4	4.375	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	855	214	102	1448	0.590	853	602	1.0	1.4	6.031	A
2 - Queensbury Way	347	87	396	1375	0.252	347	559	0.3	0.3	3.500	A
3 - A5080 (W)	360	90	346	1088	0.331	359	397	0.4	0.5	4.937	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1047	262	125	1432	0.731	1042	737	1.4	2.6	9.118	A
2 - Queensbury Way	425	106	484	1316	0.323	424	683	0.3	0.5	4.035	A
3 - A5080 (W)	440	110	423	1043	0.422	439	486	0.5	0.7	5.968	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1047	262	126	1432	0.731	1047	739	2.6	2.7	9.335	A
2 - Queensbury Way	425	106	487	1315	0.323	425	686	0.5	0.5	4.046	A
3 - A5080 (W)	440	110	424	1042	0.423	440	488	0.7	0.7	5.981	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	855	214	103	1448	0.591	860	605	2.7	1.5	6.173	A
2 - Queensbury Way	347	87	400	1373	0.253	348	563	0.5	0.3	3.510	A
3 - A5080 (W)	360	90	347	1087	0.331	361	400	0.7	0.5	4.962	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	716	179	86	1459	0.491	718	506	1.5	1.0	4.868	A
2 - Queensbury Way	291	73	334	1418	0.205	291	470	0.3	0.3	3.197	A
3 - A5080 (W)	301	75	290	1120	0.269	302	334	0.5	0.4	4.401	A

2028 + Com + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.78	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.78	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2028 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	659	100.000
2 - Queensbury Way		ONE HOUR	✓	608	100.000
3 - A5080 (W)		ONE HOUR	✓	432	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	66	276	317
	2 - Queensbury Way	430	0	178
	3 - A5080 (W)	369	63	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	20	2	3
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.51	5.08	1.0	A	605	907
2 - Queensbury Way	0.50	5.28	1.0	A	558	837
3 - A5080 (W)	0.50	7.55	1.0	A	396	595

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	496	124	47	1450	0.342	494	648	0.0	0.5	3.760	A
2 - Queensbury Way	458	114	287	1444	0.317	456	254	0.0	0.5	3.636	A
3 - A5080 (W)	325	81	372	1054	0.309	323	371	0.0	0.4	4.915	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	592	148	57	1443	0.411	592	776	0.5	0.7	4.225	A
2 - Queensbury Way	547	137	344	1405	0.389	546	304	0.5	0.6	4.187	A
3 - A5080 (W)	388	97	445	1011	0.384	388	444	0.4	0.6	5.767	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	726	181	69	1434	0.506	724	950	0.7	1.0	5.060	A
2 - Queensbury Way	669	167	421	1351	0.495	668	372	0.6	1.0	5.259	A
3 - A5080 (W)	476	119	545	953	0.499	474	544	0.6	1.0	7.494	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	726	181	69	1434	0.506	726	952	1.0	1.0	5.079	A
2 - Queensbury Way	669	167	422	1351	0.496	669	373	1.0	1.0	5.284	A
3 - A5080 (W)	476	119	546	952	0.499	476	545	1.0	1.0	7.548	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	592	148	57	1443	0.411	594	780	1.0	0.7	4.245	A
2 - Queensbury Way	547	137	345	1404	0.389	548	305	1.0	0.6	4.211	A
3 - A5080 (W)	388	97	447	1010	0.384	390	446	1.0	0.6	5.813	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	496	124	48	1449	0.342	497	652	0.7	0.5	3.781	A
2 - Queensbury Way	458	114	289	1443	0.317	458	256	0.6	0.5	3.659	A
3 - A5080 (W)	325	81	374	1053	0.309	326	373	0.6	0.5	4.958	A

2028 + Com + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	8.27	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.27	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2028 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	996	100.000
2 - Queensbury Way		ONE HOUR	✓	386	100.000
3 - A5080 (W)		ONE HOUR	✓	420	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	71	509	416
	2 - Queensbury Way	314	0	72
	3 - A5080 (W)	306	114	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.77	10.70	3.2	B	914	1371
2 - Queensbury Way	0.33	4.20	0.5	A	354	531
3 - A5080 (W)	0.44	6.21	0.8	A	385	578

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	750	187	85	1460	0.514	746	518	0.0	1.0	5.014	A
2 - Queensbury Way	291	73	365	1397	0.208	290	466	0.0	0.3	3.247	A
3 - A5080 (W)	316	79	289	1121	0.282	315	365	0.0	0.4	4.459	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	895	224	102	1448	0.618	893	620	1.0	1.6	6.464	A
2 - Queensbury Way	347	87	437	1348	0.257	347	559	0.3	0.3	3.594	A
3 - A5080 (W)	378	94	346	1087	0.347	377	438	0.4	0.5	5.059	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1097	274	125	1432	0.766	1091	759	1.6	3.1	10.356	B
2 - Queensbury Way	425	106	533	1283	0.331	424	683	0.3	0.5	4.189	A
3 - A5080 (W)	462	116	423	1042	0.444	461	535	0.5	0.8	6.184	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1097	274	126	1432	0.766	1096	761	3.1	3.2	10.704	B
2 - Queensbury Way	425	106	536	1281	0.332	425	686	0.5	0.5	4.203	A
3 - A5080 (W)	462	116	424	1042	0.444	462	537	0.8	0.8	6.211	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	895	224	103	1448	0.619	902	623	3.2	1.7	6.664	A
2 - Queensbury Way	347	87	441	1346	0.258	348	563	0.5	0.3	3.611	A
3 - A5080 (W)	378	94	347	1087	0.347	379	441	0.8	0.5	5.093	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	750	187	86	1459	0.514	752	521	1.7	1.1	5.108	A
2 - Queensbury Way	291	73	368	1395	0.208	291	470	0.3	0.3	3.263	A
3 - A5080 (W)	316	79	290	1120	0.282	317	368	0.5	0.4	4.488	A

2033 + Com, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.60	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.60	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2033 + Com	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	659	100.000
2 - Queensbury Way		ONE HOUR	✓	623	100.000
3 - A5080 (W)		ONE HOUR	✓	380	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	68	282	309
	2 - Queensbury Way	440	0	183
	3 - A5080 (W)	316	64	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	20	2	3
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.51	5.09	1.0	A	605	907
2 - Queensbury Way	0.51	5.38	1.0	A	572	858
3 - A5080 (W)	0.44	6.84	0.8	A	349	523

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	496	124	48	1448	0.343	494	618	0.0	0.5	3.764	A
2 - Queensbury Way	469	117	283	1447	0.324	467	259	0.0	0.5	3.667	A
3 - A5080 (W)	286	72	381	1049	0.273	285	369	0.0	0.4	4.700	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	592	148	57	1442	0.411	592	740	0.5	0.7	4.231	A
2 - Queensbury Way	560	140	339	1408	0.398	559	311	0.5	0.7	4.237	A
3 - A5080 (W)	342	85	456	1005	0.340	341	442	0.4	0.5	5.416	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	726	181	70	1433	0.506	724	905	0.7	1.0	5.070	A
2 - Queensbury Way	686	171	414	1355	0.506	685	380	0.7	1.0	5.356	A
3 - A5080 (W)	418	105	558	946	0.442	417	541	0.5	0.8	6.801	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	726	181	70	1433	0.506	726	907	1.0	1.0	5.088	A
2 - Queensbury Way	686	171	415	1355	0.506	686	381	1.0	1.0	5.381	A
3 - A5080 (W)	418	105	559	945	0.443	418	542	0.8	0.8	6.836	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	592	148	58	1442	0.411	594	743	1.0	0.7	4.253	A
2 - Queensbury Way	560	140	340	1408	0.398	561	312	1.0	0.7	4.261	A
3 - A5080 (W)	342	85	458	1004	0.340	343	443	0.8	0.5	5.452	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	496	124	48	1448	0.343	497	621	0.7	0.5	3.786	A
2 - Queensbury Way	469	117	284	1446	0.324	470	261	0.7	0.5	3.691	A
3 - A5080 (W)	286	72	383	1048	0.273	287	371	0.5	0.4	4.734	A

2033 + Com, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	7.73	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.73	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2033 + Com	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	969	100.000
2 - Queensbury Way		ONE HOUR	✓	393	100.000
3 - A5080 (W)		ONE HOUR	✓	408	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	72	519	378
	2 - Queensbury Way	320	0	73
	3 - A5080 (W)	292	116	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.75	9.88	2.9	A	889	1334
2 - Queensbury Way	0.33	4.11	0.5	A	361	541
3 - A5080 (W)	0.43	6.12	0.8	A	374	562

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	730	182	87	1459	0.500	726	513	0.0	1.0	4.884	A
2 - Queensbury Way	296	74	337	1416	0.209	295	476	0.0	0.3	3.209	A
3 - A5080 (W)	307	77	294	1118	0.275	306	338	0.0	0.4	4.424	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	871	218	104	1447	0.602	869	614	1.0	1.5	6.211	A
2 - Queensbury Way	353	88	404	1371	0.258	353	570	0.3	0.3	3.538	A
3 - A5080 (W)	367	92	352	1084	0.338	366	405	0.4	0.5	5.012	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1067	267	127	1431	0.746	1062	752	1.5	2.8	9.614	A
2 - Queensbury Way	433	108	493	1310	0.330	432	696	0.3	0.5	4.097	A
3 - A5080 (W)	449	112	431	1038	0.433	448	494	0.5	0.8	6.092	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1067	267	128	1431	0.746	1067	753	2.8	2.9	9.876	A
2 - Queensbury Way	433	108	495	1309	0.331	433	699	0.5	0.5	4.109	A
3 - A5080 (W)	449	112	432	1038	0.433	449	496	0.8	0.8	6.116	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	871	218	105	1446	0.602	876	616	2.9	1.5	6.374	A
2 - Queensbury Way	353	88	407	1368	0.258	354	574	0.5	0.3	3.550	A
3 - A5080 (W)	367	92	353	1083	0.339	368	408	0.8	0.5	5.037	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	730	182	87	1458	0.500	732	516	1.5	1.0	4.968	A
2 - Queensbury Way	296	74	340	1414	0.209	296	479	0.3	0.3	3.222	A
3 - A5080 (W)	307	77	296	1117	0.275	308	340	0.5	0.4	4.451	A

2033 + Com + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	5.96	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.96	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2033 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	674	100.000
2 - Queensbury Way		ONE HOUR	✓	623	100.000
3 - A5080 (W)		ONE HOUR	✓	440	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	68	282	324
	2 - Queensbury Way	440	0	183
	3 - A5080 (W)	376	64	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	20	2	3
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	3	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.52	5.21	1.1	A	618	928
2 - Queensbury Way	0.51	5.47	1.0	A	572	858
3 - A5080 (W)	0.51	7.82	1.0	A	404	606

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	507	127	48	1449	0.350	505	662	0.0	0.5	3.808	A
2 - Queensbury Way	469	117	294	1440	0.326	467	259	0.0	0.5	3.693	A
3 - A5080 (W)	331	83	381	1049	0.316	329	380	0.0	0.5	4.992	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	606	151	57	1442	0.420	605	793	0.5	0.7	4.297	A
2 - Queensbury Way	560	140	352	1399	0.400	559	311	0.5	0.7	4.283	A
3 - A5080 (W)	396	99	456	1005	0.394	395	455	0.5	0.6	5.892	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	742	186	70	1433	0.518	741	971	0.7	1.1	5.185	A
2 - Queensbury Way	686	171	431	1344	0.510	684	380	0.7	1.0	5.444	A
3 - A5080 (W)	484	121	558	945	0.512	483	557	0.6	1.0	7.757	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	742	186	70	1433	0.518	742	973	1.1	1.1	5.207	A
2 - Queensbury Way	686	171	432	1344	0.511	686	381	1.0	1.0	5.472	A
3 - A5080 (W)	484	121	559	945	0.513	484	558	1.0	1.0	7.819	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	606	151	58	1442	0.420	607	797	1.1	0.7	4.319	A
2 - Queensbury Way	560	140	353	1398	0.401	562	312	1.0	0.7	4.309	A
3 - A5080 (W)	396	99	458	1004	0.394	397	457	1.0	0.7	5.948	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	507	127	48	1449	0.350	508	667	0.7	0.5	3.833	A
2 - Queensbury Way	469	117	296	1439	0.326	470	261	0.7	0.5	3.720	A
3 - A5080 (W)	331	83	383	1048	0.316	332	382	0.7	0.5	5.035	A

2033 + Com + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Queensbury Way	Standard Roundabout		1, 2, 3	8.73	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.73	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2033 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 (E)		ONE HOUR	✓	1015	100.000
2 - Queensbury Way		ONE HOUR	✓	393	100.000
3 - A5080 (W)		ONE HOUR	✓	427	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	72	519	424
	2 - Queensbury Way	320	0	73
	3 - A5080 (W)	311	116	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A5080 (E)	2 - Queensbury Way	3 - A5080 (W)
From	1 - A5080 (E)	6	1	2
	2 - Queensbury Way	2	0	1
	3 - A5080 (W)	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 (E)	0.78	11.46	3.5	B	931	1397
2 - Queensbury Way	0.34	4.28	0.5	A	361	541
3 - A5080 (W)	0.45	6.34	0.8	A	392	588

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	764	191	87	1459	0.524	760	527	0.0	1.1	5.121	A
2 - Queensbury Way	296	74	371	1392	0.212	295	475	0.0	0.3	3.276	A
3 - A5080 (W)	321	80	294	1118	0.288	320	372	0.0	0.4	4.503	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	912	228	104	1447	0.631	910	631	1.1	1.7	6.680	A
2 - Queensbury Way	353	88	445	1343	0.263	353	569	0.3	0.4	3.636	A
3 - A5080 (W)	384	96	352	1084	0.354	383	446	0.4	0.5	5.134	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1118	279	127	1431	0.781	1111	772	1.7	3.4	11.021	B
2 - Queensbury Way	433	108	543	1277	0.339	432	695	0.4	0.5	4.259	A
3 - A5080 (W)	470	118	431	1038	0.453	469	544	0.5	0.8	6.316	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	1118	279	128	1430	0.781	1117	774	3.4	3.5	11.459	B
2 - Queensbury Way	433	108	546	1275	0.339	433	699	0.5	0.5	4.275	A
3 - A5080 (W)	470	118	432	1037	0.453	470	547	0.8	0.8	6.345	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	912	228	105	1446	0.631	919	634	3.5	1.7	6.920	A
2 - Queensbury Way	353	88	449	1340	0.264	354	575	0.5	0.4	3.655	A
3 - A5080 (W)	384	96	353	1083	0.354	385	450	0.8	0.6	5.164	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5080 (E)	764	191	87	1458	0.524	767	530	1.7	1.1	5.226	A
2 - Queensbury Way	296	74	375	1390	0.213	296	480	0.4	0.3	3.293	A
3 - A5080 (W)	321	80	296	1117	0.288	322	375	0.6	0.4	4.535	A

Appendix M

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.0.4.1693		
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Filename: 216175 - A5080 Double Roundabouts - V2.j10

Path: O:\Cardiff\Vectos\CardiffShare\Projects\W210000\216175 - Chapel Lane, Halton\Technical\D - Transport Assessment\Modelling\Arcady

Report generation date: 17/05/2023 16:59:08

»2022, AM
 »2022, PM
 »2025 + Com, AM
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 »2028 + Com, AM
 »2028 + Com, PM
 »2028 + Com + Dev, AM
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 »2033 + Com + Dev, AM
 »2033 + Com + Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2022						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.57	0.20	0.1	2.99	0.10
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.3	5.69	0.56	3.1	9.89	0.76
1 - A5080 / Norlands Lane - 3 - A5080 (W)	2.7	13.09	0.73	2.6	13.32	0.73
2 - A5080 / Birchfield Road - 1 - Petrol Station	0.2	15.42	0.19	0.2	10.90	0.14
2 - A5080 / Birchfield Road - 2 - A5080 (E)	0.9	3.99	0.47	2.3	6.86	0.70
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.7	3.65	0.41	0.8	4.36	0.44
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.1	3.89	0.52	0.7	3.09	0.42
2025 + Com						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.66	0.21	0.1	3.08	0.11
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.5	6.14	0.60	3.5	10.85	0.78
1 - A5080 / Norlands Lane - 3 - A5080 (W)	3.0	14.51	0.76	3.3	15.98	0.77
2 - A5080 / Birchfield Road - 1 - Petrol Station	0.2	16.65	0.20	0.2	11.92	0.15
2 - A5080 / Birchfield Road - 2 - A5080 (E)	1.1	4.35	0.52	2.5	7.49	0.72
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.7	3.83	0.43	0.9	4.65	0.46
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.2	4.07	0.54	0.8	3.29	0.45
2025 + Com+ Dev						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.82	0.22	0.1	3.12	0.11
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.5	6.29	0.61	4.2	12.67	0.81
1 - A5080 / Norlands Lane - 3 - A5080 (W)	4.1	18.33	0.81	3.7	17.51	0.79

2 - A5080 / Birchfield Road - 1 - Petrol Station	0.3	18.45	0.22	0.2	12.23	0.15
2 - A5080 / Birchfield Road - 2 - A5080 (E)	1.1	4.46	0.53	2.9	8.30	0.75
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.7	3.88	0.43	0.9	4.89	0.48
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.3	4.35	0.57	0.8	3.35	0.46
2028 + Com						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.70	0.21	0.1	3.11	0.11
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.5	6.28	0.61	3.6	11.33	0.79
1 - A5080 / Norlands Lane - 3 - A5080 (W)	3.2	15.21	0.77	3.4	16.66	0.78
2 - A5080 / Birchfield Road - 1 - Petrol Station	0.3	17.19	0.21	0.2	12.18	0.15
2 - A5080 / Birchfield Road - 2 - A5080 (E)	1.1	4.44	0.52	2.7	7.77	0.73
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.8	3.90	0.43	0.9	4.74	0.47
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.2	4.15	0.55	0.8	3.33	0.45
2028 + Com + Dev						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.86	0.22	0.1	3.15	0.12
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.6	6.43	0.62	4.5	13.44	0.82
1 - A5080 / Norlands Lane - 3 - A5080 (W)	4.4	19.43	0.82	3.9	18.35	0.80
2 - A5080 / Birchfield Road - 1 - Petrol Station	0.3	19.29	0.23	0.2	12.52	0.16
2 - A5080 / Birchfield Road - 2 - A5080 (E)	1.1	4.55	0.53	3.1	8.70	0.76
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.8	3.98	0.44	0.9	5.01	0.49
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.4	4.46	0.58	0.9	3.40	0.46
2033 + Com						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.78	0.22	0.1	3.14	0.12
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.6	6.51	0.62	4.0	12.16	0.80
1 - A5080 / Norlands Lane - 3 - A5080 (W)	3.6	16.53	0.79	3.8	17.98	0.80
2 - A5080 / Birchfield Road - 1 - Petrol Station	0.3	18.43	0.22	0.2	12.60	0.16
2 - A5080 / Birchfield Road - 2 - A5080 (E)	1.2	4.58	0.54	2.9	8.29	0.75
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.8	4.02	0.45	0.9	4.90	0.49
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.3	4.32	0.56	0.8	3.40	0.46
2033 + Com + Dev						
1 - A5080 / Norlands Lane - 1 - Norlands Lane	0.3	3.95	0.23	0.1	3.18	0.12
1 - A5080 / Norlands Lane - 2 - A5080 (E)	1.7	6.68	0.63	4.9	14.47	0.84
1 - A5080 / Norlands Lane - 3 - A5080 (W)	4.9	21.59	0.84	4.3	19.91	0.82
2 - A5080 / Birchfield Road - 1 - Petrol Station	0.3	20.65	0.24	0.2	12.96	0.17
2 - A5080 / Birchfield Road - 2 - A5080 (E)	1.2	4.70	0.55	3.4	9.30	0.77
2 - A5080 / Birchfield Road - 3 - Birchfield Road	0.8	4.07	0.45	1.0	5.17	0.50
2 - A5080 / Birchfield Road - 4 - A5080 (W)	1.4	4.63	0.59	0.9	3.46	0.47

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	23/08/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTOS\ben.stone
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022	AM	ONE HOUR	07:45	09:15	15	✓
D2	2022	PM	ONE HOUR	16:15	17:45	15	✓
D3	2025 + Com	AM	ONE HOUR	07:45	09:15	15	✓
D4	2025 + Com	PM	ONE HOUR	16:15	17:45	15	✓
D5	2025 + Com+ Dev	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 + Com+ Dev	PM	ONE HOUR	16:15	17:45	15	✓
D7	2028 + Com	AM	ONE HOUR	07:45	09:15	15	✓
D8	2028 + Com	PM	ONE HOUR	16:15	17:45	15	✓
D9	2028 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D10	2028 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓
D11	2033 + Com	AM	ONE HOUR	07:45	09:15	15	✓
D12	2033 + Com	PM	ONE HOUR	16:15	17:45	15	✓
D13	2033 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D14	2033 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2022, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	8.47	A
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.10	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.94	A

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1 - A5080 / Norlands Lane	1	Norlands Lane		
	2	A5080 (E)		
	3	A5080 (W)		
2 - A5080 / Birchfield Road	1	Petrol Station		
	2	A5080 (E)		
	3	Birchfield Road		
	4	A5080 (W)		

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - A5080 / Norlands Lane	1 - Norlands Lane	4.82	5.79	15.9	63.3	24.5	12.8		
	2 - A5080 (E)	3.97	5.19	1.0	8.7	24.5	8.6		
	3 - A5080 (W)	3.45	5.35	1.4	17.9	24.5	31.6		
2 - A5080 / Birchfield Road	1 - Petrol Station	4.00	4.00	0.0	3.0	34.7	42.6		
	2 - A5080 (E)	4.30	8.88	10.1	40.1	34.7	15.8		
	3 - Birchfield Road	4.62	7.91	17.5	29.5	34.7	19.6		
	4 - A5080 (W)	5.65	6.99	14.8	69.3	34.7	6.1		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.725	1865
	2 - A5080 (E)	0.582	1292
	3 - A5080 (W)	0.543	1140
2 - A5080 / Birchfield Road	1 - Petrol Station	0.376	823
	2 - A5080 (E)	0.737	2007
	3 - Birchfield Road	0.755	2127
	4 - A5080 (W)	0.803	2265

The slope and intercept shown above include any corrections and adjustments.

Arm Capacity Adjustments

Junction	Arm	Type	Reason	Percentage capacity adjustment (%)
1 - A5080 / Norlands Lane	2 - A5080 (E)	Percentage	Match queue data	120.00

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	230	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	678	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	49	100.000
	2 - A5080 (E)		ONE HOUR	✓	735	100.000
	3 - Birchfield Road		ONE HOUR	✓	613	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

		To		
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	175	55
	2 - A5080 (E)	74	42	628
	3 - A5080 (W)	19	659	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
From		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
	1 - Petrol Station	0	35	6	8
	2 - A5080 (E)	1	3	246	485
	3 - Birchfield Road	0	340	23	250
	4 - A5080 (W)	0	590	231	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
From		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	5
	3 - A5080 (W)	0	5	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
From		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
	1 - Petrol Station	0	0	3	4
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	3	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.20	3.57	0.3	A	211	317
	2 - A5080 (E)	0.56	5.69	1.3	A	674	1012
	3 - A5080 (W)	0.73	13.09	2.7	B	622	933
2 - A5080 / Birchfield Road	1 - Petrol Station	0.19	15.42	0.2	C	45	67
	2 - A5080 (E)	0.47	3.99	0.9	A	674	1012
	3 - Birchfield Road	0.41	3.65	0.7	A	562	844
	4 - A5080 (W)	0.52	3.89	1.1	A	836	1255

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignal level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	173	43	523	1449	0.120	173	69	0.0	0.1	2.819	A
	2 - A5080 (E)	552	138	41	1456	0.379	549	655	0.0	0.6	3.962	A
	3 - A5080 (W)	510	128	86	1042	0.490	507	505	0.0	0.9	6.678	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	955	457	0.080	36	0.75	0.0	0.1	8.556	A
	2 - A5080 (E)	553	138	219	1785	0.310	551	772	0.0	0.4	2.915	A
	3 - Birchfield Road	461	115	373	1797	0.257	460	397	0.0	0.3	2.691	A
	4 - A5080 (W)	682	171	275	2037	0.335	680	558	0.0	0.5	2.650	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignal level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	207	52	628	1370	0.151	207	83	0.1	0.2	3.093	A
	2 - A5080 (E)	660	165	49	1450	0.455	659	785	0.6	0.8	4.549	A
	3 - A5080 (W)	610	152	103	1033	0.590	608	606	0.9	1.4	8.425	A
2 - A5080 / Birchfield Road	1 - Petrol Station	44	11	1146	385	0.113	43	0.90	0.1	0.1	10.539	B
	2 - A5080 (E)	661	165	263	1753	0.377	660	926	0.4	0.6	3.291	A
	3 - Birchfield Road	551	138	447	1740	0.317	551	476	0.3	0.5	3.025	A
	4 - A5080 (W)	818	205	330	1992	0.411	817	668	0.5	0.7	3.062	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignal level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	253	63	767	1266	0.200	253	101	0.2	0.2	3.554	A
	2 - A5080 (E)	808	202	60	1442	0.560	807	959	0.8	1.3	5.648	A
	3 - A5080 (W)	746	187	126	1021	0.731	742	741	1.4	2.6	12.680	B
2 - A5080 / Birchfield Road	1 - Petrol Station	53	13	1400	289	0.185	53	1	0.1	0.2	15.202	C
	2 - A5080 (E)	809	202	322	1712	0.473	808	1131	0.6	0.9	3.979	A
	3 - Birchfield Road	675	169	547	1662	0.406	674	583	0.5	0.7	3.641	A
	4 - A5080 (W)	999	250	403	1931	0.517	998	818	0.7	1.1	3.851	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignal level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	253	63	771	1262	0.201	253	101	0.2	0.3	3.566	A
	2 - A5080 (E)	810	202	61	1442	0.561	809	964	1.3	1.3	5.687	A
	3 - A5080 (W)	746	187	126	1021	0.731	746	744	2.6	2.7	13.086	B
2 - A5080 / Birchfield Road	1 - Petrol Station	53	13	1407	287	0.186	53	1	0.2	0.2	15.415	C
	2 - A5080 (E)	809	202	324	1710	0.473	809	1137	0.9	0.9	3.995	A
	3 - Birchfield Road	675	169	548	1661	0.406	675	585	0.7	0.7	3.649	A
	4 - A5080 (W)	1004	251	404	1931	0.520	1004	819	1.1	1.1	3.886	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignal level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	207	52	634	1365	0.151	207	83	0.3	0.2	3.108	A
	2 - A5080 (E)	662	166	50	1450	0.457	664	792	1.3	0.8	4.590	A
	3 - A5080 (W)	610	152	103	1033	0.590	614	610	2.7	1.5	8.699	A
2 - A5080 / Birchfield Road	1 - Petrol Station	44	11	1156	381	0.114	44	0.90	0.2	0.1	10.694	B
	2 - A5080 (E)	661	165	266	1751	0.377	662	934	0.9	0.6	3.306	A
	3 - Birchfield Road	551	138	448	1739	0.317	552	480	0.7	0.5	3.037	A
	4 - A5080 (W)	825	206	330	1992	0.414	827	670	1.1	0.7	3.094	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignal level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	173	43	529	1444	0.120	173	70	0.2	0.1	2.834	A
	2 - A5080 (E)	554	139	41	1455	0.381	555	661	0.8	0.6	4.002	A
	3 - A5080 (W)	510	128	87	1042	0.490	512	510	1.5	1.0	6.827	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	966	453	0.081	37	0.75	0.1	0.1	8.659	A
	2 - A5080 (E)	553	138	222	1783	0.310	554	780	0.6	0.5	2.932	A
	3 - Birchfield Road	461	115	375	1795	0.257	462	401	0.5	0.3	2.700	A
	4 - A5080 (W)	689	172	277	2036	0.338	690	561	0.7	0.5	2.675	A

2022, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	10.65	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	5.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.52	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2022	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	127	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	650	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	48	100.000
	2 - A5080 (E)		ONE HOUR	✓	1087	100.000
	3 - Birchfield Road		ONE HOUR	✓	581	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	101	26
	2 - A5080 (E)	178	32	815
	3 - A5080 (W)	48	601	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	25	13	10
	2 - A5080 (E)	1	5	359	722
	3 - Birchfield Road	0	281	10	290
	4 - A5080 (W)	0	454	240	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.10	2.99	0.1	A	117	175
	2 - A5080 (E)	0.76	9.89	3.1	A	950	1426
	3 - A5080 (W)	0.73	13.32	2.6	B	596	895
2 - A5080 / Birchfield Road	1 - Petrol Station	0.14	10.90	0.2	B	44	66
	2 - A5080 (E)	0.70	6.86	2.3	A	997	1496
	3 - Birchfield Road	0.44	4.36	0.8	A	533	799
	4 - A5080 (W)	0.42	3.09	0.7	A	691	1036

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	96	24	474	1511	0.063	95	170	0.0	0.1	2.543	A
	2 - A5080 (E)	777	194	20	1510	0.515	773	549	0.0	1.0	4.855	A
	3 - A5080 (W)	489	122	158	1025	0.477	486	635	0.0	0.9	6.632	A
2 - A5080 / Birchfield Road	1 - Petrol Station	36	9	784	522	0.069	36	0.75	0.0	0.1	7.390	A
	2 - A5080 (E)	818	205	220	1796	0.455	815	599	0.0	0.8	3.656	A
	3 - Birchfield Road	437	109	556	1667	0.262	436	480	0.0	0.4	2.923	A
	4 - A5080 (W)	564	141	223	2081	0.271	562	769	0.0	0.4	2.367	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	114	29	568	1440	0.079	114	204	0.1	0.1	2.713	A
	2 - A5080 (E)	930	233	24	1508	0.617	928	658	1.0	1.6	6.188	A
	3 - A5080 (W)	584	146	190	1008	0.580	583	762	0.9	1.3	8.422	A
2 - A5080 / Birchfield Road	1 - Petrol Station	43	11	941	463	0.092	43	0.90	0.1	0.1	8.555	A
	2 - A5080 (E)	977	244	264	1765	0.554	976	719	0.8	1.2	4.552	A
	3 - Birchfield Road	522	131	665	1582	0.330	522	575	0.4	0.5	3.392	A
	4 - A5080 (W)	676	169	266	2045	0.330	675	920	0.4	0.5	2.628	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	140	35	694	1347	0.104	140	249	0.1	0.1	2.982	A
	2 - A5080 (E)	1138	284	30	1504	0.757	1132	804	1.6	3.0	9.538	A
	3 - A5080 (W)	716	179	232	986	0.726	711	930	1.3	2.5	12.871	B
2 - A5080 / Birchfield Road	1 - Petrol Station	52	13	1149	385	0.136	52	1	0.1	0.2	10.810	B
	2 - A5080 (E)	1197	299	323	1723	0.695	1193	878	1.2	2.2	6.742	A
	3 - Birchfield Road	639	160	813	1468	0.436	638	702	0.5	0.8	4.336	A
	4 - A5080 (W)	825	206	326	1996	0.413	824	1125	0.5	0.7	3.071	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	140	35	698	1343	0.104	140	251	0.1	0.1	2.990	A
	2 - A5080 (E)	1141	285	30	1504	0.759	1141	808	3.0	3.1	9.887	A
	3 - A5080 (W)	716	179	234	985	0.727	715	937	2.5	2.6	13.318	B
2 - A5080 / Birchfield Road	1 - Petrol Station	52	13	1155	383	0.137	52	1	0.2	0.2	10.895	B
	2 - A5080 (E)	1197	299	325	1721	0.695	1197	883	2.2	2.3	6.857	A
	3 - Birchfield Road	639	160	816	1466	0.436	639	706	0.8	0.8	4.357	A
	4 - A5080 (W)	830	207	327	1995	0.416	830	1129	0.7	0.7	3.087	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	114	29	575	1436	0.080	114	207	0.1	0.1	2.726	A
	2 - A5080 (E)	935	234	24	1508	0.620	941	665	3.1	1.7	6.409	A
	3 - A5080 (W)	584	146	193	1007	0.580	589	772	2.6	1.4	8.710	A
2 - A5080 / Birchfield Road	1 - Petrol Station	43	11	950	460	0.093	43	0.90	0.2	0.1	8.637	A
	2 - A5080 (E)	977	244	267	1763	0.554	981	725	2.3	1.3	4.631	A
	3 - Birchfield Road	522	131	669	1579	0.331	523	580	0.8	0.5	3.414	A
	4 - A5080 (W)	682	171	267	2044	0.334	683	925	0.7	0.5	2.647	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	96	24	479	1507	0.063	96	172	0.1	0.1	2.552	A
	2 - A5080 (E)	782	195	20	1510	0.518	784	555	1.7	1.1	4.973	A
	3 - A5080 (W)	489	122	161	1024	0.478	491	644	1.4	0.9	6.783	A
2 - A5080 / Birchfield Road	1 - Petrol Station	36	9	793	519	0.069	36	0.75	0.1	0.1	7.453	A
	2 - A5080 (E)	818	205	223	1794	0.456	820	606	1.3	0.8	3.699	A
	3 - Birchfield Road	437	109	559	1664	0.263	438	484	0.5	0.4	2.936	A
	4 - A5080 (W)	569	142	224	2081	0.274	570	773	0.5	0.4	2.383	A

2025 + Com, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	9.24	A
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.36	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.42	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 + Com	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	237	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	700	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	50	100.000
	2 - A5080 (E)		ONE HOUR	✓	803	100.000
	3 - Birchfield Road		ONE HOUR	✓	631	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	181	56
	2 - A5080 (E)	79	43	670
	3 - A5080 (W)	19	681	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	36	6	8
	2 - A5080 (E)	1	3	270	529
	3 - Birchfield Road	0	354	23	254
	4 - A5080 (W)	0	614	235	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	4
	3 - A5080 (W)	0	5	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	3	3
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	2	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.21	3.66	0.3	A	217	326
	2 - A5080 (E)	0.60	6.14	1.5	A	723	1084
	3 - A5080 (W)	0.76	14.51	3.0	B	642	964
2 - A5080 / Birchfield Road	1 - Petrol Station	0.20	16.65	0.2	C	45	68
	2 - A5080 (E)	0.52	4.35	1.1	A	737	1105
	3 - Birchfield Road	0.43	3.83	0.7	A	579	869
	4 - A5080 (W)	0.54	4.07	1.2	A	864	1296

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	178	45	541	1436	0.124	178	73	0.0	0.1	2.859	A
	2 - A5080 (E)	591	148	42	1467	0.403	588	677	0.0	0.7	4.086	A
	3 - A5080 (W)	527	132	91	1040	0.507	523	540	0.0	1.0	6.907	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	988	446	0.084	37	0.75	0.0	0.1	8.791	A
	2 - A5080 (E)	604	151	222	1787	0.338	602	802	0.0	0.5	3.034	A
	3 - Birchfield Road	475	119	406	1782	0.267	474	418	0.0	0.4	2.750	A
	4 - A5080 (W)	705	176	286	2031	0.347	702	594	0.0	0.5	2.705	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	213	53	649	1355	0.157	213	87	0.1	0.2	3.151	A
	2 - A5080 (E)	708	177	50	1461	0.484	707	811	0.7	0.9	4.763	A
	3 - A5080 (W)	629	157	109	1031	0.611	627	648	1.0	1.5	8.877	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1185	372	0.120	44	0.90	0.1	0.1	10.980	B
	2 - A5080 (E)	722	180	267	1755	0.411	721	962	0.5	0.7	3.481	A
	3 - Birchfield Road	567	142	486	1719	0.330	567	502	0.4	0.5	3.121	A
	4 - A5080 (W)	845	211	342	1984	0.426	844	711	0.5	0.7	3.155	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	261	65	791	1248	0.209	261	107	0.2	0.3	3.646	A
	2 - A5080 (E)	866	217	62	1453	0.596	864	990	0.9	1.5	6.084	A
	3 - A5080 (W)	771	193	133	1018	0.757	765	792	1.5	2.9	13.934	B
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1447	274	0.199	54	1	0.1	0.2	16.361	C
	2 - A5080 (E)	884	221	326	1712	0.516	883	1175	0.7	1.1	4.330	A
	3 - Birchfield Road	695	174	595	1635	0.425	694	613	0.5	0.7	3.823	A
	4 - A5080 (W)	1031	258	419	1921	0.537	1030	870	0.7	1.1	4.029	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	261	65	797	1244	0.210	261	107	0.3	0.3	3.661	A
	2 - A5080 (E)	867	217	62	1453	0.597	867	996	1.5	1.5	6.140	A
	3 - A5080 (W)	771	193	134	1018	0.757	770	795	2.9	3.0	14.511	B
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1455	271	0.201	54	1	0.2	0.2	16.647	C
	2 - A5080 (E)	884	221	328	1711	0.517	884	1182	1.1	1.1	4.353	A
	3 - Birchfield Road	695	174	596	1634	0.425	695	616	0.7	0.7	3.832	A
	4 - A5080 (W)	1037	259	419	1921	0.540	1037	872	1.1	1.2	4.072	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	213	53	656	1349	0.158	213	88	0.3	0.2	3.169	A
	2 - A5080 (E)	710	177	50	1461	0.486	712	819	1.5	1.0	4.816	A
	3 - A5080 (W)	629	157	110	1030	0.611	635	653	3.0	1.6	9.234	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1197	368	0.121	45	0.90	0.2	0.1	11.174	B
	2 - A5080 (E)	722	180	270	1752	0.412	723	972	1.1	0.7	3.501	A
	3 - Birchfield Road	567	142	488	1718	0.330	568	506	0.7	0.5	3.134	A
	4 - A5080 (W)	853	213	343	1984	0.430	855	713	1.2	0.8	3.193	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	178	45	547	1431	0.125	179	74	0.2	0.1	2.875	A
	2 - A5080 (E)	594	148	42	1467	0.405	595	684	1.0	0.7	4.134	A
	3 - A5080 (W)	527	132	92	1040	0.507	529	546	1.6	1.0	7.086	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	999	442	0.084	37	0.75	0.1	0.1	8.909	A
	2 - A5080 (E)	604	151	225	1785	0.339	605	811	0.7	0.5	3.055	A
	3 - Birchfield Road	475	119	408	1780	0.267	476	422	0.5	0.4	2.759	A
	4 - A5080 (W)	712	178	287	2030	0.351	713	597	0.8	0.5	2.735	A

2025 + Com, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	12.21	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	5.62	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.41	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 + Com	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	132	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	690	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	48	100.000
	2 - A5080 (E)		ONE HOUR	✓	1127	100.000
	3 - Birchfield Road		ONE HOUR	✓	610	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	106	26
	2 - A5080 (E)	183	32	840
	3 - A5080 (W)	49	640	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	25	13	10
	2 - A5080 (E)	1	5	373	748
	3 - Birchfield Road	0	306	10	294
	4 - A5080 (W)	0	496	243	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.11	3.08	0.1	A	121	182
	2 - A5080 (E)	0.78	10.85	3.5	B	978	1467
	3 - A5080 (W)	0.77	15.98	3.3	C	633	950
2 - A5080 / Birchfield Road	1 - Petrol Station	0.15	11.92	0.2	B	44	66
	2 - A5080 (E)	0.72	7.49	2.5	A	1034	1551
	3 - Birchfield Road	0.46	4.65	0.9	A	560	839
	4 - A5080 (W)	0.45	3.29	0.8	A	731	1097

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	99	25	503	1490	0.067	99	175	0.0	0.1	2.588	A
	2 - A5080 (E)	800	200	20	1511	0.529	795	582	0.0	1.1	5.001	A
	3 - A5080 (W)	519	130	162	1024	0.507	515	653	0.0	1.0	7.021	A
2 - A5080 / Birchfield Road	1 - Petrol Station	36	9	835	503	0.071	36	0.75	0.0	0.1	7.695	A
	2 - A5080 (E)	848	212	221	1797	0.472	845	650	0.0	0.9	3.769	A
	3 - Birchfield Road	459	115	575	1653	0.278	458	491	0.0	0.4	3.007	A
	4 - A5080 (W)	596	149	241	2066	0.289	595	791	0.0	0.4	2.444	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	119	30	603	1415	0.084	119	210	0.1	0.1	2.776	A
	2 - A5080 (E)	957	239	24	1508	0.635	955	697	1.1	1.7	6.479	A
	3 - A5080 (W)	620	155	195	1007	0.616	618	785	1.0	1.6	9.203	A
2 - A5080 / Birchfield Road	1 - Petrol Station	43	11	1002	440	0.097	43	0.90	0.1	0.1	9.050	A
	2 - A5080 (E)	1013	253	266	1765	0.574	1011	779	0.9	1.3	4.767	A
	3 - Birchfield Road	548	137	688	1565	0.350	548	589	0.4	0.5	3.535	A
	4 - A5080 (W)	715	179	289	2027	0.353	714	947	0.4	0.5	2.741	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	145	36	735	1317	0.110	145	255	0.1	0.1	3.073	A
	2 - A5080 (E)	1170	293	30	1504	0.778	1164	851	1.7	3.3	10.376	B
	3 - A5080 (W)	760	190	237	984	0.772	753	956	1.6	3.2	15.171	C
2 - A5080 / Birchfield Road	1 - Petrol Station	52	13	1223	357	0.147	52	1	0.1	0.2	11.790	B
	2 - A5080 (E)	1241	310	324	1723	0.720	1236	951	1.3	2.5	7.331	A
	3 - Birchfield Road	671	168	841	1447	0.464	670	719	0.5	0.9	4.626	A
	4 - A5080 (W)	872	218	354	1974	0.442	871	1158	0.5	0.8	3.261	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	145	36	741	1312	0.111	145	258	0.1	0.1	3.084	A
	2 - A5080 (E)	1174	294	30	1504	0.781	1174	857	3.3	3.5	10.853	B
	3 - A5080 (W)	760	190	239	983	0.773	759	964	3.2	3.3	15.984	C
2 - A5080 / Birchfield Road	1 - Petrol Station	52	13	1231	354	0.148	52	1	0.2	0.2	11.920	B
	2 - A5080 (E)	1241	310	327	1721	0.721	1241	957	2.5	2.5	7.489	A
	3 - Birchfield Road	671	168	844	1445	0.465	671	723	0.9	0.9	4.654	A
	4 - A5080 (W)	878	220	354	1973	0.445	878	1162	0.8	0.8	3.286	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	119	30	612	1409	0.084	119	213	0.1	0.1	2.790	A
	2 - A5080 (E)	963	241	24	1508	0.638	969	706	3.5	1.8	6.764	A
	3 - A5080 (W)	620	155	198	1005	0.617	627	796	3.3	1.7	9.662	A
2 - A5080 / Birchfield Road	1 - Petrol Station	43	11	1014	436	0.098	43	0.90	0.2	0.1	9.165	A
	2 - A5080 (E)	1013	253	270	1762	0.575	1018	787	2.5	1.4	4.869	A
	3 - Birchfield Road	548	137	693	1562	0.351	549	595	0.9	0.5	3.559	A
	4 - A5080 (W)	724	181	290	2026	0.357	725	952	0.8	0.6	2.770	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	99	25	509	1485	0.067	99	177	0.1	0.1	2.597	A
	2 - A5080 (E)	805	201	20	1511	0.533	807	588	1.8	1.2	5.134	A
	3 - A5080 (W)	519	130	164	1023	0.508	522	663	1.7	1.0	7.216	A
2 - A5080 / Birchfield Road	1 - Petrol Station	36	9	846	499	0.072	36	0.75	0.1	0.1	7.771	A
	2 - A5080 (E)	848	212	225	1794	0.473	850	657	1.4	0.9	3.823	A
	3 - Birchfield Road	459	115	579	1650	0.278	460	496	0.5	0.4	3.025	A
	4 - A5080 (W)	603	151	243	2065	0.292	604	796	0.6	0.4	2.463	A

2025 + Com+ Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	11.07	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.55	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.31	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 + Com+ Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	237	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	756	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	50	100.000
	2 - A5080 (E)		ONE HOUR	✓	813	100.000
	3 - Birchfield Road		ONE HOUR	✓	634	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	181	56
	2 - A5080 (E)	79	43	684
	3 - A5080 (W)	19	737	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	36	6	8
	2 - A5080 (E)	1	3	270	539
	3 - Birchfield Road	0	354	23	257
	4 - A5080 (W)	0	656	249	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	4
	3 - A5080 (W)	0	4	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	3	3
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	2	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.22	3.82	0.3	A	217	326
	2 - A5080 (E)	0.61	6.29	1.5	A	734	1101
	3 - A5080 (W)	0.81	18.33	4.1	C	694	1041
2 - A5080 / Birchfield Road	1 - Petrol Station	0.22	18.45	0.3	C	45	68
	2 - A5080 (E)	0.53	4.46	1.1	A	746	1119
	3 - Birchfield Road	0.43	3.88	0.7	A	582	873
	4 - A5080 (W)	0.57	4.35	1.3	A	911	1367

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	178	45	582	1409	0.127	178	73	0.0	0.1	2.923	A
	2 - A5080 (E)	601	150	42	1467	0.409	598	718	0.0	0.7	4.129	A
	3 - A5080 (W)	569	142	90	1049	0.543	564	549	0.0	1.2	7.361	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	1026	432	0.086	37	0.75	0.0	0.1	9.107	A
	2 - A5080 (E)	612	153	232	1781	0.344	610	831	0.0	0.5	3.069	A
	3 - Birchfield Road	477	119	414	1776	0.269	476	428	0.0	0.4	2.766	A
	4 - A5080 (W)	743	186	286	2031	0.366	741	604	0.0	0.6	2.786	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	213	53	698	1322	0.161	213	87	0.1	0.2	3.245	A
	2 - A5080 (E)	719	180	50	1461	0.492	718	861	0.7	1.0	4.835	A
	3 - A5080 (W)	680	170	109	1039	0.654	677	659	1.2	1.8	9.855	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1231	355	0.125	44	0.90	0.1	0.1	11.583	B
	2 - A5080 (E)	731	183	278	1747	0.418	730	997	0.5	0.7	3.537	A
	3 - Birchfield Road	570	142	495	1713	0.333	569	513	0.4	0.5	3.146	A
	4 - A5080 (W)	891	223	342	1984	0.449	890	723	0.6	0.8	3.285	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	261	65	850	1209	0.216	261	107	0.2	0.3	3.797	A
	2 - A5080 (E)	880	220	62	1453	0.605	878	1049	1.0	1.5	6.228	A
	3 - A5080 (W)	832	208	133	1027	0.811	824	806	1.8	3.9	17.097	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1501	253	0.215	54	1	0.1	0.3	18.002	C
	2 - A5080 (E)	895	224	339	1704	0.525	894	1216	0.7	1.1	4.436	A
	3 - Birchfield Road	698	175	606	1627	0.429	697	626	0.5	0.7	3.869	A
	4 - A5080 (W)	1086	271	419	1921	0.565	1084	885	0.8	1.3	4.288	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	261	65	858	1203	0.217	261	107	0.3	0.3	3.819	A
	2 - A5080 (E)	881	220	62	1453	0.606	881	1057	1.5	1.5	6.289	A
	3 - A5080 (W)	832	208	133	1026	0.811	832	809	3.9	4.1	18.327	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1512	250	0.218	54	1	0.3	0.3	18.450	C
	2 - A5080 (E)	895	224	342	1701	0.526	895	1224	1.1	1.1	4.463	A
	3 - Birchfield Road	698	175	607	1626	0.429	698	630	0.7	0.7	3.880	A
	4 - A5080 (W)	1094	273	419	1921	0.569	1094	886	1.3	1.3	4.352	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	213	53	709	1314	0.162	213	88	0.3	0.2	3.274	A
	2 - A5080 (E)	721	180	50	1461	0.494	723	872	1.5	1.0	4.892	A
	3 - A5080 (W)	680	170	109	1039	0.654	688	664	4.1	1.9	10.497	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1247	349	0.128	45	0.90	0.3	0.1	11.860	B
	2 - A5080 (E)	731	183	283	1744	0.419	732	1009	1.1	0.7	3.562	A
	3 - Birchfield Road	570	142	497	1712	0.333	571	518	0.7	0.5	3.160	A
	4 - A5080 (W)	903	226	343	1984	0.455	905	725	1.3	0.8	3.341	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	178	45	590	1403	0.127	179	74	0.2	0.1	2.940	A
	2 - A5080 (E)	603	151	42	1467	0.411	604	726	1.0	0.7	4.182	A
	3 - A5080 (W)	569	142	91	1049	0.543	572	555	1.9	1.2	7.600	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	1039	427	0.087	37	0.75	0.1	0.1	9.248	A
	2 - A5080 (E)	612	153	235	1778	0.344	613	841	0.7	0.5	3.090	A
	3 - Birchfield Road	477	119	416	1775	0.269	478	432	0.5	0.4	2.778	A
	4 - A5080 (W)	752	188	287	2030	0.370	753	607	0.8	0.6	2.823	A

2025 + Com+ Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	13.81	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	6.08	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.37	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 + Com+ Dev	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	132	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	709	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	48	100.000
	2 - A5080 (E)		ONE HOUR	✓	1171	100.000
	3 - Birchfield Road		ONE HOUR	✓	611	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	106	26
	2 - A5080 (E)	183	32	885
	3 - A5080 (W)	49	659	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	25	13	10
	2 - A5080 (E)	1	5	373	792
	3 - Birchfield Road	0	306	10	295
	4 - A5080 (W)	0	514	244	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.11	3.12	0.1	A	121	182
	2 - A5080 (E)	0.81	12.67	4.2	B	1019	1529
	3 - A5080 (W)	0.79	17.51	3.7	C	651	976
2 - A5080 / Birchfield Road	1 - Petrol Station	0.15	12.23	0.2	B	44	66
	2 - A5080 (E)	0.75	8.30	2.9	A	1074	1612
	3 - Birchfield Road	0.48	4.89	0.9	A	560	841
	4 - A5080 (W)	0.46	3.35	0.8	A	749	1123

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	99	25	517	1480	0.067	99	174	0.0	0.1	2.607	A
	2 - A5080 (E)	833	208	20	1512	0.551	828	596	0.0	1.2	5.233	A
	3 - A5080 (W)	534	133	162	1025	0.521	529	687	0.0	1.1	7.202	A
2 - A5080 / Birchfield Road	1 - Petrol Station	36	9	849	498	0.072	36	0.75	0.0	0.1	7.781	A
	2 - A5080 (E)	882	220	222	1798	0.490	878	663	0.0	1.0	3.896	A
	3 - Birchfield Road	460	115	608	1628	0.282	458	492	0.0	0.4	3.072	A
	4 - A5080 (W)	610	153	241	2066	0.295	609	825	0.0	0.4	2.468	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	119	30	620	1403	0.085	119	209	0.1	0.1	2.802	A
	2 - A5080 (E)	998	249	24	1509	0.661	995	714	1.2	1.9	6.962	A
	3 - A5080 (W)	637	159	194	1008	0.632	635	825	1.1	1.7	9.590	A
2 - A5080 / Birchfield Road	1 - Petrol Station	43	11	1019	434	0.099	43	0.90	0.1	0.1	9.195	A
	2 - A5080 (E)	1053	263	266	1766	0.596	1051	796	1.0	1.5	5.018	A
	3 - Birchfield Road	549	137	728	1536	0.357	548	589	0.4	0.6	3.643	A
	4 - A5080 (W)	732	183	289	2027	0.361	731	987	0.4	0.6	2.776	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o servic
1 - A5080 / Norlands Lane	1 - Norlands Lane	145	36	755	1302	0.112	145	255	0.1	0.1	3.111	A
	2 - A5080 (E)	1219	305	30	1505	0.810	1211	871	1.9	4.0	11.894	B
	3 - A5080 (W)	781	195	237	985	0.792	773	1004	1.7	3.5	16.420	C
2 - A5080 / Birchfield Road	1 - Petrol Station	52	13	1243	350	0.150	52	1	0.1	0.2	12.080	B
	2 - A5080 (E)	1289	322	325	1724	0.748	1284	971	1.5	2.9	8.071	A
	3 - Birchfield Road	673	168	889	1412	0.476	671	719	0.6	0.9	4.852	A
	4 - A5080 (W)	892	223	353	1974	0.452	891	1207	0.6	0.8	3.321	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o servic
1 - A5080 / Norlands Lane	1 - Norlands Lane	145	36	762	1297	0.112	145	257	0.1	0.1	3.124	A
	2 - A5080 (E)	1224	306	30	1505	0.813	1223	877	4.0	4.2	12.670	B
	3 - A5080 (W)	781	195	239	984	0.793	780	1014	3.5	3.7	17.512	C
2 - A5080 / Birchfield Road	1 - Petrol Station	52	13	1252	347	0.151	52	1	0.2	0.2	12.234	B
	2 - A5080 (E)	1289	322	327	1722	0.749	1289	977	2.9	2.9	8.303	A
	3 - Birchfield Road	673	168	893	1409	0.477	672	724	0.9	0.9	4.889	A
	4 - A5080 (W)	899	225	354	1973	0.456	899	1211	0.8	0.8	3.350	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o servic
1 - A5080 / Norlands Lane	1 - Norlands Lane	119	30	630	1396	0.085	119	213	0.1	0.1	2.819	A
	2 - A5080 (E)	1004	251	24	1509	0.665	1012	724	4.2	2.0	7.372	A
	3 - A5080 (W)	637	159	198	1006	0.634	645	839	3.7	1.8	10.169	B
2 - A5080 / Birchfield Road	1 - Petrol Station	43	11	1032	429	0.100	43	0.90	0.2	0.1	9.329	A
	2 - A5080 (E)	1053	263	271	1763	0.597	1058	805	2.9	1.5	5.150	A
	3 - Birchfield Road	549	137	733	1532	0.358	550	596	0.9	0.6	3.675	A
	4 - A5080 (W)	742	186	290	2026	0.366	743	994	0.8	0.6	2.807	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	99	25	524	1475	0.067	99	177	0.1	0.1	2.619	A
	2 - A5080 (E)	839	210	20	1512	0.555	842	603	2.0	1.3	5.399	A
	3 - A5080 (W)	534	133	165	1024	0.521	536	698	1.8	1.1	7.430	A
2 - A5080 / Birchfield Road	1 - Petrol Station	36	9	860	494	0.073	36	0.75	0.1	0.1	7.865	A
	2 - A5080 (E)	882	220	225	1796	0.491	884	671	1.5	1.0	3.956	A
	3 - Birchfield Road	460	115	612	1625	0.283	461	497	0.6	0.4	3.092	A
	4 - A5080 (W)	618	154	243	2065	0.299	618	830	0.6	0.4	2.488	A

2028 + Com, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	9.60	A
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.61	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2028 + Com	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	240	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	710	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	50	100.000
	2 - A5080 (E)		ONE HOUR	✓	814	100.000
	3 - Birchfield Road		ONE HOUR	✓	640	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	183	57
	2 - A5080 (E)	80	43	679
	3 - A5080 (W)	20	690	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	36	6	8
	2 - A5080 (E)	1	3	274	536
	3 - Birchfield Road	0	358	24	258
	4 - A5080 (W)	0	622	238	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	4
	3 - A5080 (W)	0	5	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	3	3
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	2	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.21	3.70	0.3	A	220	330
	2 - A5080 (E)	0.61	6.28	1.5	A	733	1099
	3 - A5080 (W)	0.77	15.21	3.2	C	652	977
2 - A5080 / Birchfield Road	1 - Petrol Station	0.21	17.19	0.3	C	45	68
	2 - A5080 (E)	0.52	4.44	1.1	A	747	1120
	3 - Birchfield Road	0.43	3.90	0.8	A	587	881
	4 - A5080 (W)	0.55	4.15	1.2	A	874	1311

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	181	45	547	1431	0.126	180	74	0.0	0.1	2.876	A
	2 - A5080 (E)	599	150	43	1466	0.409	597	685	0.0	0.7	4.139	A
	3 - A5080 (W)	535	134	92	1040	0.514	530	548	0.0	1.0	7.012	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	1000	441	0.084	37	0.75	0.0	0.1	8.890	A
	2 - A5080 (E)	613	153	225	1785	0.343	611	811	0.0	0.5	3.061	A
	3 - Birchfield Road	482	120	412	1778	0.271	480	424	0.0	0.4	2.773	A
	4 - A5080 (W)	713	178	290	2027	0.352	711	602	0.0	0.5	2.729	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	216	54	657	1349	0.160	216	89	0.1	0.2	3.175	A
	2 - A5080 (E)	717	179	51	1461	0.491	716	821	0.7	1.0	4.830	A
	3 - A5080 (W)	638	160	110	1030	0.620	636	658	1.0	1.6	9.085	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1200	367	0.121	44	0.90	0.1	0.1	11.169	B
	2 - A5080 (E)	732	183	271	1752	0.418	731	973	0.5	0.7	3.524	A
	3 - Birchfield Road	575	144	493	1714	0.336	575	509	0.4	0.5	3.157	A
	4 - A5080 (W)	855	214	347	1981	0.432	854	721	0.5	0.8	3.194	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	264	66	801	1241	0.213	264	109	0.2	0.3	3.686	A
	2 - A5080 (E)	878	220	63	1453	0.604	876	1002	1.0	1.5	6.217	A
	3 - A5080 (W)	782	195	134	1017	0.769	776	804	1.6	3.1	14.538	B
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1465	267	0.204	54	1	0.1	0.3	16.862	C
	2 - A5080 (E)	896	224	330	1709	0.524	895	1189	0.7	1.1	4.411	A
	3 - Birchfield Road	705	176	603	1629	0.433	704	622	0.5	0.8	3.888	A
	4 - A5080 (W)	1043	261	424	1917	0.544	1042	882	0.8	1.2	4.105	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	264	66	806	1236	0.214	264	110	0.3	0.3	3.702	A
	2 - A5080 (E)	879	220	63	1453	0.605	879	1008	1.5	1.5	6.277	A
	3 - A5080 (W)	782	195	135	1017	0.769	781	807	3.1	3.2	15.211	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1473	264	0.207	54	1	0.3	0.3	17.189	C
	2 - A5080 (E)	896	224	333	1708	0.525	896	1195	1.1	1.1	4.436	A
	3 - Birchfield Road	705	176	604	1628	0.433	705	625	0.8	0.8	3.899	A
	4 - A5080 (W)	1050	262	425	1916	0.548	1050	884	1.2	1.2	4.153	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	216	54	665	1343	0.161	216	90	0.3	0.2	3.195	A
	2 - A5080 (E)	720	180	51	1461	0.493	722	830	1.5	1.0	4.888	A
	3 - A5080 (W)	638	160	111	1030	0.620	644	662	3.2	1.7	9.489	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1212	362	0.123	45	0.90	0.3	0.1	11.381	B
	2 - A5080 (E)	732	183	274	1750	0.418	733	983	1.1	0.7	3.546	A
	3 - Birchfield Road	575	144	494	1713	0.336	576	513	0.8	0.5	3.168	A
	4 - A5080 (W)	864	216	348	1980	0.436	866	723	1.2	0.8	3.238	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	181	45	554	1426	0.127	181	75	0.2	0.1	2.890	A
	2 - A5080 (E)	602	151	43	1466	0.411	603	692	1.0	0.7	4.178	A
	3 - A5080 (W)	535	134	93	1039	0.514	537	554	1.7	1.1	7.199	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	1012	437	0.085	37	0.75	0.1	0.1	9.013	A
	2 - A5080 (E)	613	153	229	1782	0.344	614	821	0.7	0.5	3.083	A
	3 - Birchfield Road	482	120	414	1776	0.271	482	429	0.5	0.4	2.785	A
	4 - A5080 (W)	721	180	291	2026	0.356	722	605	0.8	0.6	2.762	A

2028 + Com, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	12.72	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	5.78	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.72	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2028 + Com	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	135	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	697	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	49	100.000
	2 - A5080 (E)		ONE HOUR	✓	1140	100.000
	3 - Birchfield Road		ONE HOUR	✓	617	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	108	27
	2 - A5080 (E)	185	33	850
	3 - A5080 (W)	49	647	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	26	13	10
	2 - A5080 (E)	1	5	378	756
	3 - Birchfield Road	0	309	10	298
	4 - A5080 (W)	0	501	246	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.11	3.11	0.1	A	124	186
	2 - A5080 (E)	0.79	11.33	3.6	B	989	1484
	3 - A5080 (W)	0.78	16.66	3.4	C	640	959
2 - A5080 / Birchfield Road	1 - Petrol Station	0.15	12.18	0.2	B	45	67
	2 - A5080 (E)	0.73	7.77	2.7	A	1046	1569
	3 - Birchfield Road	0.47	4.74	0.9	A	566	849
	4 - A5080 (W)	0.45	3.33	0.8	A	741	1111

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	102	25	509	1485	0.068	101	176	0.0	0.1	2.600	A
	2 - A5080 (E)	809	202	21	1510	0.536	804	589	0.0	1.1	5.067	A
	3 - A5080 (W)	525	131	164	1023	0.513	521	661	0.0	1.0	7.105	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	845	500	0.073	36	0.75	0.0	0.1	7.767	A
	2 - A5080 (E)	858	215	224	1795	0.478	855	657	0.0	0.9	3.815	A
	3 - Birchfield Road	464	116	581	1648	0.282	463	498	0.0	0.4	3.033	A
	4 - A5080 (W)	604	151	244	2064	0.293	602	800	0.0	0.4	2.460	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	121	30	610	1410	0.086	121	211	0.1	0.1	2.793	A
	2 - A5080 (E)	968	242	25	1507	0.642	966	706	1.1	1.8	6.614	A
	3 - A5080 (W)	627	157	197	1006	0.623	624	794	1.0	1.6	9.382	A
2 - A5080 / Birchfield Road	1 - Petrol Station	44	11	1014	436	0.100	44	0.90	0.1	0.1	9.171	A
	2 - A5080 (E)	1025	256	269	1762	0.582	1023	789	0.9	1.4	4.858	A
	3 - Birchfield Road	554	139	695	1560	0.355	554	597	0.4	0.5	3.577	A
	4 - A5080 (W)	724	181	292	2025	0.358	724	958	0.4	0.6	2.765	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	149	37	743	1310	0.113	149	257	0.1	0.1	3.098	A
	2 - A5080 (E)	1183	296	31	1504	0.787	1177	861	1.8	3.5	10.780	B
	3 - A5080 (W)	767	192	240	983	0.781	761	967	1.6	3.3	15.736	C
2 - A5080 / Birchfield Road	1 - Petrol Station	54	13	1238	352	0.152	53	1	0.1	0.2	12.038	B
	2 - A5080 (E)	1255	314	328	1720	0.730	1250	962	1.4	2.6	7.585	A
	3 - Birchfield Road	679	170	850	1440	0.471	678	729	0.5	0.9	4.711	A
	4 - A5080 (W)	883	221	357	1971	0.448	882	1171	0.6	0.8	3.302	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	149	37	750	1306	0.114	149	260	0.1	0.1	3.110	A
	2 - A5080 (E)	1187	297	31	1503	0.790	1187	867	3.5	3.6	11.328	B
	3 - A5080 (W)	767	192	242	982	0.782	767	975	3.3	3.4	16.664	C
2 - A5080 / Birchfield Road	1 - Petrol Station	54	13	1246	349	0.153	54	1	0.2	0.2	12.182	B
	2 - A5080 (E)	1255	314	331	1718	0.731	1255	968	2.6	2.7	7.768	A
	3 - Birchfield Road	679	170	853	1438	0.472	679	733	0.9	0.9	4.743	A
	4 - A5080 (W)	889	222	357	1970	0.451	889	1175	0.8	0.8	3.328	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	121	30	619	1403	0.087	121	214	0.1	0.1	2.811	A
	2 - A5080 (E)	974	243	25	1507	0.646	981	716	3.6	1.9	6.926	A
	3 - A5080 (W)	627	157	200	1004	0.624	634	806	3.4	1.7	9.891	A
2 - A5080 / Birchfield Road	1 - Petrol Station	44	11	1026	431	0.101	44	0.90	0.2	0.1	9.296	A
	2 - A5080 (E)	1025	256	273	1759	0.582	1030	797	2.7	1.4	4.966	A
	3 - Birchfield Road	554	139	700	1556	0.356	556	603	0.9	0.6	3.605	A
	4 - A5080 (W)	734	183	293	2024	0.362	735	963	0.8	0.6	2.795	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	102	25	515	1481	0.069	102	178	0.1	0.1	2.612	A
	2 - A5080 (E)	814	203	21	1510	0.539	816	596	1.9	1.2	5.211	A
	3 - A5080 (W)	525	131	167	1022	0.514	527	671	1.7	1.1	7.314	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	856	496	0.074	37	0.75	0.1	0.1	7.849	A
	2 - A5080 (E)	858	215	228	1792	0.479	860	665	1.4	0.9	3.870	A
	3 - Birchfield Road	464	116	585	1645	0.282	465	503	0.6	0.4	3.053	A
	4 - A5080 (W)	611	153	245	2063	0.296	612	805	0.6	0.4	2.482	A

2028 + Com + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	11.61	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.66	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.60	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2028 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	240	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	766	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	50	100.000
	2 - A5080 (E)		ONE HOUR	✓	824	100.000
	3 - Birchfield Road		ONE HOUR	✓	643	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	183	57
	2 - A5080 (E)	80	43	693
	3 - A5080 (W)	20	746	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	36	6	8
	2 - A5080 (E)	1	3	274	546
	3 - Birchfield Road	0	358	24	261
	4 - A5080 (W)	0	664	252	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	4
	3 - A5080 (W)	0	4	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	3	4
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	3	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.22	3.86	0.3	A	220	330
	2 - A5080 (E)	0.62	6.43	1.6	A	744	1116
	3 - A5080 (W)	0.82	19.43	4.4	C	703	1054
2 - A5080 / Birchfield Road	1 - Petrol Station	0.23	19.29	0.3	C	45	68
	2 - A5080 (E)	0.53	4.55	1.1	A	756	1134
	3 - Birchfield Road	0.44	3.98	0.8	A	590	885
	4 - A5080 (W)	0.58	4.46	1.4	A	922	1383

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	181	45	589	1404	0.129	180	74	0.0	0.1	2.940	A
	2 - A5080 (E)	609	152	43	1466	0.415	606	726	0.0	0.7	4.171	A
	3 - A5080 (W)	577	144	91	1049	0.550	572	557	0.0	1.2	7.476	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	1038	426	0.088	37	0.75	0.0	0.1	9.252	A
	2 - A5080 (E)	620	155	235	1779	0.349	618	840	0.0	0.5	3.097	A
	3 - Birchfield Road	484	121	419	1763	0.275	483	434	0.0	0.4	2.809	A
	4 - A5080 (W)	751	188	290	2025	0.371	749	612	0.0	0.6	2.816	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	216	54	706	1316	0.164	216	89	0.1	0.2	3.270	A
	2 - A5080 (E)	729	182	51	1461	0.499	728	871	0.7	1.0	4.905	A
	3 - A5080 (W)	689	172	110	1039	0.663	686	669	1.2	1.9	10.110	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1246	348	0.128	44	0.90	0.1	0.1	11.856	B
	2 - A5080 (E)	741	185	282	1745	0.425	740	1008	0.5	0.7	3.579	A
	3 - Birchfield Road	578	145	502	1699	0.340	578	520	0.4	0.5	3.207	A
	4 - A5080 (W)	901	225	347	1978	0.455	900	733	0.6	0.8	3.335	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	264	66	859	1202	0.220	264	109	0.2	0.3	3.838	A
	2 - A5080 (E)	892	223	63	1453	0.614	890	1061	1.0	1.6	6.365	A
	3 - A5080 (W)	843	211	134	1026	0.822	834	818	1.9	4.2	17.970	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1519	245	0.222	54	1	0.1	0.3	18.766	C
	2 - A5080 (E)	907	227	343	1700	0.534	906	1229	0.7	1.1	4.520	A
	3 - Birchfield Road	708	177	614	1612	0.439	707	635	0.5	0.8	3.970	A
	4 - A5080 (W)	1097	274	424	1914	0.573	1095	897	0.8	1.3	4.388	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	264	66	868	1196	0.221	264	110	0.3	0.3	3.864	A
	2 - A5080 (E)	893	223	63	1453	0.615	893	1069	1.6	1.6	6.434	A
	3 - A5080 (W)	843	211	135	1026	0.822	843	821	4.2	4.4	19.432	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1530	241	0.226	54	1	0.3	0.3	19.288	C
	2 - A5080 (E)	907	227	346	1698	0.534	907	1238	1.1	1.1	4.551	A
	3 - Birchfield Road	708	177	615	1611	0.439	708	638	0.8	0.8	3.984	A
	4 - A5080 (W)	1106	277	425	1913	0.578	1106	898	1.3	1.4	4.458	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	216	54	718	1307	0.165	216	90	0.3	0.2	3.300	A
	2 - A5080 (E)	731	183	51	1460	0.501	733	883	1.6	1.0	4.967	A
	3 - A5080 (W)	689	172	111	1039	0.663	698	674	4.4	2.0	10.844	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1263	341	0.130	45	0.90	0.3	0.2	12.166	B
	2 - A5080 (E)	741	185	287	1741	0.425	742	1021	1.1	0.7	3.608	A
	3 - Birchfield Road	578	145	503	1698	0.340	579	525	0.8	0.5	3.220	A
	4 - A5080 (W)	914	228	348	1977	0.462	916	735	1.4	0.9	3.396	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	181	45	597	1398	0.129	181	75	0.2	0.1	2.958	A
	2 - A5080 (E)	612	153	43	1466	0.417	613	735	1.0	0.7	4.224	A
	3 - A5080 (W)	577	144	92	1048	0.550	580	563	2.0	1.2	7.738	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	1052	421	0.089	37	0.75	0.2	0.1	9.404	A
	2 - A5080 (E)	620	155	238	1776	0.349	621	851	0.7	0.5	3.121	A
	3 - Birchfield Road	484	121	421	1761	0.275	485	438	0.5	0.4	2.822	A
	4 - A5080 (W)	760	190	291	2024	0.376	762	615	0.9	0.6	2.854	A

2028 + Com + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	14.54	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	6.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.81	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2028 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	135	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	716	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	49	100.000
	2 - A5080 (E)		ONE HOUR	✓	1184	100.000
	3 - Birchfield Road		ONE HOUR	✓	618	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	108	27
	2 - A5080 (E)	185	33	895
	3 - A5080 (W)	49	666	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	26	13	10
	2 - A5080 (E)	4	5	278	800
	3 - Birchfield Road	0	309	10	299
	4 - A5080 (W)	0	520	247	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.12	3.15	0.1	A	124	186
	2 - A5080 (E)	0.82	13.44	4.5	B	1033	1549
	3 - A5080 (W)	0.80	18.35	3.9	C	657	986
2 - A5080 / Birchfield Road	1 - Petrol Station	0.16	12.52	0.2	B	45	67
	2 - A5080 (E)	0.76	8.70	3.1	A	1086	1630
	3 - Birchfield Road	0.49	5.01	0.9	A	567	850
	4 - A5080 (W)	0.46	3.40	0.9	A	758	1137

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	102	25	523	1475	0.069	101	176	0.0	0.1	2.620	A
	2 - A5080 (E)	844	211	21	1511	0.559	839	603	0.0	1.2	5.317	A
	3 - A5080 (W)	539	135	164	1024	0.527	535	696	0.0	1.1	7.298	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	859	494	0.074	36	0.75	0.0	0.1	7.857	A
	2 - A5080 (E)	891	223	224	1793	0.497	887	671	0.0	1.0	3.960	A
	3 - Birchfield Road	465	116	614	1621	0.287	464	498	0.0	0.4	3.106	A
	4 - A5080 (W)	618	155	244	2064	0.299	616	834	0.0	0.4	2.485	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	121	30	627	1398	0.087	121	211	0.1	0.1	2.820	A
	2 - A5080 (E)	1010	253	25	1508	0.670	1007	723	1.2	2.0	7.143	A
	3 - A5080 (W)	644	161	197	1006	0.640	641	835	1.1	1.7	9.791	A
2 - A5080 / Birchfield Road	1 - Petrol Station	44	11	1031	430	0.102	44	0.90	0.1	0.1	9.325	A
	2 - A5080 (E)	1064	266	270	1760	0.605	1062	805	1.0	1.5	5.141	A
	3 - Birchfield Road	555	139	735	1527	0.364	555	597	0.4	0.6	3.699	A
	4 - A5080 (W)	741	185	292	2024	0.366	740	998	0.4	0.6	2.802	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	149	37	763	1296	0.115	149	257	0.1	0.1	3.137	A
	2 - A5080 (E)	1235	309	31	1505	0.821	1226	881	2.0	4.3	12.509	B
	3 - A5080 (W)	788	197	240	983	0.802	780	1016	1.7	3.7	17.091	C
2 - A5080 / Birchfield Road	1 - Petrol Station	54	13	1257	344	0.155	53	1	0.1	0.2	12.353	B
	2 - A5080 (E)	1304	326	328	1718	0.759	1297	982	1.5	3.0	8.438	A
	3 - Birchfield Road	680	170	898	1402	0.485	679	728	0.6	0.9	4.969	A
	4 - A5080 (W)	903	226	357	1971	0.458	902	1220	0.6	0.8	3.365	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	149	37	770	1291	0.115	149	260	0.1	0.1	3.151	A
	2 - A5080 (E)	1240	310	31	1505	0.824	1239	888	4.3	4.5	13.437	B
	3 - A5080 (W)	788	197	243	982	0.803	788	1027	3.7	3.9	18.348	C
2 - A5080 / Birchfield Road	1 - Petrol Station	54	13	1266	341	0.157	54	1	0.2	0.2	12.522	B
	2 - A5080 (E)	1304	326	331	1716	0.760	1303	989	3.0	3.1	8.705	A
	3 - Birchfield Road	680	170	902	1399	0.486	680	733	0.9	0.9	5.010	A
	4 - A5080 (W)	910	228	357	1970	0.462	910	1224	0.8	0.9	3.396	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	121	30	638	1390	0.087	121	215	0.1	0.1	2.838	A
	2 - A5080 (E)	1017	254	25	1508	0.674	1027	734	4.5	2.1	7.615	A
	3 - A5080 (W)	644	161	201	1004	0.641	652	851	3.9	1.8	10.440	B
2 - A5080 / Birchfield Road	1 - Petrol Station	44	11	1045	424	0.103	44	0.90	0.2	0.1	9.472	A
	2 - A5080 (E)	1064	266	274	1757	0.606	1070	815	3.1	1.6	5.287	A
	3 - Birchfield Road	555	139	741	1523	0.365	557	604	0.9	0.6	3.733	A
	4 - A5080 (W)	752	188	293	2023	0.372	753	1005	0.9	0.6	2.837	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	102	25	530	1470	0.069	102	179	0.1	0.1	2.630	A
	2 - A5080 (E)	850	212	21	1511	0.562	853	611	2.1	1.3	5.494	A
	3 - A5080 (W)	539	135	167	1022	0.527	542	707	1.8	1.1	7.537	A
2 - A5080 / Birchfield Road	1 - Petrol Station	37	9	870	490	0.075	37	0.75	0.1	0.1	7.945	A
	2 - A5080 (E)	891	223	228	1790	0.498	894	679	1.6	1.0	4.026	A
	3 - Birchfield Road	465	116	618	1618	0.288	466	503	0.6	0.4	3.126	A
	4 - A5080 (W)	626	156	245	2063	0.303	626	839	0.6	0.4	2.508	A

2033 + Com, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	10.25	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.61	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.99	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2033 + Com	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	246	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	726	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	51	100.000
	2 - A5080 (E)		ONE HOUR	✓	832	100.000
	3 - Birchfield Road		ONE HOUR	✓	655	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	188	58
	2 - A5080 (E)	82	44	695
	3 - A5080 (W)	20	706	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	37	6	8
	2 - A5080 (E)	1	3	280	548
	3 - Birchfield Road	0	367	24	264
	4 - A5080 (W)	0	636	244	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	4
	3 - A5080 (W)	0	5	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	3	3
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	2	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.22	3.78	0.3	A	226	339
	2 - A5080 (E)	0.62	6.51	1.6	A	749	1124
	3 - A5080 (W)	0.79	16.53	3.6	C	666	999
2 - A5080 / Birchfield Road	1 - Petrol Station	0.22	18.43	0.3	C	46	70
	2 - A5080 (E)	0.54	4.58	1.2	A	763	1145
	3 - Birchfield Road	0.45	4.02	0.8	A	601	902
	4 - A5080 (W)	0.56	4.32	1.3	A	895	1343

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	185	46	560	1422	0.130	185	76	0.0	0.1	2.908	A
	2 - A5080 (E)	613	153	44	1466	0.418	610	701	0.0	0.7	4.193	A
	3 - A5080 (W)	547	137	94	1039	0.526	542	560	0.0	1.1	7.192	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	10	1023	433	0.088	38	0.75	0.0	0.1	9.104	A
	2 - A5080 (E)	626	157	230	1781	0.352	624	831	0.0	0.5	3.107	A
	3 - Birchfield Road	493	123	421	1771	0.278	492	434	0.0	0.4	2.810	A
	4 - A5080 (W)	730	183	296	2022	0.361	728	616	0.0	0.6	2.777	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	221	55	672	1338	0.165	221	91	0.1	0.2	3.223	A
	2 - A5080 (E)	733	183	52	1460	0.502	732	840	0.7	1.0	4.939	A
	3 - A5080 (W)	653	163	112	1029	0.634	650	672	1.1	1.7	9.451	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1228	356	0.128	45	0.90	0.1	0.1	11.578	B
	2 - A5080 (E)	748	187	277	1748	0.428	747	997	0.5	0.7	3.594	A
	3 - Birchfield Road	589	147	503	1706	0.345	588	520	0.4	0.5	3.218	A
	4 - A5080 (W)	875	219	355	1974	0.443	874	737	0.6	0.8	3.270	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	271	68	819	1227	0.221	271	111	0.2	0.3	3.762	A
	2 - A5080 (E)	898	224	64	1452	0.618	895	1025	1.0	1.6	6.440	A
	3 - A5080 (W)	799	200	137	1016	0.787	792	822	1.7	3.4	15.653	C
2 - A5080 / Birchfield Road	1 - Petrol Station	56	14	1499	254	0.219	55	1	0.1	0.3	18.020	C
	2 - A5080 (E)	916	229	338	1704	0.538	914	1216	0.7	1.1	4.550	A
	3 - Birchfield Road	721	180	616	1618	0.446	720	636	0.5	0.8	4.002	A
	4 - A5080 (W)	1068	267	434	1909	0.559	1066	902	0.8	1.3	4.261	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	271	68	825	1222	0.222	271	112	0.3	0.3	3.782	A
	2 - A5080 (E)	899	225	64	1452	0.619	899	1032	1.6	1.6	6.510	A
	3 - A5080 (W)	799	200	138	1015	0.787	799	825	3.4	3.6	16.533	C
2 - A5080 / Birchfield Road	1 - Petrol Station	56	14	1508	251	0.222	56	1	0.3	0.3	18.433	C
	2 - A5080 (E)	916	229	340	1702	0.538	916	1224	1.1	1.2	4.578	A
	3 - Birchfield Road	721	180	617	1617	0.446	721	639	0.8	0.8	4.016	A
	4 - A5080 (W)	1075	269	435	1908	0.563	1075	904	1.3	1.3	4.318	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	221	55	681	1331	0.166	221	92	0.3	0.2	3.245	A
	2 - A5080 (E)	736	184	52	1460	0.504	738	850	1.6	1.0	5.005	A
	3 - A5080 (W)	653	163	113	1028	0.635	660	677	3.6	1.8	9.947	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1242	351	0.130	46	0.90	0.3	0.2	11.832	B
	2 - A5080 (E)	748	187	281	1745	0.429	749	1007	1.2	0.8	3.621	A
	3 - Birchfield Road	589	147	505	1705	0.345	590	525	0.8	0.5	3.231	A
	4 - A5080 (W)	886	221	356	1973	0.449	887	739	1.3	0.8	3.320	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	185	46	567	1416	0.131	185	77	0.2	0.2	2.926	A
	2 - A5080 (E)	616	154	44	1466	0.420	617	709	1.0	0.7	4.248	A
	3 - A5080 (W)	547	137	95	1038	0.527	549	566	1.8	1.1	7.402	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	10	1036	428	0.089	38	0.75	0.2	0.1	9.242	A
	2 - A5080 (E)	626	157	234	1779	0.352	627	840	0.8	0.5	3.130	A
	3 - Birchfield Road	493	123	423	1769	0.279	494	438	0.5	0.4	2.823	A
	4 - A5080 (W)	738	185	298	2021	0.365	739	619	0.8	0.6	2.812	A

2033 + Com, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	13.68	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	6.08	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.30	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2033 + Com	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	137	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	710	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	50	100.000
	2 - A5080 (E)		ONE HOUR	✓	1162	100.000
	3 - Birchfield Road		ONE HOUR	✓	628	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	110	27
	2 - A5080 (E)	188	33	866
	3 - A5080 (W)	50	659	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	26	14	10
	2 - A5080 (E)	1	5	385	771
	3 - Birchfield Road	0	315	10	303
	4 - A5080 (W)	0	510	251	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.12	3.14	0.1	A	126	189
	2 - A5080 (E)	0.80	12.16	4.0	B	1008	1512
	3 - A5080 (W)	0.80	17.98	3.8	C	652	977
2 - A5080 / Birchfield Road	1 - Petrol Station	0.16	12.60	0.2	B	46	69
	2 - A5080 (E)	0.75	8.29	2.9	A	1066	1599
	3 - Birchfield Road	0.49	4.90	0.9	A	576	864
	4 - A5080 (W)	0.46	3.40	0.8	A	754	1131

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	103	26	518	1479	0.070	103	179	0.0	0.1	2.616	A
	2 - A5080 (E)	824	206	21	1510	0.546	819	600	0.0	1.2	5.174	A
	3 - A5080 (W)	535	134	167	1022	0.523	530	674	0.0	1.1	7.261	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	9	860	494	0.076	37	0.75	0.0	0.1	7.881	A
	2 - A5080 (E)	875	219	229	1791	0.488	871	669	0.0	0.9	3.897	A
	3 - Birchfield Road	473	118	592	1640	0.288	471	508	0.0	0.4	3.077	A
	4 - A5080 (W)	615	154	248	2061	0.298	613	815	0.0	0.4	2.485	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	123	31	621	1402	0.088	123	215	0.1	0.1	2.814	A
	2 - A5080 (E)	986	247	25	1507	0.654	984	719	1.2	1.9	6.835	A
	3 - A5080 (W)	638	160	200	1004	0.636	636	809	1.1	1.7	9.707	A
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1032	429	0.105	45	0.90	0.1	0.1	9.364	A
	2 - A5080 (E)	1045	261	275	1758	0.594	1043	802	0.9	1.4	5.017	A
	3 - Birchfield Road	564	141	709	1549	0.364	564	609	0.4	0.6	3.651	A
	4 - A5080 (W)	737	184	297	2020	0.365	736	976	0.4	0.6	2.802	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	151	38	756	1301	0.116	151	262	0.1	0.1	3.129	A
	2 - A5080 (E)	1205	301	31	1504	0.802	1198	876	1.9	3.8	11.476	B
	3 - A5080 (W)	782	195	243	981	0.797	774	985	1.7	3.6	16.802	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1259	344	0.160	55	1	0.1	0.2	12.435	B
	2 - A5080 (E)	1279	320	335	1715	0.746	1274	979	1.4	2.8	8.060	A
	3 - Birchfield Road	691	173	866	1428	0.484	690	743	0.6	0.9	4.865	A
	4 - A5080 (W)	898	224	363	1966	0.457	897	1192	0.6	0.8	3.365	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	151	38	763	1296	0.116	151	264	0.1	0.1	3.143	A
	2 - A5080 (E)	1210	302	31	1503	0.805	1209	883	3.8	4.0	12.162	B
	3 - A5080 (W)	782	195	246	980	0.798	781	994	3.6	3.8	17.977	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1268	341	0.161	55	1	0.2	0.2	12.604	B
	2 - A5080 (E)	1279	320	338	1713	0.747	1279	985	2.8	2.9	8.290	A
	3 - Birchfield Road	691	173	870	1425	0.485	691	747	0.9	0.9	4.904	A
	4 - A5080 (W)	905	226	364	1965	0.461	905	1197	0.8	0.8	3.395	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	123	31	631	1394	0.088	123	219	0.1	0.1	2.832	A
	2 - A5080 (E)	992	248	25	1507	0.658	1000	729	4.0	2.0	7.212	A
	3 - A5080 (W)	638	160	203	1002	0.637	646	822	3.8	1.8	10.321	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1046	424	0.106	45	0.90	0.2	0.1	9.506	A
	2 - A5080 (E)	1045	261	279	1755	0.595	1050	811	2.9	1.5	5.147	A
	3 - Birchfield Road	564	141	714	1545	0.365	566	615	0.9	0.6	3.679	A
	4 - A5080 (W)	747	187	298	2019	0.370	748	982	0.8	0.6	2.834	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	103	26	525	1474	0.070	103	182	0.1	0.1	2.628	A
	2 - A5080 (E)	829	207	21	1510	0.549	832	607	2.0	1.2	5.331	A
	3 - A5080 (W)	535	134	169	1020	0.524	537	684	1.8	1.1	7.493	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	9	871	490	0.077	38	0.75	0.1	0.1	7.970	A
	2 - A5080 (E)	875	219	232	1789	0.489	877	677	1.5	1.0	3.958	A
	3 - Birchfield Road	473	118	596	1636	0.289	473	513	0.6	0.4	3.096	A
	4 - A5080 (W)	622	156	249	2060	0.302	623	820	0.6	0.4	2.505	A

2033 + Com + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	12.63	B
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	4.82	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.13	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2033 + Com + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	246	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	782	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	51	100.000
	2 - A5080 (E)		ONE HOUR	✓	842	100.000
	3 - Birchfield Road		ONE HOUR	✓	658	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	188	58
	2 - A5080 (E)	82	44	708
	3 - A5080 (W)	20	762	0

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	37	6	8
	2 - A5080 (E)	1	3	280	558
	3 - Birchfield Road	0	367	24	267
	4 - A5080 (W)	0	678	257	1

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	1	2
	2 - A5080 (E)	0	5	4
	3 - A5080 (W)	0	4	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	3	3
	2 - A5080 (E)	0	3	0	5
	3 - Birchfield Road	0	2	7	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.23	3.95	0.3	A	226	339
	2 - A5080 (E)	0.63	6.68	1.7	A	761	1141
	3 - A5080 (W)	0.84	21.59	4.9	C	718	1076
2 - A5080 / Birchfield Road	1 - Petrol Station	0.24	20.65	0.3	C	46	70
	2 - A5080 (E)	0.55	4.70	1.2	A	773	1159
	3 - Birchfield Road	0.45	4.07	0.8	A	604	906
	4 - A5080 (W)	0.59	4.63	1.4	A	943	1414

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	185	46	601	1394	0.133	185	76	0.0	0.2	2.974	A
	2 - A5080 (E)	622	156	44	1466	0.424	619	743	0.0	0.7	4.238	A
	3 - A5080 (W)	589	147	94	1048	0.562	584	569	0.0	1.3	7.682	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	10	1061	419	0.091	38	0.75	0.0	0.1	9.442	A
	2 - A5080 (E)	634	158	239	1775	0.357	632	860	0.0	0.6	3.143	A
	3 - Birchfield Road	495	124	428	1765	0.281	494	443	0.0	0.4	2.827	A
	4 - A5080 (W)	768	192	296	2022	0.380	766	626	0.0	0.6	2.862	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	221	55	721	1305	0.169	221	91	0.2	0.2	3.320	A
	2 - A5080 (E)	745	186	52	1460	0.510	744	890	0.7	1.0	5.017	A
	3 - A5080 (W)	703	176	112	1038	0.678	700	683	1.3	2.0	10.563	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1274	339	0.134	45	0.90	0.1	0.2	12.247	B
	2 - A5080 (E)	757	189	287	1741	0.435	756	1032	0.6	0.8	3.652	A
	3 - Birchfield Road	592	148	512	1700	0.348	591	531	0.4	0.5	3.245	A
	4 - A5080 (W)	921	230	355	1974	0.467	920	749	0.6	0.9	3.412	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	271	68	877	1189	0.228	270	111	0.2	0.3	3.916	A
	2 - A5080 (E)	911	228	64	1452	0.628	909	1083	1.0	1.7	6.599	A
	3 - A5080 (W)	861	215	137	1024	0.841	850	835	2.0	4.7	19.605	C
2 - A5080 / Birchfield Road	1 - Petrol Station	56	14	1552	235	0.237	55	1	0.2	0.3	19.976	C
	2 - A5080 (E)	927	232	350	1696	0.547	925	1257	0.8	1.2	4.661	A
	3 - Birchfield Road	724	181	627	1610	0.450	723	648	0.5	0.8	4.054	A
	4 - A5080 (W)	1121	280	434	1909	0.587	1119	916	0.9	1.4	4.547	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	271	68	886	1182	0.229	271	112	0.3	0.3	3.950	A
	2 - A5080 (E)	913	228	64	1452	0.629	913	1093	1.7	1.7	6.678	A
	3 - A5080 (W)	861	215	138	1024	0.841	860	839	4.7	4.9	21.587	C
2 - A5080 / Birchfield Road	1 - Petrol Station	56	14	1565	230	0.242	56	1	0.3	0.3	20.645	C
	2 - A5080 (E)	927	232	353	1693	0.547	927	1267	1.2	1.2	4.696	A
	3 - Birchfield Road	724	181	628	1609	0.450	724	652	0.8	0.8	4.067	A
	4 - A5080 (W)	1131	283	435	1908	0.593	1131	918	1.4	1.4	4.629	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	221	55	735	1294	0.171	222	92	0.3	0.2	3.358	A
	2 - A5080 (E)	747	187	52	1460	0.512	750	905	1.7	1.1	5.088	A
	3 - A5080 (W)	703	176	113	1037	0.678	714	689	4.9	2.2	11.499	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1293	332	0.137	46	0.90	0.3	0.2	12.624	B
	2 - A5080 (E)	757	189	293	1737	0.436	759	1046	1.2	0.8	3.684	A
	3 - Birchfield Road	592	148	514	1698	0.348	593	537	0.8	0.5	3.259	A
	4 - A5080 (W)	936	234	356	1973	0.474	938	751	1.4	0.9	3.487	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	185	46	610	1388	0.133	185	77	0.2	0.2	2.993	A
	2 - A5080 (E)	625	156	44	1466	0.427	626	752	1.1	0.7	4.295	A
	3 - A5080 (W)	589	147	95	1047	0.562	592	576	2.2	1.3	7.975	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	10	1076	413	0.092	38	0.75	0.2	0.1	9.609	A
	2 - A5080 (E)	634	158	243	1773	0.358	635	871	0.8	0.6	3.165	A
	3 - Birchfield Road	495	124	430	1763	0.281	496	447	0.5	0.4	2.840	A
	4 - A5080 (W)	778	194	298	2021	0.385	779	629	0.9	0.6	2.903	A

2033 + Com + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - A5080 / Norlands Lane - 2 - A5080 (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - A5080 / Norlands Lane	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - A5080 / Birchfield Road - 4 - A5080 (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - A5080 / Birchfield Road	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A5080 / Norlands Lane	Standard Roundabout		1, 2, 3	15.70	C
2	A5080 / Birchfield Road	Standard Roundabout		1, 2, 3, 4	6.64	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.49	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2033 + Com + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - A5080 / Norlands Lane	2 - A5080 (E)	2	4	Simple (vertical queueing)	Normal	0	100.00	
2 - A5080 / Birchfield Road	4 - A5080 (W)	1	2	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5080 / Norlands Lane	1 - Norlands Lane		ONE HOUR	✓	137	100.000
	2 - A5080 (E)	✓				
	3 - A5080 (W)		ONE HOUR	✓	729	100.000
2 - A5080 / Birchfield Road	1 - Petrol Station		ONE HOUR	✓	50	100.000
	2 - A5080 (E)		ONE HOUR	✓	1206	100.000
	3 - Birchfield Road		ONE HOUR	✓	629	100.000
	4 - A5080 (W)	✓				

Origin-Destination Data

Demand (Veh/hr)

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	110	27
	2 - A5080 (E)	188	33	911
	3 - A5080 (W)	50	678	1

Demand (Veh/hr)

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	26	14	10
	2 - A5080 (E)	1	5	385	815
	3 - Birchfield Road	0	315	10	304
	4 - A5080 (W)	0	529	252	3

Vehicle Mix

Heavy Vehicle Percentages

1 - A5080 / Norlands Lane

	To			
		1 - Norlands Lane	2 - A5080 (E)	3 - A5080 (W)
From	1 - Norlands Lane	0	0	0
	2 - A5080 (E)	0	4	2
	3 - A5080 (W)	0	3	0

Heavy Vehicle Percentages

2 - A5080 / Birchfield Road

	To				
		1 - Petrol Station	2 - A5080 (E)	3 - Birchfield Road	4 - A5080 (W)
From	1 - Petrol Station	0	0	2	1
	2 - A5080 (E)	0	2	0	4
	3 - Birchfield Road	0	3	2	0
	4 - A5080 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5080 / Norlands Lane	1 - Norlands Lane	0.12	3.18	0.1	A	126	189
	2 - A5080 (E)	0.84	14.47	4.9	B	1049	1574
	3 - A5080 (W)	0.82	19.91	4.3	C	669	1003
2 - A5080 / Birchfield Road	1 - Petrol Station	0.17	12.96	0.2	B	46	69
	2 - A5080 (E)	0.77	9.30	3.4	A	1107	1660
	3 - Birchfield Road	0.50	5.17	1.0	A	577	866
	4 - A5080 (W)	0.47	3.46	0.9	A	771	1157

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	103	26	532	1469	0.070	103	179	0.0	0.1	2.635	A
	2 - A5080 (E)	858	214	21	1511	0.567	852	614	0.0	1.3	5.422	A
	3 - A5080 (W)	549	137	166	1023	0.537	544	707	0.0	1.1	7.457	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	9	875	488	0.077	37	0.75	0.0	0.1	7.975	A
	2 - A5080 (E)	908	227	229	1793	0.507	904	683	0.0	1.0	4.032	A
	3 - Birchfield Road	474	118	625	1615	0.293	472	508	0.0	0.4	3.145	A
	4 - A5080 (W)	629	157	248	2060	0.305	627	849	0.0	0.4	2.507	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	123	31	638	1390	0.089	123	215	0.1	0.1	2.841	A
	2 - A5080 (E)	1026	257	25	1508	0.681	1023	736	1.3	2.1	7.373	A
	3 - A5080 (W)	655	164	200	1005	0.652	653	849	1.1	1.8	10.140	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1049	423	0.106	45	0.90	0.1	0.1	9.523	A
	2 - A5080 (E)	1084	271	275	1759	0.616	1082	819	1.0	1.6	5.295	A
	3 - Birchfield Road	565	141	748	1520	0.372	565	609	0.4	0.6	3.767	A
	4 - A5080 (W)	754	188	297	2020	0.373	753	1016	0.4	0.6	2.839	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	151	38	776	1287	0.117	151	261	0.1	0.1	3.168	A
	2 - A5080 (E)	1254	314	31	1505	0.834	1244	895	2.1	4.6	13.315	B
	3 - A5080 (W)	803	201	243	982	0.817	794	1032	1.8	4.0	18.305	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1279	336	0.164	55	1	0.1	0.2	12.766	B
	2 - A5080 (E)	1328	332	335	1716	0.774	1321	998	1.6	3.3	8.956	A
	3 - Birchfield Road	693	173	914	1392	0.497	691	743	0.6	1.0	5.120	A
	4 - A5080 (W)	917	229	364	1965	0.467	916	1241	0.6	0.9	3.429	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	151	38	783	1281	0.118	151	264	0.1	0.1	3.184	A
	2 - A5080 (E)	1259	315	31	1504	0.837	1258	903	4.6	4.9	14.474	B
	3 - A5080 (W)	803	201	246	980	0.819	802	1043	4.0	4.3	19.907	C
2 - A5080 / Birchfield Road	1 - Petrol Station	55	14	1289	333	0.165	55	1	0.2	0.2	12.964	B
	2 - A5080 (E)	1328	332	338	1714	0.775	1328	1005	3.3	3.4	9.295	A
	3 - Birchfield Road	693	173	918	1389	0.499	693	748	1.0	1.0	5.168	A
	4 - A5080 (W)	926	231	364	1965	0.471	926	1246	0.9	0.9	3.463	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level o service
1 - A5080 / Norlands Lane	1 - Norlands Lane	123	31	649	1381	0.089	123	219	0.1	0.1	2.862	A
	2 - A5080 (E)	1034	259	25	1508	0.686	1045	748	4.9	2.2	7.932	A
	3 - A5080 (W)	655	164	204	1003	0.654	665	866	4.3	1.9	10.922	B
2 - A5080 / Birchfield Road	1 - Petrol Station	45	11	1065	417	0.108	45	0.90	0.2	0.1	9.689	A
	2 - A5080 (E)	1084	271	280	1756	0.617	1091	830	3.4	1.6	5.468	A
	3 - Birchfield Road	565	141	755	1515	0.373	567	617	1.0	0.6	3.805	A
	4 - A5080 (W)	766	191	298	2019	0.379	767	1023	0.9	0.6	2.879	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignali level of service
1 - A5080 / Norlands Lane	1 - Norlands Lane	103	26	539	1463	0.071	103	182	0.1	0.1	2.647	A
	2 - A5080 (E)	863	216	21	1511	0.571	867	621	2.2	1.4	5.619	A
	3 - A5080 (W)	549	137	169	1021	0.537	552	719	1.9	1.2	7.722	A
2 - A5080 / Birchfield Road	1 - Petrol Station	38	9	886	484	0.078	38	0.75	0.1	0.1	8.069	A
	2 - A5080 (E)	908	227	233	1790	0.507	910	691	1.6	1.0	4.105	A
	3 - Birchfield Road	474	118	630	1611	0.294	474	514	0.6	0.4	3.169	A
	4 - A5080 (W)	637	159	250	2059	0.309	637	854	0.6	0.4	2.532	A



Appendix N

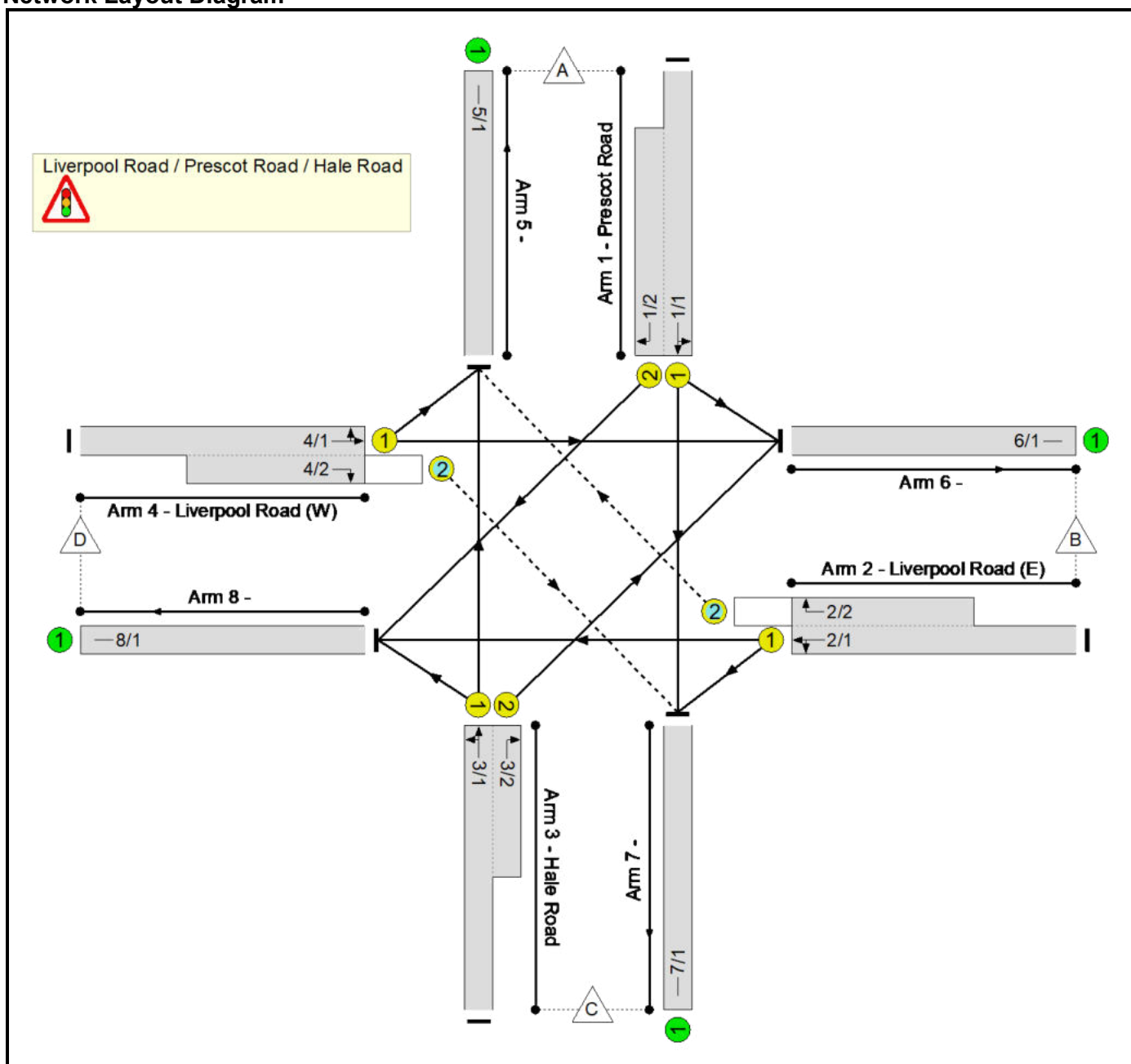
Full Input Data And Results

Full Input Data And Results

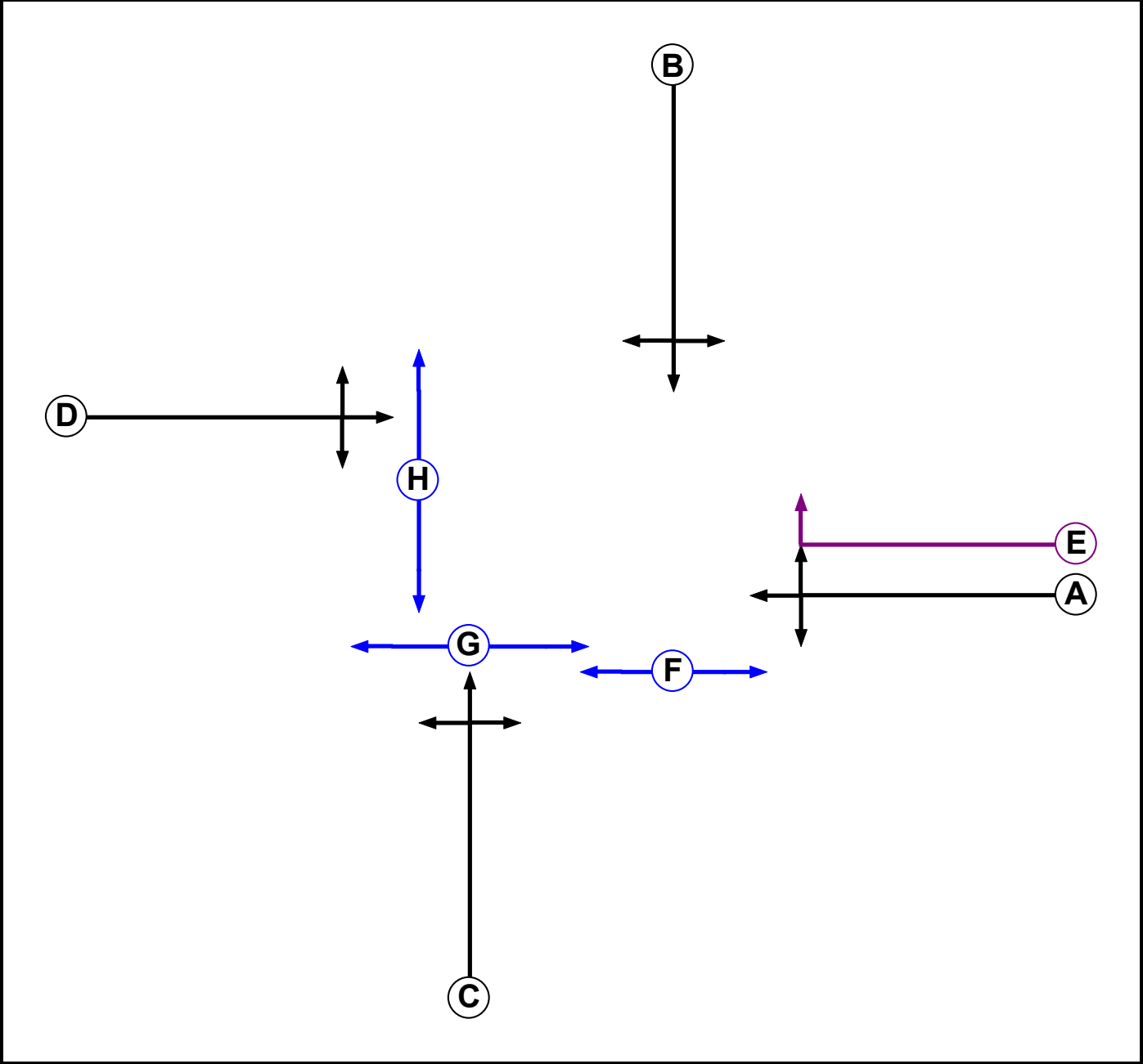
User and Project Details

Project:	
Title:	
Location:	
Model Assumptions:	pedestrian intergreens calculated using minimum clearance based on signal specification sheet.
Additional detail:	
File name:	216175 - Liverpool Rd_Prescot Rd_Hale Rd - V3.lsg3x
Author:	Ben Stone
Company:	Vectos, part of SLR
Address:	

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		-9999	7
B	Traffic		-9999	7
C	Traffic		-9999	7
D	Traffic		-9999	7
E	Ind. Arrow	A	-9999	7
F	Pedestrian		-9999	5
G	Pedestrian		-9999	7
H	Pedestrian		-9999	11

Full Input Data And Results

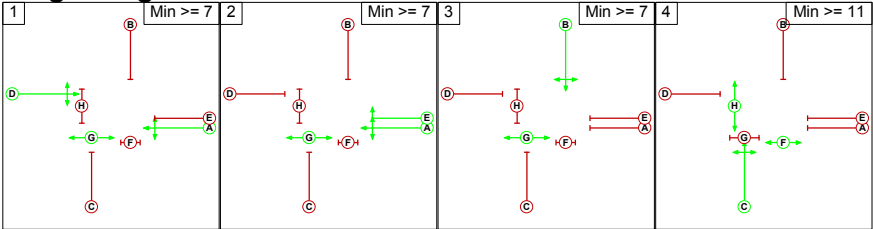
Phase Intergreens Matrix

Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A		7	7	-	-	9	-	9
	B	7		7	7	7	9	-	9
	C	7	7		7	7	-	5	-
	D	-	7	7		7	8	-	5
	E	-	7	7	7		-	-	-
	F	6	6	-	6	-		-	-
	G	-	-	6	-	-	-		-
	H	6	6	-	6	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A D G
2	A E G
3	B G
4	C F H

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage				
	1	2	3	4	
	1		7	7	9
	2	7		7	9
	3	7	7		9
	4	7	7	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Liverpool Road / Prescot Road / Hale Road											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/2 (Liverpool Road (E))	5/1 (Right)	1439	0	4/1	1.09	All	3.00	-	0.50	3	3.00
4/2 (Liverpool Road (W))	7/1 (Right)	1439	0	2/1	1.09	All	3.00	-	0.50	3	3.00

Lane Input Data

Junction: Liverpool Road / Prescott Road / Hale Road												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Prescot Road)	U	B	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	16.00
											Arm 7 Ahead	Inf
1/2 (Prescot Road)	U	B	2	3	12.9	Geom	-	2.50	0.00	N	Arm 8 Right	18.00
2/1 (Liverpool Road (E))	U	A	2	3	60.0	Geom	-	2.60	0.00	Y	Arm 7 Left	19.00
											Arm 8 Ahead	Inf
2/2 (Liverpool Road (E))	O	A E	2	3	9.6	Geom	-	2.60	0.00	N	Arm 5 Right	12.00
3/1 (Hale Road)	U	C	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.00
3/2 (Hale Road)	U	C	2	3	8.0	Geom	-	2.50	0.00	N	Arm 6 Right	25.00
4/1 (Liverpool Road (W))	U	D	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 5 Left	21.00
											Arm 6 Ahead	Inf
4/2 (Liverpool Road (W))	O	D	2	3	9.4	Geom	-	2.50	0.00	N	Arm 7 Right	10.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2022 Observed AM'	08:00	09:00	01:00	
2: '2022 Observed PM'	16:30	17:30	01:00	
3: '2025 + Com AM'	08:00	09:00	01:00	
4: '2025 + Com PM'	16:30	17:30	01:00	
5: '2025 + Com + Dev AM'	08:00	09:00	01:00	
6: '2025 + Com + Dev PM'	16:30	17:30	01:00	
7: '2028 + Com AM'	08:00	09:00	01:00	
8: '2028 + Com PM'	16:30	17:30	01:00	
9: '2028 + Com + Dev AM'	08:00	09:00	01:00	
10: '2028 + Com + Dev PM'	16:30	17:30	01:00	
11: '2033 + Com AM'	08:00	09:00	01:00	
12: '2033 + Com PM'	16:30	17:30	01:00	
13: '2033 + Com + Dev AM'	08:00	09:00	01:00	
14: '2033 + Com + Dev PM'	16:30	17:30	01:00	
15: '2022 Observed AM (0700-0800)'	07:00	08:00	01:00	
16: '2022 Observed PM (1730-1830)'	17:30	18:30	01:00	
21: '2025 + Com AM (0700-0800)'	07:00	08:00	01:00	F15*1.017+F19
22: '2025 + Com PM (1730-1830)'	17:30	18:30	01:00	F16*1.015+F20
23: '2025 + Com + Dev AM (0700-0800)'	07:00	08:00	01:00	F21+F17
24: '2025 + Com + Dev PM (1730-1830)'	17:30	18:30	01:00	F22+F18
25: '2028 + Com AM (0700-0800)'	07:00	08:00	01:00	F15*1.031+F19
26: '2028 + Com PM (1730-1830)'	17:30	18:30	01:00	F16*1.026+F20
27: '2028 + Com + Dev AM (0700-0800)'	07:00	08:00	01:00	F25+F17
28: '2028 + Com + Dev PM (1730-1830)'	17:30	18:30	01:00	F26+F18
29: '2033 + Com AM (0700-0800)'	07:00	08:00	01:00	F15*1.055+F19
30: '2033 + Com PM (1730-1830)'	17:30	18:30	01:00	F16*1.047+F20
31: '2033 + Com + Dev AM (0700-0800)'	07:00	08:00	01:00	F29+F17
32: '2033 + Com + Dev PM (1730-1830)'	17:30	18:30	01:00	F30+F18

Scenario 1: '2022 Observed AM' (FG1: '2022 Observed AM', Plan 1: 'Network Control Plan 1')
Traffic Flows, Desired
Desired Flow :

	Destination					
Origin	A	0	123	277	139	539
	B	155	0	178	241	574
	C	197	181	0	73	451
	D	124	289	75	0	488
	Tot.	476	593	530	453	2052

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2022 Observed AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	539(In) 400(Out)
1/2 (short)	139
2/1 (with short)	574(In) 419(Out)
2/2 (short)	155
3/1 (with short)	451(In) 270(Out)
3/2 (short)	181
4/1 (with short)	488(In) 413(Out)
4/2 (short)	75
5/1	476
6/1	593
7/1	530
8/1	453

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	30.8 %	1813	1813
				Arm 7 Ahead	Inf	69.3 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.5 %	1814	1814
				Arm 8 Ahead	Inf	57.5 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.0 %	1812	1812
				Arm 8 Left	14.00	27.0 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.0 %	1826	1826
				Arm 6 Ahead	Inf	70.0 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2022 Observed PM' (FG2: '2022 Observed PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	141	228	115	484
	B	200	0	119	277	596
	C	344	122	0	72	538
	D	129	199	70	0	398
	Tot.	673	462	417	464	2016

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2022 Observed PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	484(In) 369(Out)
1/2 (short)	115
2/1 (with short)	596(In) 396(Out)
2/2 (short)	200
3/1 (with short)	538(In) 416(Out)
3/2 (short)	122
4/1 (with short)	398(In) 328(Out)
4/2 (short)	70
5/1	673
6/1	462
7/1	417
8/1	464

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	38.2 %	1801	1801
				Arm 7 Ahead	Inf	61.8 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.1 %	1832	1832
				Arm 8 Ahead	Inf	69.9 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	82.7 %	1831	1831
				Arm 8 Left	14.00	17.3 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	39.3 %	1814	1814
				Arm 6 Ahead	Inf	60.7 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2025 + Com AM' (FG3: '2025 + Com AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	125	288	145	558
	B	157	0	181	244	582
	C	203	183	0	75	461
	D	127	294	77	0	498
	Tot.	487	602	546	464	2099

Traffic Lane Flows

Lane	Scenario 3: 2025 + Com AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	558(In) 413(Out)
1/2 (short)	145
2/1 (with short)	582(In) 425(Out)
2/2 (short)	157
3/1 (with short)	461(In) 278(Out)
3/2 (short)	183
4/1 (with short)	498(In) 421(Out)
4/2 (short)	77
5/1	487
6/1	602
7/1	546
8/1	464

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	30.3 %	1814	1814
				Arm 7 Ahead	Inf	69.7 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.6 %	1814	1814
				Arm 8 Ahead	Inf	57.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.0 %	1813	1813
				Arm 8 Left	14.00	27.0 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.2 %	1826	1826
				Arm 6 Ahead	Inf	69.8 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2025 + Com PM' (FG4: '2025 + Com PM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Desired****Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	143	234	118	495
	B	203	0	121	281	605
	C	355	124	0	73	552
	D	133	202	71	0	406
	Tot.	691	469	426	472	2058

Traffic Lane Flows

Lane	Scenario 4: 2025 + Com PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	495(In) 377(Out)
1/2 (short)	118
2/1 (with short)	605(In) 402(Out)
2/2 (short)	203
3/1 (with short)	552(In) 428(Out)
3/2 (short)	124
4/1 (with short)	406(In) 335(Out)
4/2 (short)	71
5/1	691
6/1	469
7/1	426
8/1	472

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	37.9 %	1801	1801
				Arm 7 Ahead	Inf	62.1 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.1 %	1831	1831
				Arm 8 Ahead	Inf	69.9 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	82.9 %	1832	1832
				Arm 8 Left	14.00	17.1 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	39.7 %	1814	1814
				Arm 6 Ahead	Inf	60.3 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2025 + Com + Dev AM' (FG5: '2025 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	144	311	152	607
	B	162	0	181	244	587
	C	208	183	0	75	466
	D	129	294	77	0	500
	Tot.	499	621	569	471	2160

Traffic Lane Flows

Lane	Scenario 5: 2025 + Com + Dev AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	607(In) 455(Out)
1/2 (short)	152
2/1 (with short)	587(In) 425(Out)
2/2 (short)	162
3/1 (with short)	466(In) 283(Out)
3/2 (short)	183
4/1 (with short)	500(In) 423(Out)
4/2 (short)	77
5/1	499
6/1	621
7/1	569
8/1	471

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	31.6 %	1811	1811
				Arm 7 Ahead	Inf	68.4 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.6 %	1814	1814
				Arm 8 Ahead	Inf	57.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.5 %	1814	1814
				Arm 8 Left	14.00	26.5 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.5 %	1825	1825
				Arm 6 Ahead	Inf	69.5 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2025 + Com + Dev PM' (FG6: '2025 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	152	248	119	519
	B	225	0	121	281	627
	C	390	124	0	73	587
	D	136	202	71	0	409
	Tot.	751	478	440	473	2142

Traffic Lane Flows

Lane	Scenario 6: 2025 + Com + Dev PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	519(In) 400(Out)
1/2 (short)	119
2/1 (with short)	627(In) 402(Out)
2/2 (short)	225
3/1 (with short)	587(In) 463(Out)
3/2 (short)	124
4/1 (with short)	409(In) 338(Out)
4/2 (short)	71
5/1	751
6/1	478
7/1	440
8/1	473

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	38.0 %	1801	1801
				Arm 7 Ahead	Inf	62.0 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.1 %	1831	1831
				Arm 8 Ahead	Inf	69.9 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	84.2 %	1834	1834
				Arm 8 Left	14.00	15.8 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	40.2 %	1813	1813
				Arm 6 Ahead	Inf	59.8 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 7: '2028 + Com AM' (FG7: '2028 + Com AM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Desired****Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	127	292	147	566
	B	160	0	184	248	592
	C	205	186	0	76	467
	D	129	298	78	0	505
	Tot.	494	611	554	471	2130

Traffic Lane Flows

Lane	Scenario 7: 2028 + Com AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	566(In) 419(Out)
1/2 (short)	147
2/1 (with short)	592(In) 432(Out)
2/2 (short)	160
3/1 (with short)	467(In) 281(Out)
3/2 (short)	186
4/1 (with short)	505(In) 427(Out)
4/2 (short)	78
5/1	494
6/1	611
7/1	554
8/1	471

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	30.3 %	1813	1813
				Arm 7 Ahead	Inf	69.7 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.6 %	1814	1814
				Arm 8 Ahead	Inf	57.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.0 %	1812	1812
				Arm 8 Left	14.00	27.0 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.2 %	1826	1826
				Arm 6 Ahead	Inf	69.8 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 8: '2028 + Com PM' (FG8: '2028 + Com PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	145	236	119	500
	B	205	0	122	284	611
	C	360	125	0	74	559
	D	135	204	72	0	411
	Tot.	700	474	430	477	2081

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2028 + Com PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	500(In) 381(Out)
1/2 (short)	119
2/1 (with short)	611(In) 406(Out)
2/2 (short)	205
3/1 (with short)	559(In) 434(Out)
3/2 (short)	125
4/1 (with short)	411(In) 339(Out)
4/2 (short)	72
5/1	700
6/1	474
7/1	430
8/1	477

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	38.1 %	1801	1801
				Arm 7 Ahead	Inf	61.9 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.0 %	1832	1832
				Arm 8 Ahead	Inf	70.0 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	82.9 %	1832	1832
				Arm 8 Left	14.00	17.1 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	39.8 %	1813	1813
				Arm 6 Ahead	Inf	60.2 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 9: '2028 + Com + Dev AM' (FG9: '2028 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	146	315	154	615
	B	164	0	184	248	596
	C	211	186	0	76	473
	D	131	298	78	0	507
	Tot.	506	630	577	478	2191

Traffic Lane Flows

Lane	Scenario 9: 2028 + Com + Dev AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	615(In) 461(Out)
1/2 (short)	154
2/1 (with short)	596(In) 432(Out)
2/2 (short)	164
3/1 (with short)	473(In) 287(Out)
3/2 (short)	186
4/1 (with short)	507(In) 429(Out)
4/2 (short)	78
5/1	506
6/1	630
7/1	577
8/1	478

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	31.7 %	1811	1811
				Arm 7 Ahead	Inf	68.3 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.6 %	1814	1814
				Arm 8 Ahead	Inf	57.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.5 %	1814	1814
				Arm 8 Left	14.00	26.5 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.5 %	1825	1825
				Arm 6 Ahead	Inf	69.5 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 10: '2028 + Com + Dev PM' (FG10: '2028 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	154	251	121	526
	B	227	0	122	284	633
	C	394	125	0	74	593
	D	138	204	72	0	414
	Tot.	759	483	445	479	2166

Traffic Lane Flows

Lane	Scenario 10: 2028 + Com + Dev PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	526(In) 405(Out)
1/2 (short)	121
2/1 (with short)	633(In) 406(Out)
2/2 (short)	227
3/1 (with short)	593(In) 468(Out)
3/2 (short)	125
4/1 (with short)	414(In) 342(Out)
4/2 (short)	72
5/1	759
6/1	483
7/1	445
8/1	479

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	38.0 %	1801	1801
				Arm 7 Ahead	Inf	62.0 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.0 %	1832	1832
				Arm 8 Ahead	Inf	70.0 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	84.2 %	1834	1834
				Arm 8 Left	14.00	15.8 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	40.4 %	1813	1813
				Arm 6 Ahead	Inf	59.6 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 11: '2033 + Com AM' (FG11: '2033 + Com AM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Desired****Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	130	299	150	579
	B	163	0	188	254	605
	C	210	190	0	77	477
	D	132	305	79	0	516
	Tot.	505	625	566	481	2177

Traffic Lane Flows

Lane	Scenario 11: 2033 + Com AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	579(In) 429(Out)
1/2 (short)	150
2/1 (with short)	605(In) 442(Out)
2/2 (short)	163
3/1 (with short)	477(In) 287(Out)
3/2 (short)	190
4/1 (with short)	516(In) 437(Out)
4/2 (short)	79
5/1	505
6/1	625
7/1	566
8/1	481

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	30.3 %	1813	1813
				Arm 7 Ahead	Inf	69.7 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.5 %	1814	1814
				Arm 8 Ahead	Inf	57.5 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.2 %	1813	1813
				Arm 8 Left	14.00	26.8 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.2 %	1826	1826
				Arm 6 Ahead	Inf	69.8 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 12: '2033 + Com PM' (FG12: '2033 + Com PM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Desired****Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	148	241	122	511
	B	209	0	124	290	623
	C	366	128	0	75	569
	D	137	208	74	0	419
	Tot.	712	484	439	487	2122

Traffic Lane Flows

Lane	Scenario 12: 2033 + Com PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	511(In) 389(Out)
1/2 (short)	122
2/1 (with short)	623(In) 414(Out)
2/2 (short)	209
3/1 (with short)	569(In) 441(Out)
3/2 (short)	128
4/1 (with short)	419(In) 345(Out)
4/2 (short)	74
5/1	712
6/1	484
7/1	439
8/1	487

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	38.0 %	1801	1801
				Arm 7 Ahead	Inf	62.0 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.0 %	1832	1832
				Arm 8 Ahead	Inf	70.0 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	83.0 %	1832	1832
				Arm 8 Left	14.00	17.0 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	39.7 %	1814	1814
				Arm 6 Ahead	Inf	60.3 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 13: '2033 + Com + Dev AM' (FG13: '2033 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	149	321	158	628
	B	168	0	188	254	610
	C	216	190	0	77	483
	D	134	305	79	0	518
	Tot.	518	644	588	489	2239

Traffic Lane Flows

Lane	Scenario 13: 2033 + Com + Dev AM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	628(In) 470(Out)
1/2 (short)	158
2/1 (with short)	610(In) 442(Out)
2/2 (short)	168
3/1 (with short)	483(In) 293(Out)
3/2 (short)	190
4/1 (with short)	518(In) 439(Out)
4/2 (short)	79
5/1	518
6/1	644
7/1	588
8/1	489

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	31.7 %	1811	1811
				Arm 7 Ahead	Inf	68.3 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	42.5 %	1814	1814
				Arm 8 Ahead	Inf	57.5 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	73.7 %	1814	1814
				Arm 8 Left	14.00	26.3 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	30.5 %	1825	1825
				Arm 6 Ahead	Inf	69.5 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 14: '2033 + Com + Dev PM' (FG14: '2033 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	157	255	123	535
	B	231	0	124	290	645
	C	401	128	0	75	604
	D	141	208	74	0	423
	Tot.	773	493	453	488	2207

Traffic Lane Flows

Lane	Scenario 14: 2033 + Com + Dev PM
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	535(In) 412(Out)
1/2 (short)	123
2/1 (with short)	645(In) 414(Out)
2/2 (short)	231
3/1 (with short)	604(In) 476(Out)
3/2 (short)	128
4/1 (with short)	423(In) 349(Out)
4/2 (short)	74
5/1	773
6/1	493
7/1	453
8/1	488

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	38.1 %	1801	1801
				Arm 7 Ahead	Inf	61.9 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	30.0 %	1832	1832
				Arm 8 Ahead	Inf	70.0 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	84.2 %	1834	1834
				Arm 8 Left	14.00	15.8 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	40.4 %	1813	1813
				Arm 6 Ahead	Inf	59.6 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 15: '2022 Observed AM (0700-0800)' (FG15: '2022 Observed AM (0700-0800)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	104	296	102	502
	B	56	0	89	114	259
	C	101	57	0	54	212
	D	81	176	48	0	305
	Tot.	238	337	433	270	1278

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 15: 2022 Observed AM (0700-0800)
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	502(In) 400(Out)
1/2 (short)	102
2/1 (with short)	259(In) 203(Out)
2/2 (short)	56
3/1 (with short)	212(In) 155(Out)
3/2 (short)	57
4/1 (with short)	305(In) 257(Out)
4/2 (short)	48
5/1	238
6/1	337
7/1	433
8/1	270

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	26.0 %	1821	1821
				Arm 7 Ahead	Inf	74.0 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	43.8 %	1812	1812
				Arm 8 Ahead	Inf	56.2 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	65.2 %	1798	1798
				Arm 8 Left	14.00	34.8 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	31.5 %	1824	1824
				Arm 6 Ahead	Inf	68.5 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 16: '2022 Observed PM (1730-1830)' (FG16: '2022 Observed PM (1730-1830)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	163	216	112	491
	B	191	0	86	250	527
	C	258	101	0	70	429
	D	110	203	62	0	375
	Tot.	559	467	364	432	1822

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 16: 2022 Observed PM (1730-1830)
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	491(In) 379(Out)
1/2 (short)	112
2/1 (with short)	527(In) 336(Out)
2/2 (short)	191
3/1 (with short)	429(In) 328(Out)
3/2 (short)	101
4/1 (with short)	375(In) 313(Out)
4/2 (short)	62
5/1	559
6/1	467
7/1	364
8/1	432

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	43.0 %	1793	1793
				Arm 7 Ahead	Inf	57.0 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	25.6 %	1838	1838
				Arm 8 Ahead	Inf	74.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	78.7 %	1823	1823
				Arm 8 Left	14.00	21.3 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	35.1 %	1819	1819
				Arm 6 Ahead	Inf	64.9 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 17: '2033 + Com AM (0700-0800)' (FG29: '2033 + Com AM (0700-0800)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	110	316	110	536
	B	59	0	94	120	273
	C	108	60	0	57	225
	D	86	186	51	0	323
	Tot.	253	356	461	287	1357

Traffic Lane Flows

Lane	Scenario 17: 2033 + Com AM (0700-0800)
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	536(In) 426(Out)
1/2 (short)	110
2/1 (with short)	273(In) 214(Out)
2/2 (short)	59
3/1 (with short)	225(In) 165(Out)
3/2 (short)	60
4/1 (with short)	323(In) 272(Out)
4/2 (short)	51
5/1	253
6/1	356
7/1	461
8/1	287

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	25.8 %	1821	1821
				Arm 7 Ahead	Inf	74.2 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	43.9 %	1812	1812
				Arm 8 Ahead	Inf	56.1 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	65.5 %	1798	1798
				Arm 8 Left	14.00	34.5 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	31.6 %	1824	1824
				Arm 6 Ahead	Inf	68.4 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 18: '2033 + Com PM (1730-1830)' (FG30: '2033 + Com PM (1730-1830)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

Origin	Destination					
		A	B	C	D	Tot.
	A	0	171	229	118	518
	B	200	0	90	262	552
	C	276	106	0	73	455
	D	117	213	65	0	395
	Tot.	593	490	384	453	1920

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 18: 2033 + Com PM (1730-1830)
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	518(In) 400(Out)
1/2 (short)	118
2/1 (with short)	552(In) 352(Out)
2/2 (short)	200
3/1 (with short)	455(In) 349(Out)
3/2 (short)	106
4/1 (with short)	395(In) 330(Out)
4/2 (short)	65
5/1	593
6/1	490
7/1	384
8/1	453

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	42.8 %	1793	1793
				Arm 7 Ahead	Inf	57.3 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	25.6 %	1838	1838
				Arm 8 Ahead	Inf	74.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	79.1 %	1824	1824
				Arm 8 Left	14.00	20.9 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	35.5 %	1819	1819
				Arm 6 Ahead	Inf	64.5 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 19: '2033 + Com + Dev AM (0700-0800)' (FG31: '2033 + Com + Dev AM (0700-0800)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	126	340	113	579
	B	63	0	94	120	277
	C	114	60	0	57	231
	D	87	186	51	0	324
	Tot.	264	372	485	290	1411

Traffic Lane Flows

Lane	Scenario 19: 2033 + Com + Dev AM (0700-0800)
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	579(In) 466(Out)
1/2 (short)	113
2/1 (with short)	277(In) 214(Out)
2/2 (short)	63
3/1 (with short)	231(In) 171(Out)
3/2 (short)	60
4/1 (with short)	324(In) 273(Out)
4/2 (short)	51
5/1	264
6/1	372
7/1	485
8/1	290

Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	27.0 %	1819	1819
				Arm 7 Ahead	Inf	73.0 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	43.9 %	1812	1812
				Arm 8 Ahead	Inf	56.1 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	66.7 %	1801	1801
				Arm 8 Left	14.00	33.3 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	31.9 %	1823	1823
				Arm 6 Ahead	Inf	68.1 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 20: '2033 + Com + Dev PM (1730-1830)' (FG32: '2033 + Com + Dev PM (1730-1830)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	182	246	120	548
	B	219	0	90	262	571
	C	306	106	0	73	485
	D	120	213	65	0	398
	Tot.	645	501	401	455	2002

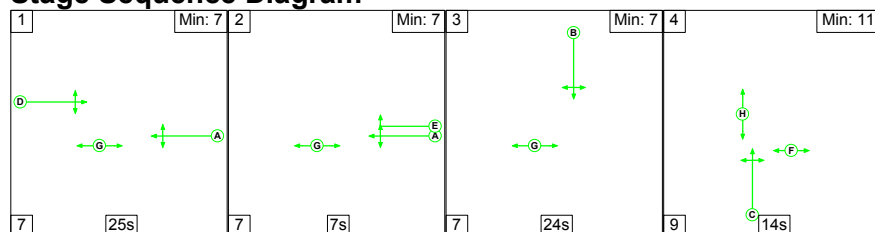
Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 20: 2033 + Com + Dev PM (1730-1830)
Junction: Liverpool Road / Prescott Road / Hale Road	
1/1 (with short)	548(In) 428(Out)
1/2 (short)	120
2/1 (with short)	571(In) 352(Out)
2/2 (short)	219
3/1 (with short)	485(In) 379(Out)
3/2 (short)	106
4/1 (with short)	398(In) 333(Out)
4/2 (short)	65
5/1	645
6/1	501
7/1	401
8/1	455

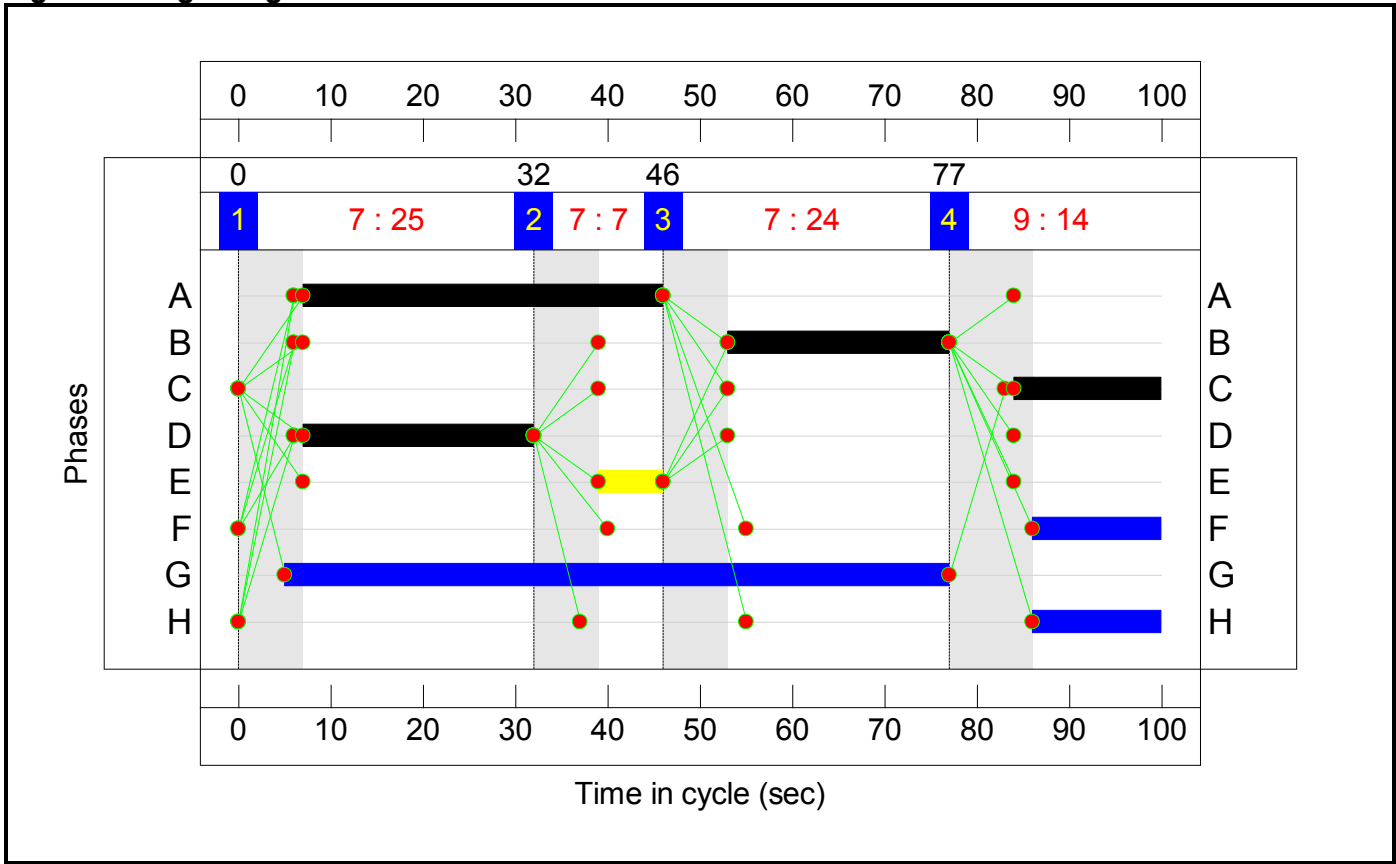
Lane Saturation Flows

Junction: Liverpool Road / Prescott Road / Hale Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Prescot Road)	2.50	0.00	Y	Arm 6 Left	16.00	42.5 %	1794	1794
				Arm 7 Ahead	Inf	57.5 %		
1/2 (Prescot Road)	2.50	0.00	N	Arm 8 Right	18.00	100.0 %	1851	1851
2/1 (Liverpool Road (E))	2.60	0.00	Y	Arm 7 Left	19.00	25.6 %	1838	1838
				Arm 8 Ahead	Inf	74.4 %		
2/2 (Liverpool Road (E))	2.60	0.00	N	Arm 5 Right	12.00	100.0 %	1791	1791
3/1 (Hale Road)	2.50	0.00	Y	Arm 5 Ahead	Inf	80.7 %	1827	1827
				Arm 8 Left	14.00	19.3 %		
3/2 (Hale Road)	2.50	0.00	N	Arm 6 Right	25.00	100.0 %	1892	1892
4/1 (Liverpool Road (W))	2.50	0.00	Y	Arm 5 Left	21.00	36.0 %	1818	1818
				Arm 6 Ahead	Inf	64.0 %		
4/2 (Liverpool Road (W))	2.50	0.00	N	Arm 7 Right	10.00	100.0 %	1743	1743
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2022 Observed AM' (FG1: '2022 Observed AM', Plan 1: 'Network Control Plan 1')**Stage Sequence Diagram****Stage Timings**

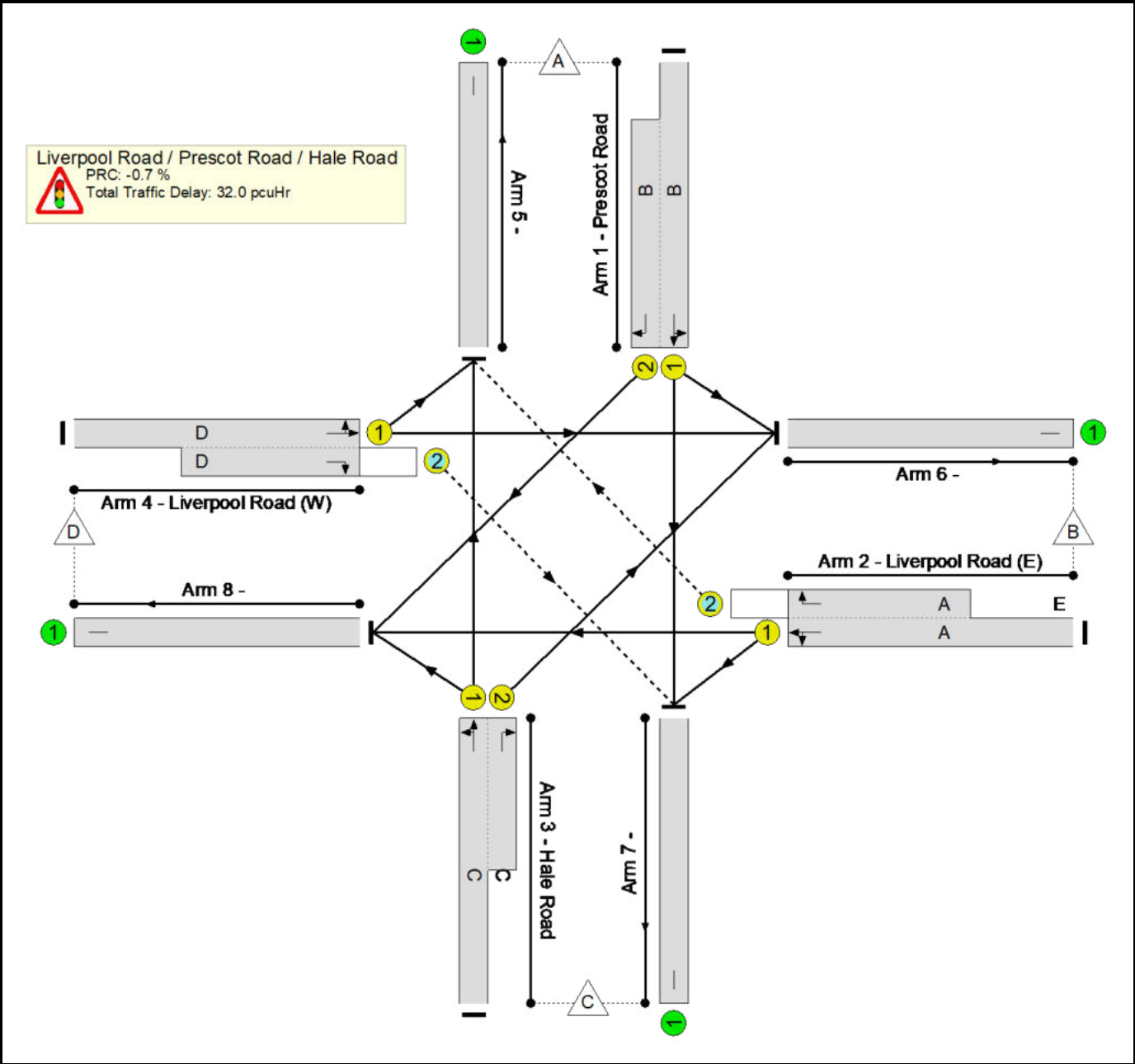
Stage	1	2	3	4
Duration	25	7	24	14
Change Point	0	32	46	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	90.6%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	90.6%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	539	1813:1851	453+158	88.3 : 88.3%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	39	7	574	1814:1791	629+233	66.6 : 66.6%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	451	1812:1892	299+200	90.3 : 90.3%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	25	-	488	1826:1743	456+83	90.6 : 90.6%
5/1		U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	530	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	453	Inf	Inf	0.0%

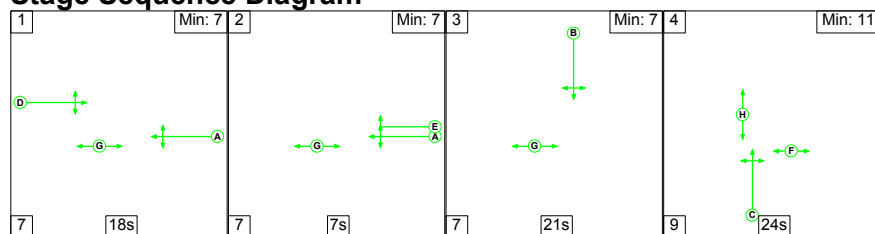
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	112	113	5	18.5	12.6	1.0	32.0	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	112	113	5	18.5	12.6	1.0	32.0	-	-	-	-
1/1+1/2	539	539	-	-	-	5.2	3.4	-	8.6	57.5	10.7	3.4	14.1
2/1+2/2	574	574	37	113	5	3.6	1.0	0.7	5.3	33.4	9.1	1.0	10.1
3/1+3/2	451	451	-	-	-	5.0	4.0	-	8.9	71.4	7.3	4.0	11.3
4/1+4/2	488	488	75	0	0	4.7	4.2	0.3	9.2	67.5	11.3	4.2	15.5
5/1	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	593	593	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	530	530	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	453	453	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -0.7 Total Delay for Signalled Lanes (pcuHr): 32.04 Cycle Time (s): 100 PRC Over All Lanes (%): -0.7 Total Delay Over All Lanes(pcuHr): 32.04													

Full Input Data And Results

Scenario 2: '2022 Observed PM' (FG2: '2022 Observed PM', Plan 1: 'Network Control Plan 1')

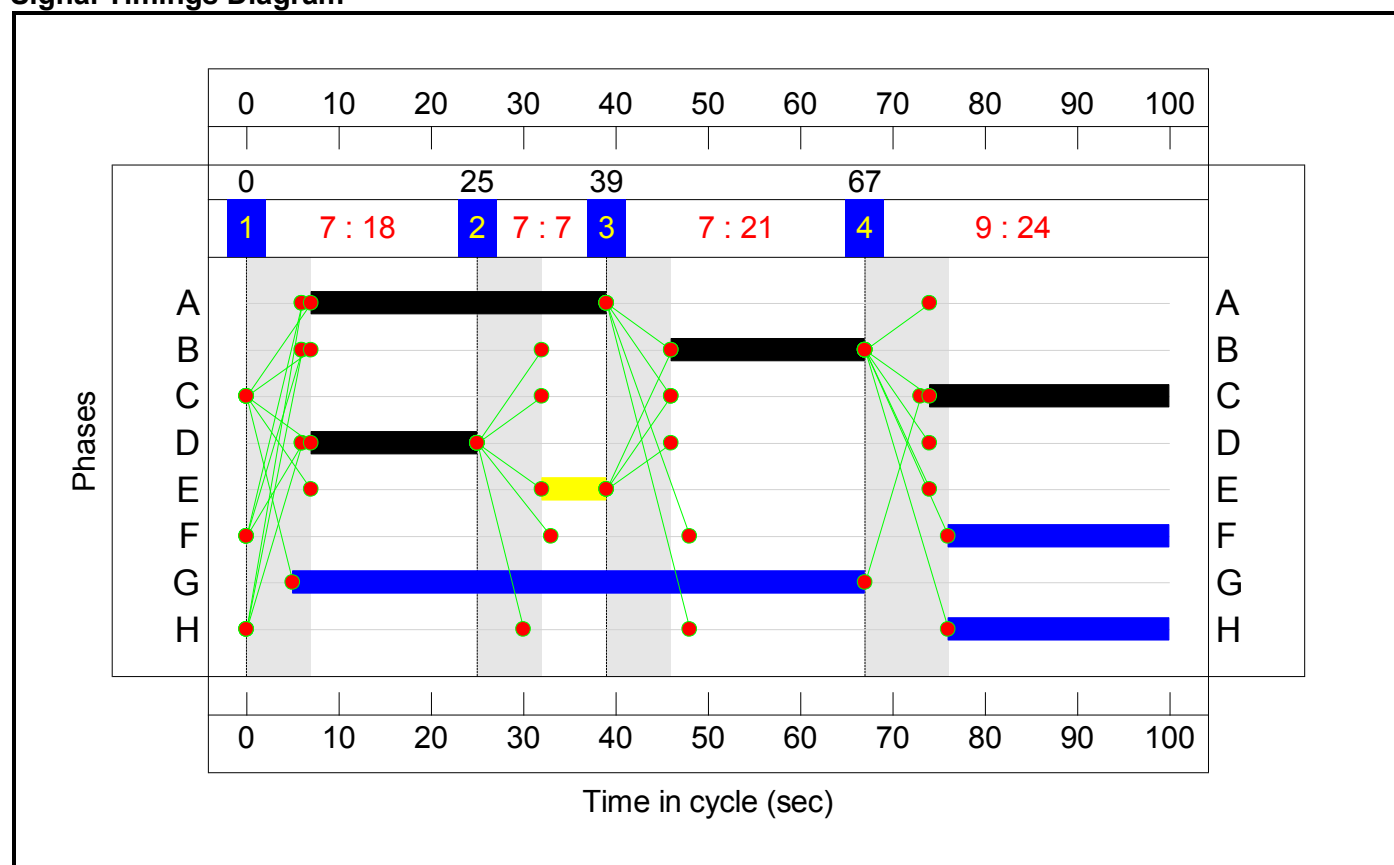
Stage Sequence Diagram



Stage Timings

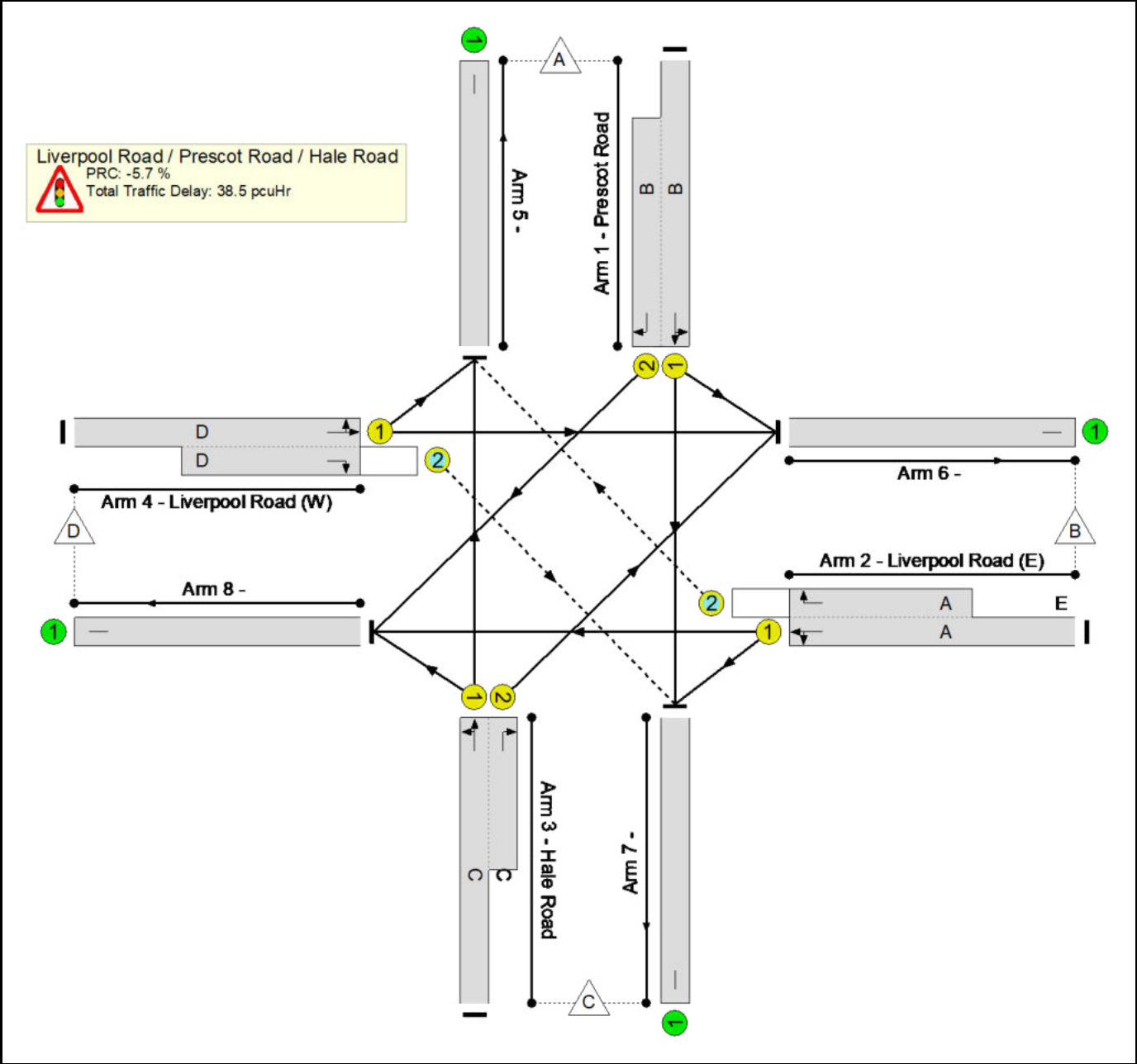
Stage	1	2	3	4
Duration	18	7	21	24
Change Point	0	25	39	67

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	95.2%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	95.2%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	484	1801:1851	396+123	93.1 : 93.1%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	596	1832:1791	521+263	76.0 : 76.0%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	538	1831:1892	445+130	93.5 : 93.5%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	398	1814:1743	345+74	95.2 : 95.2%
5/1		U	N/A	N/A	-		-	-	-	673	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	462	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	417	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	464	Inf	Inf	0.0%

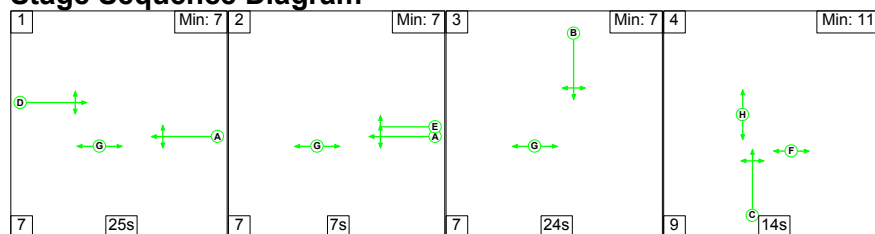
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 3: '2025 + Com AM' (FG3: '2025 + Com AM', Plan 1: 'Network Control Plan 1')

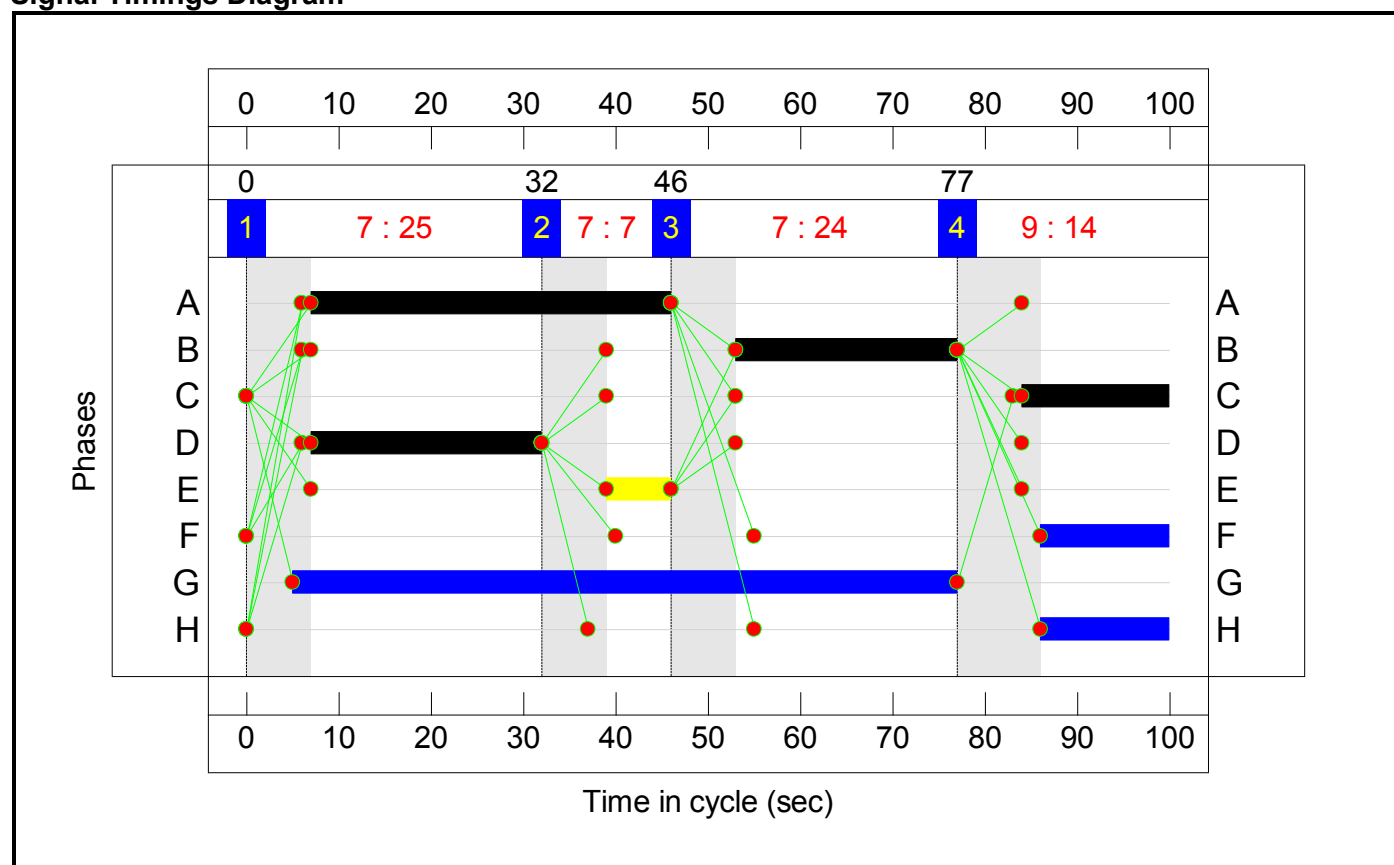
Stage Sequence Diagram



Stage Timings

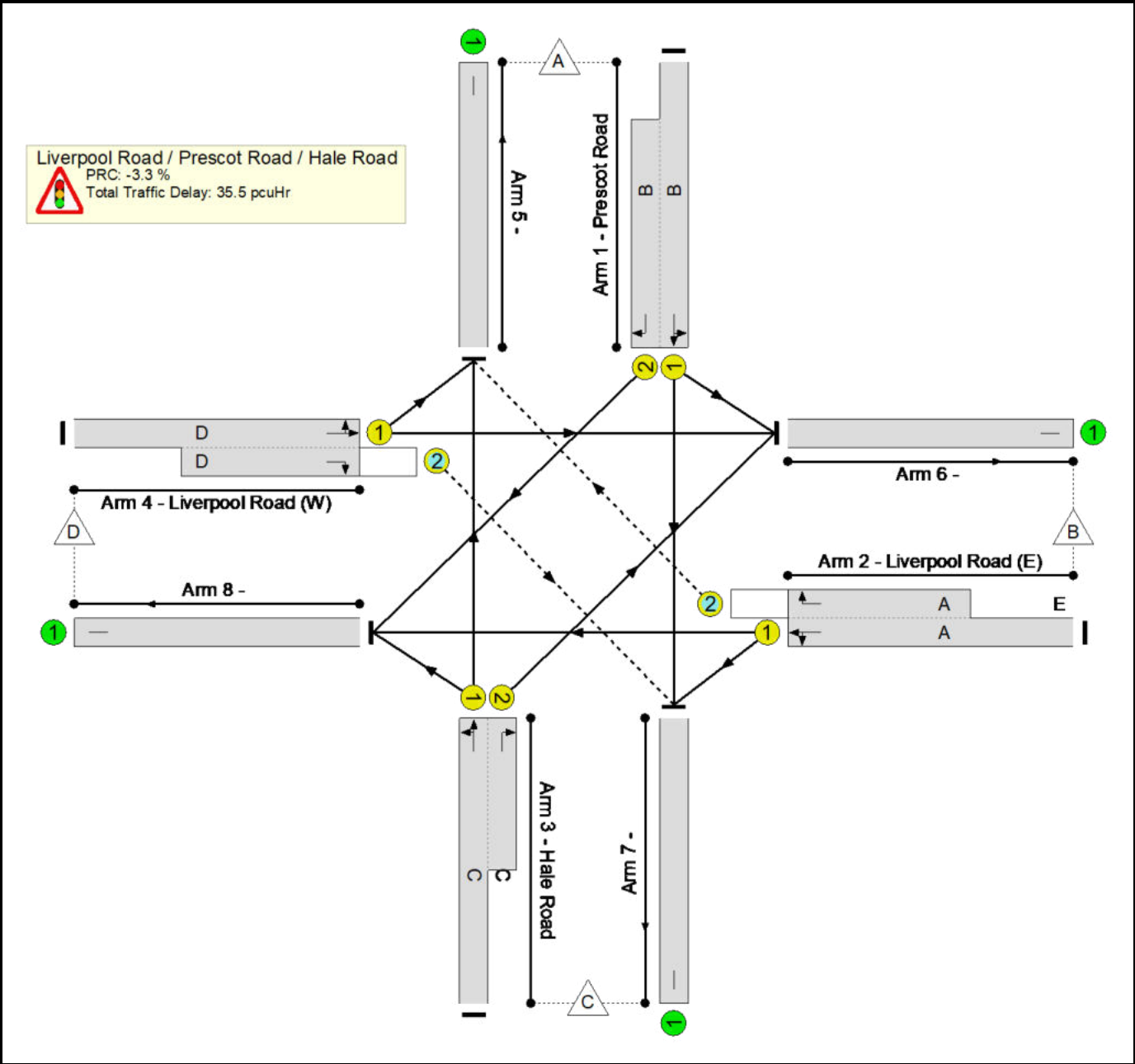
Stage	1	2	3	4
Duration	25	7	24	14
Change Point	0	32	46	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	92.9%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	92.9%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	558	1814:1851	453+159	91.1 : 91.1%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	39	7	582	1814:1791	629+232	67.6 : 67.6%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	461	1813:1892	299+197	92.9 : 92.9%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	25	-	498	1826:1743	455+83	92.4 : 92.4%
5/1		U	N/A	N/A	-		-	-	-	487	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	602	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	546	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	464	Inf	Inf	0.0%

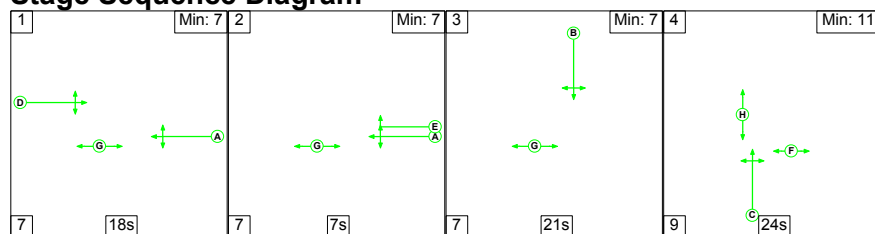
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	106	123	5	19.0	15.4	1.0	35.5	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	106	123	5	19.0	15.4	1.0	35.5	-	-	-	-
1/1+1/2	558	558	-	-	-	5.4	4.4	-	9.8	63.2	11.1	4.4	15.5
2/1+2/2	582	582	29	123	5	3.7	1.0	0.7	5.5	33.8	9.2	1.0	10.2
3/1+3/2	461	461	-	-	-	5.1	5.1	-	10.2	79.5	7.6	5.1	12.7
4/1+4/2	498	498	77	0	0	4.8	4.9	0.3	10.1	72.7	11.6	4.9	16.5
5/1	487	487	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	602	602	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	546	546	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	464	464	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -3.3 Total Delay for Signalled Lanes (pcuHr): 35.50 Cycle Time (s): 100 PRC Over All Lanes (%): -3.3 Total Delay Over All Lanes(pcuHr): 35.50													

Full Input Data And Results

Scenario 4: '2025 + Com PM' (FG4: '2025 + Com PM', Plan 1: 'Network Control Plan 1')

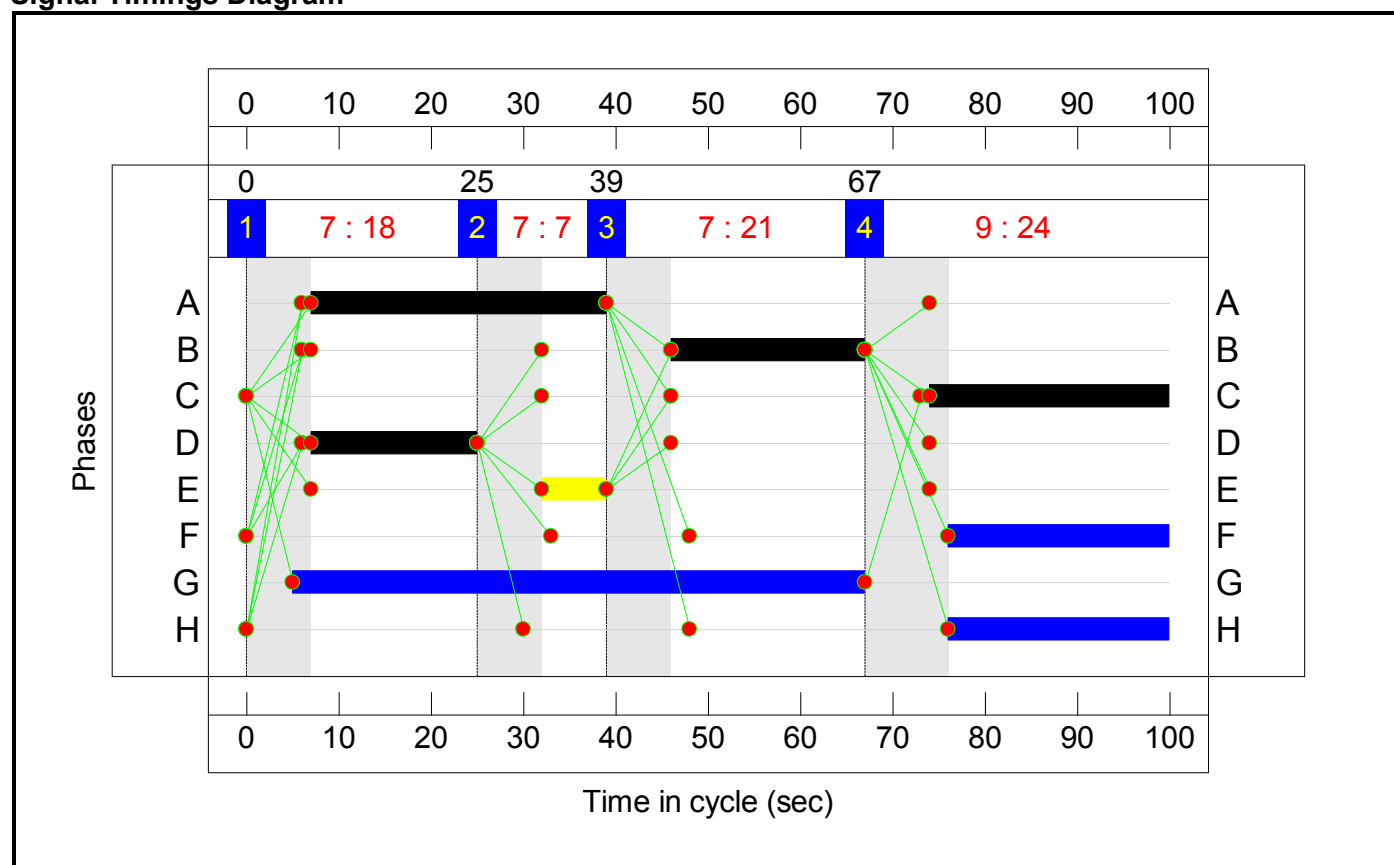
Stage Sequence Diagram



Stage Timings

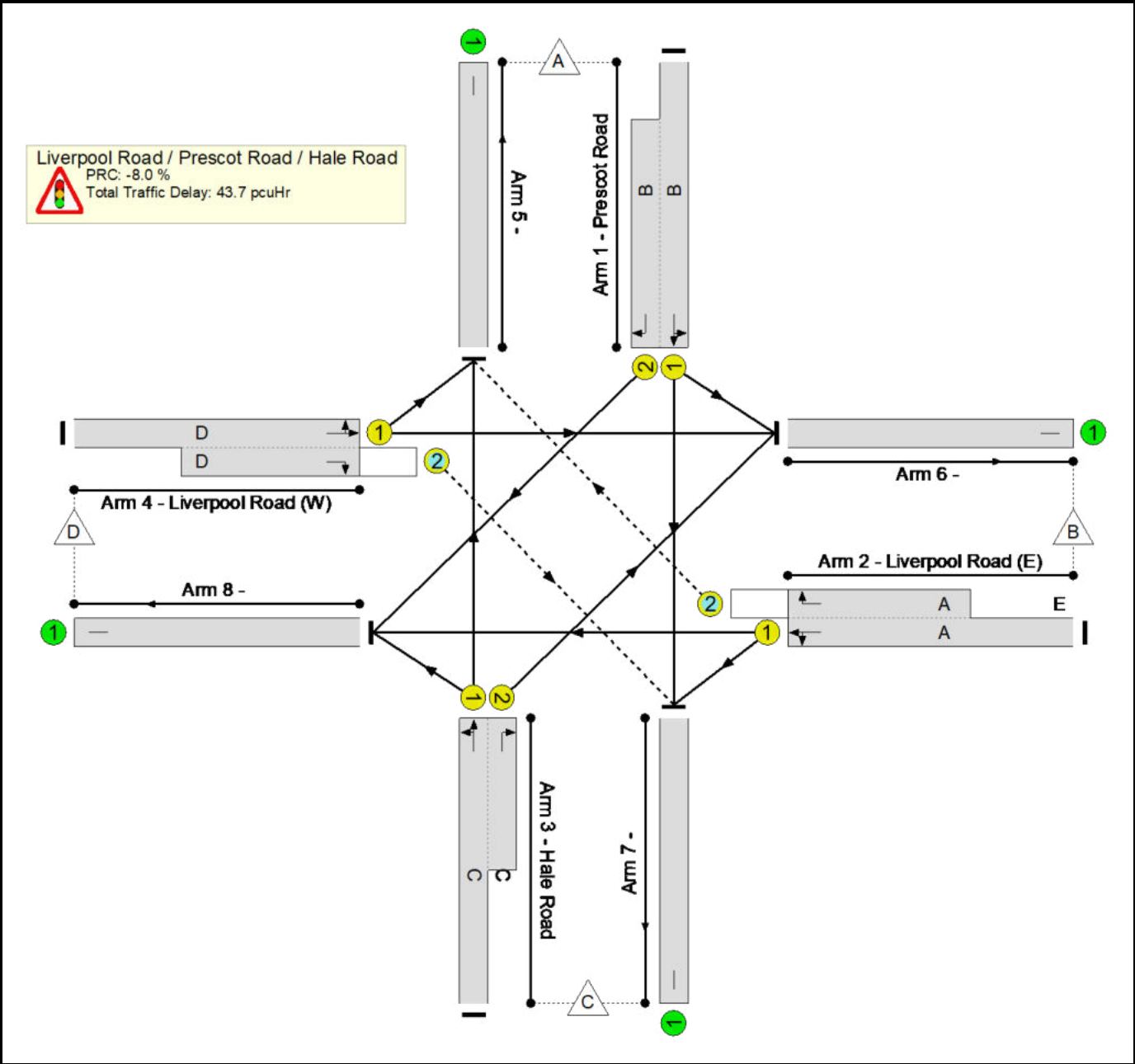
Stage	1	2	3	4
Duration	18	7	21	24
Change Point	0	25	39	67

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	97.2%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	97.2%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	495	1801:1851	396+124	95.1 : 95.1%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	605	1831:1791	521+263	77.2 : 77.2%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	552	1832:1892	445+129	96.1 : 96.1%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	406	1814:1743	345+73	97.2 : 97.2%
5/1		U	N/A	N/A	-		-	-	-	691	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	469	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	426	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	472	Inf	Inf	0.0%

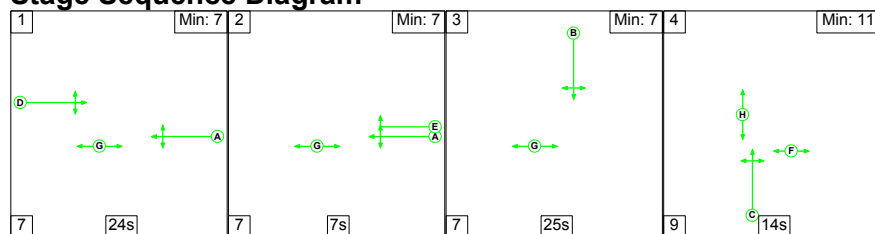
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	76	192	6	19.7	23.1	0.9	43.7	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	76	192	6	19.7	23.1	0.9	43.7	-	-	-	-
1/1+1/2	495	495	-	-	-	5.1	6.5	-	11.6	84.2	10.3	6.5	16.7
2/1+2/2	605	605	5	192	6	4.9	1.7	0.5	7.2	42.6	9.5	1.7	11.2
3/1+3/2	552	552	-	-	-	5.3	7.4	-	12.7	82.6	12.7	7.4	20.1
4/1+4/2	406	406	71	0	0	4.4	7.6	0.4	12.3	109.5	9.2	7.6	16.8
5/1	691	691	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	469	469	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	426	426	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	472	472	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -8.0 Total Delay for Signalled Lanes (pcuHr): 43.74 Cycle Time (s): 100 PRC Over All Lanes (%): -8.0 Total Delay Over All Lanes(pcuHr): 43.74													

Full Input Data And Results

Scenario 5: '2025 + Com + Dev AM' (FG5: '2025 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

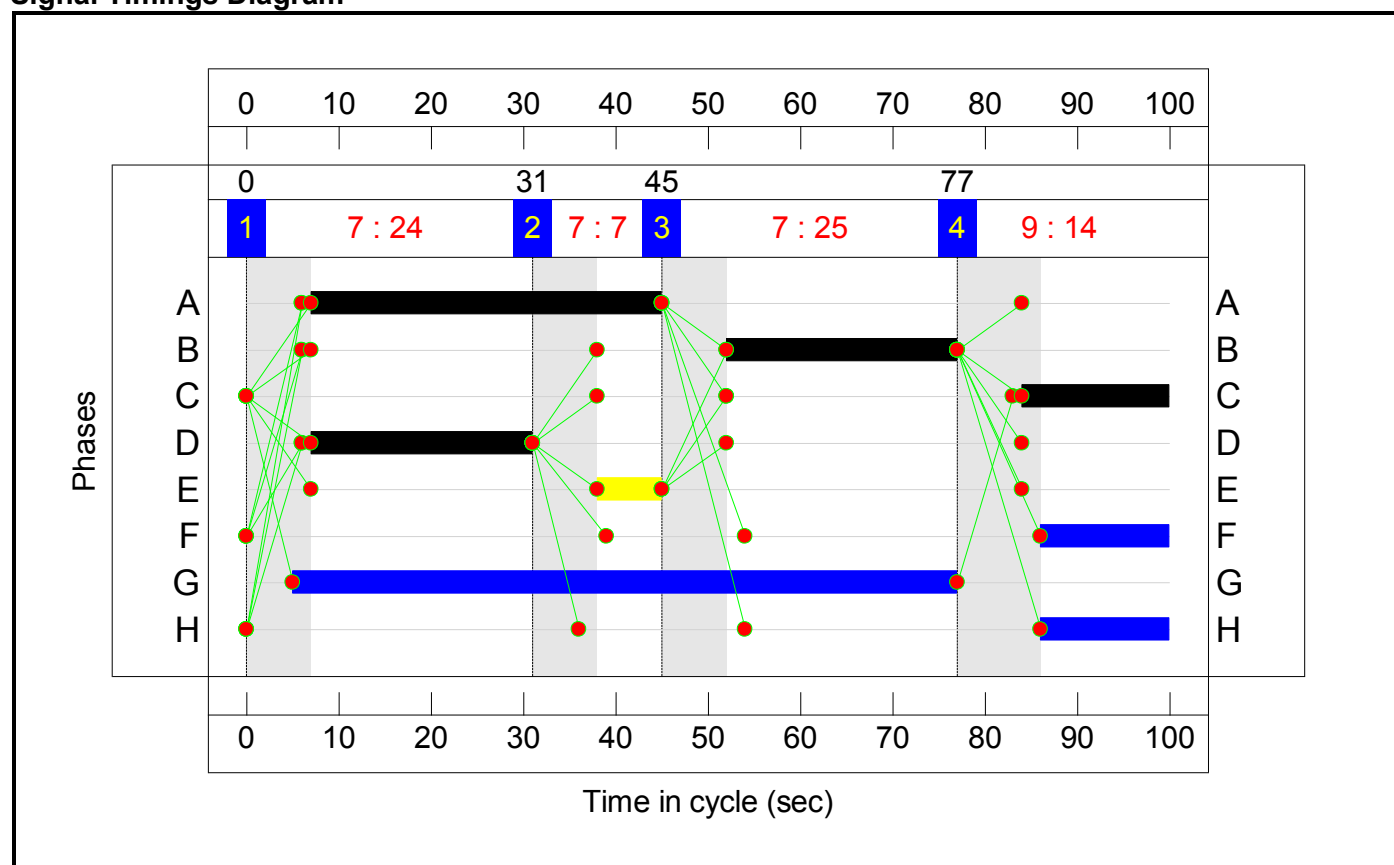
Stage Sequence Diagram



Stage Timings

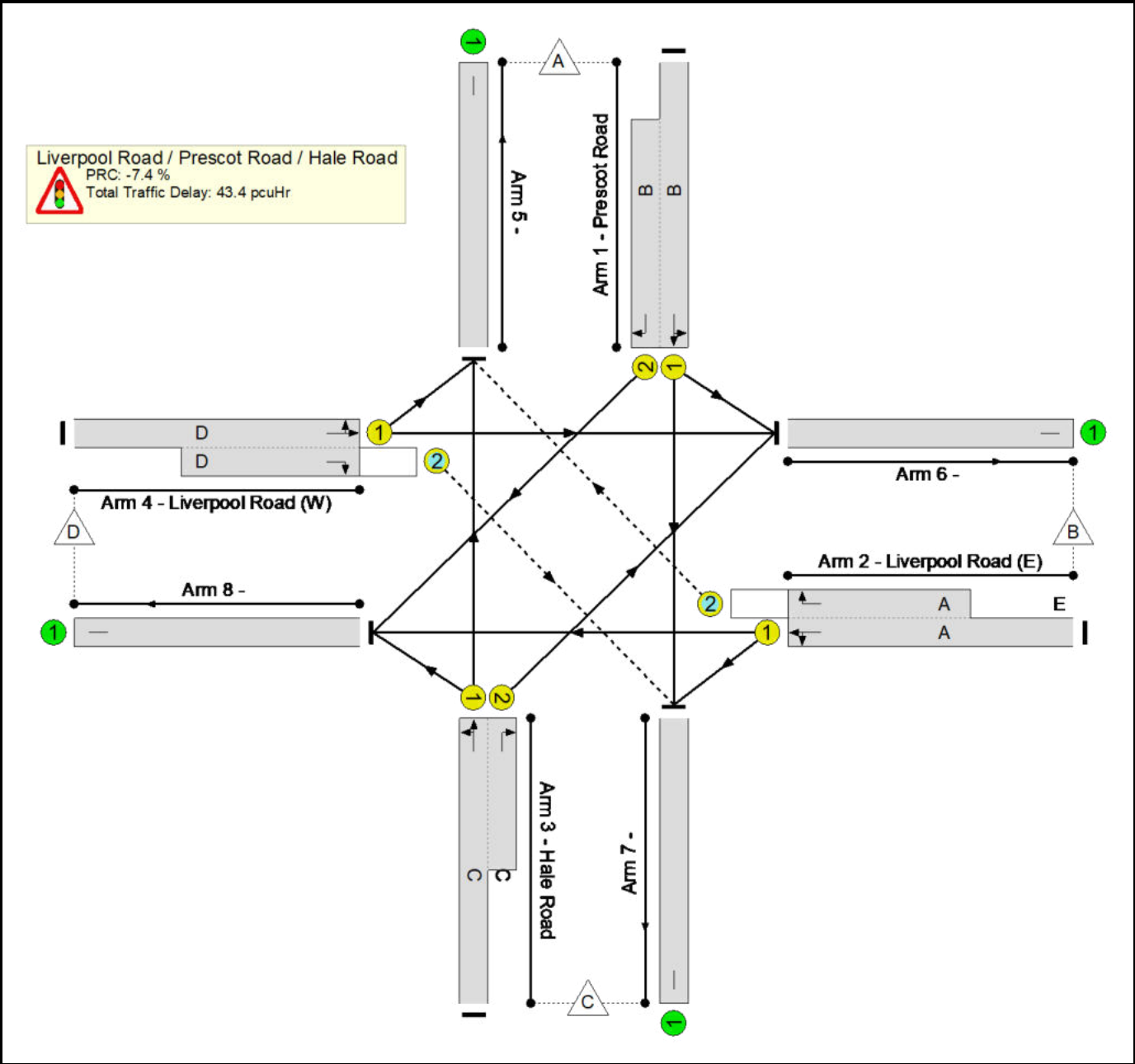
Stage	1	2	3	4
Duration	24	7	25	14
Change Point	0	31	45	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	96.6%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	96.6%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	25	-	607	1811:1851	471+157	96.6 : 96.6%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	38	7	587	1814:1791	614+234	69.3 : 69.3%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	466	1814:1892	299+193	94.6 : 94.6%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	24	-	500	1825:1743	440+80	96.1 : 96.1%
5/1		U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	569	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	471	Inf	Inf	0.0%

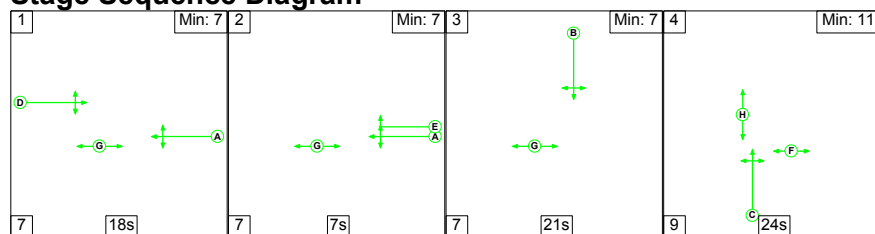
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	91	143	5	19.9	22.5	1.1	43.4	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	91	143	5	19.9	22.5	1.1	43.4	-	-	-	-
1/1+1/2	607	607	-	-	-	5.9	8.1	-	14.0	83.0	12.4	8.1	20.5
2/1+2/2	587	587	14	143	5	3.9	1.1	0.7	5.7	35.2	9.3	1.1	10.4
3/1+3/2	466	466	-	-	-	5.1	6.0	-	11.2	86.3	7.7	6.0	13.7
4/1+4/2	500	500	77	0	0	5.0	7.2	0.3	12.5	90.1	11.9	7.2	19.1
5/1	499	499	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	569	569	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	471	471	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -7.4 Total Delay for Signalled Lanes (pcuHr): 43.42 Cycle Time (s): 100 PRC Over All Lanes (%): -7.4 Total Delay Over All Lanes(pcuHr): 43.42													

Full Input Data And Results

Scenario 6: '2025 + Com + Dev PM' (FG6: '2025 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

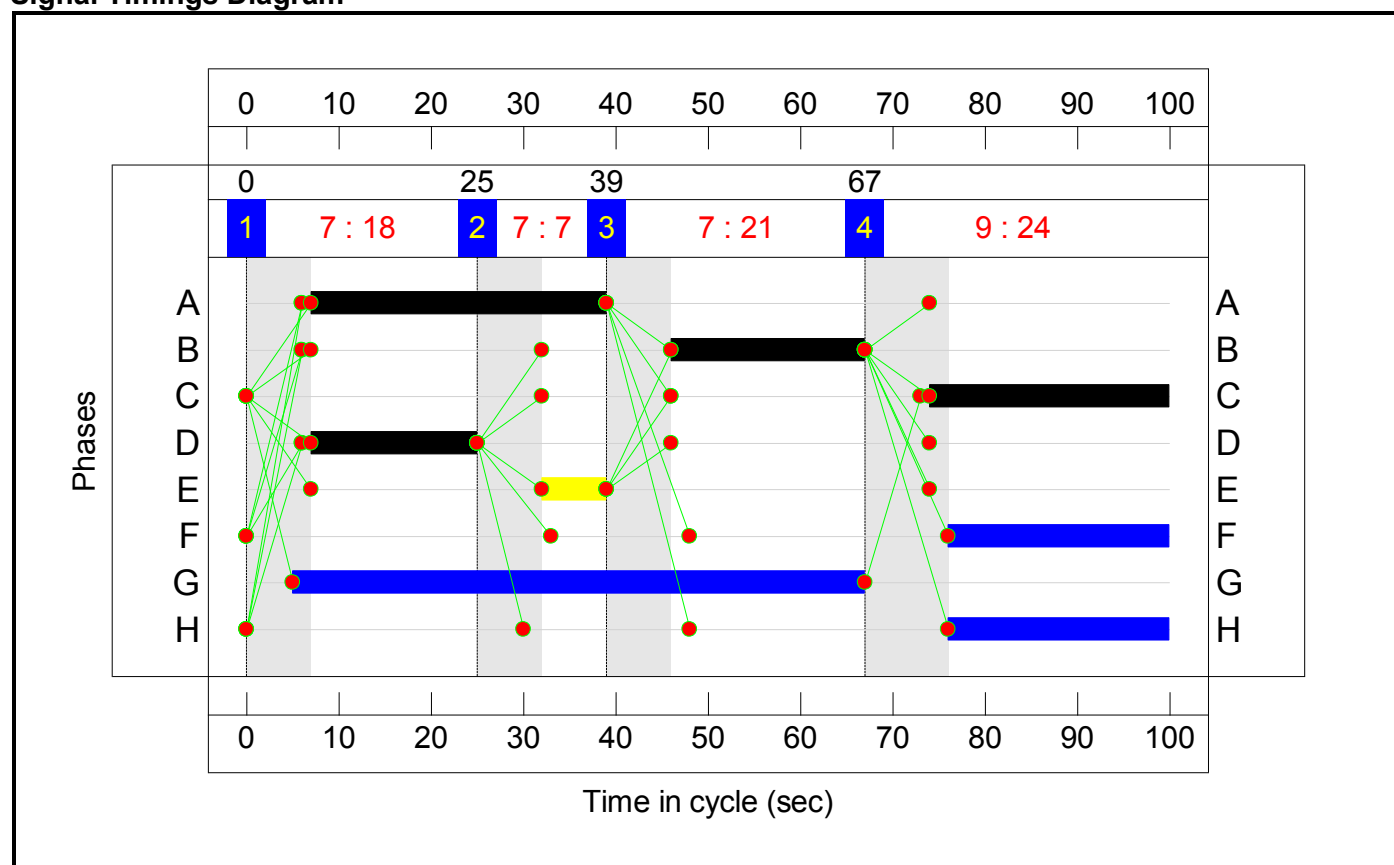
Stage Sequence Diagram



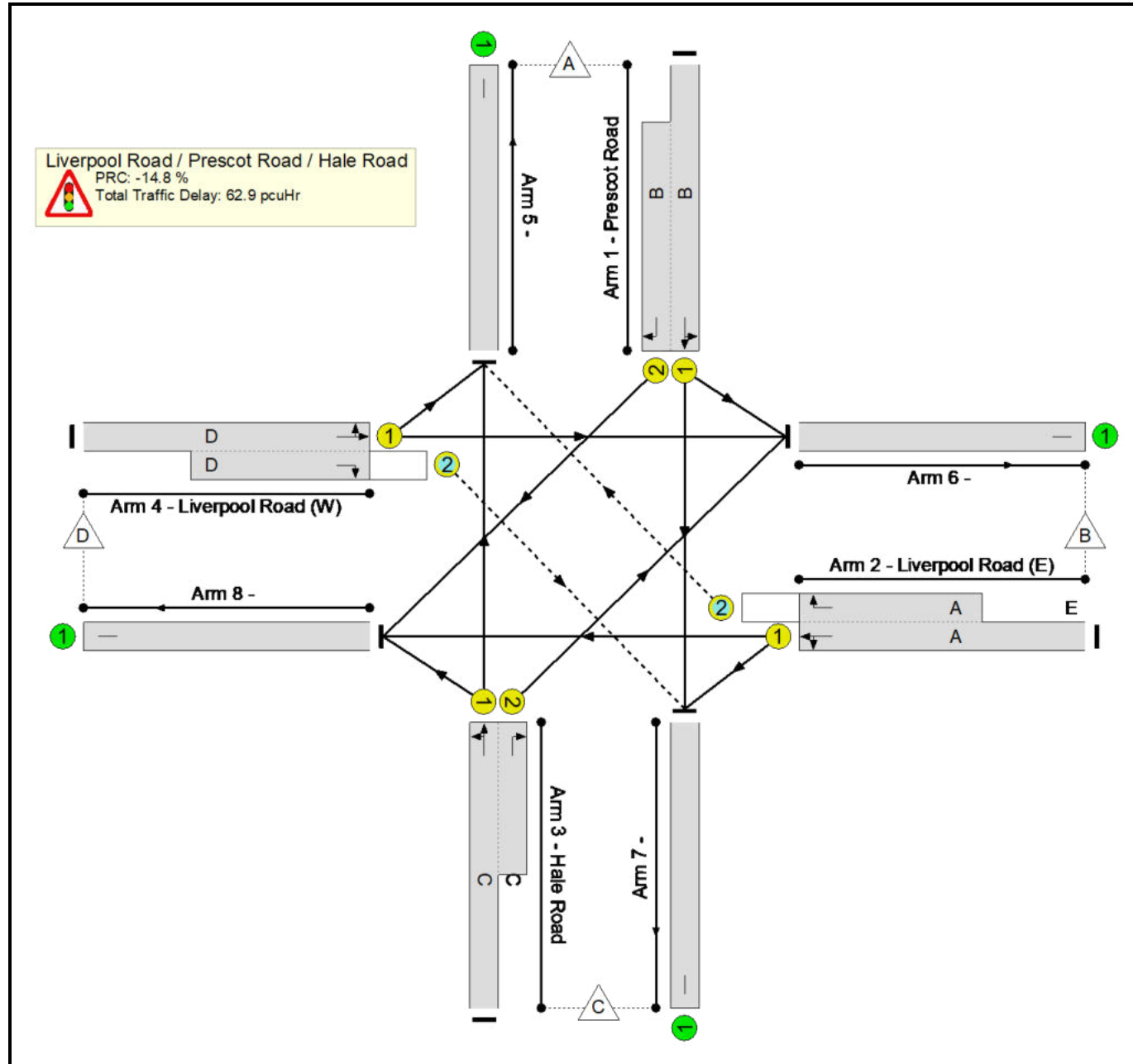
Stage Timings

Stage	1	2	3	4
Duration	18	7	21	24
Change Point	0	25	39	67

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	103.3%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	103.3%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	519	1801:1851	396+118	101.0 : 101.0%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	627	1831:1791	515+287	78.1 : 78.4%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	587	1834:1892	448+120	103.3 : 103.3%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	409	1813:1743	344+72	98.1 : 98.1%
5/1		U	N/A	N/A	-		-	-	-	751	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	440	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	473	Inf	Inf	0.0%

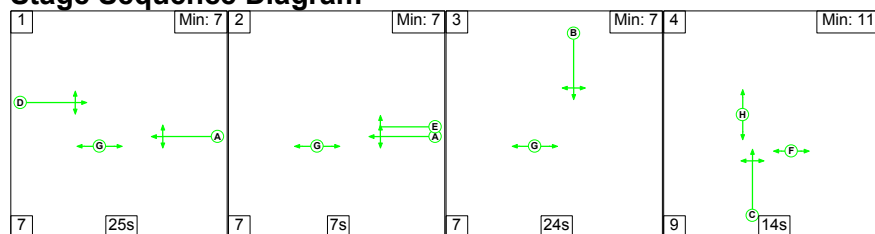
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 7: '2028 + Com AM' (FG7: '2028 + Com AM', Plan 1: 'Network Control Plan 1')

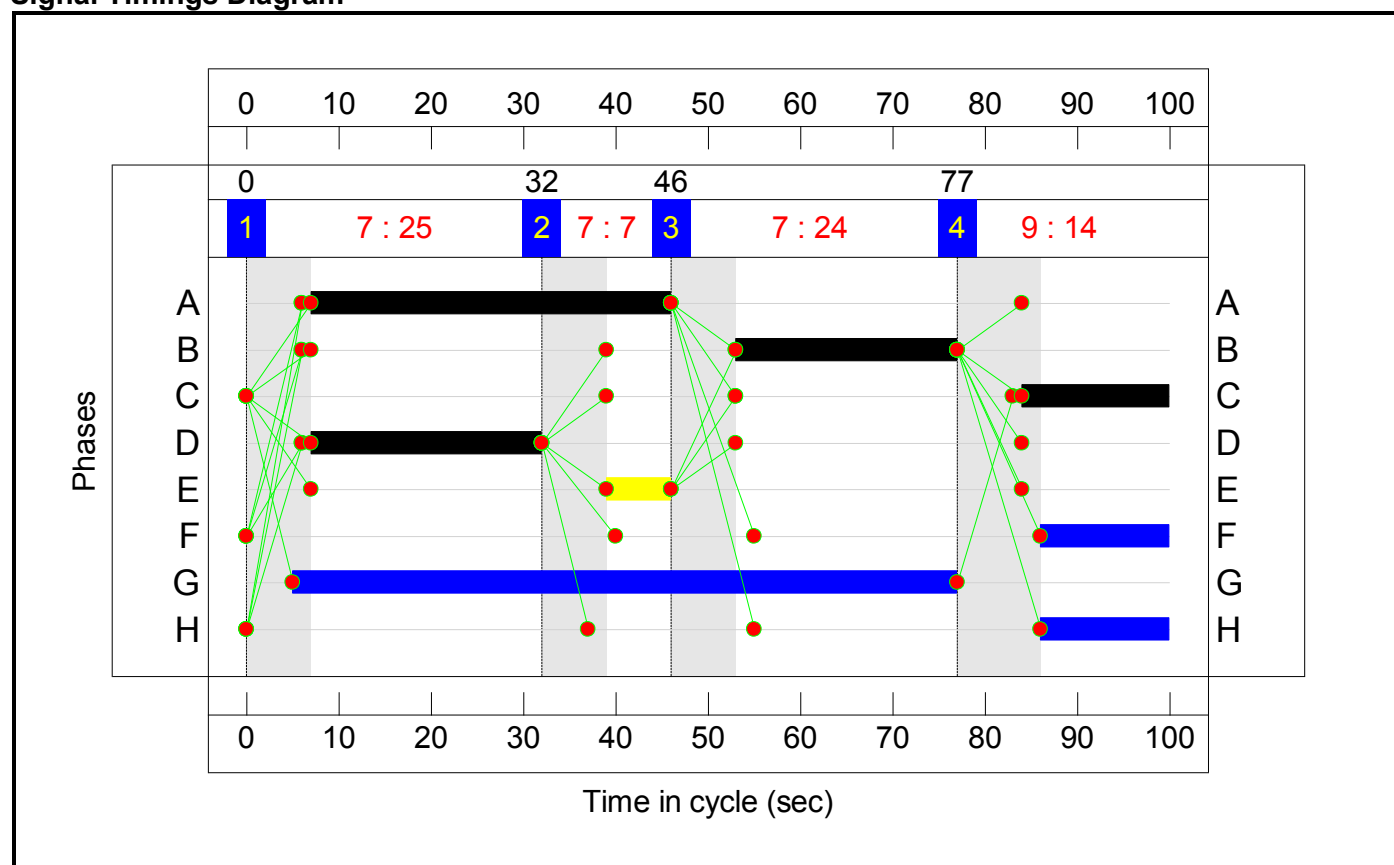
Stage Sequence Diagram



Stage Timings

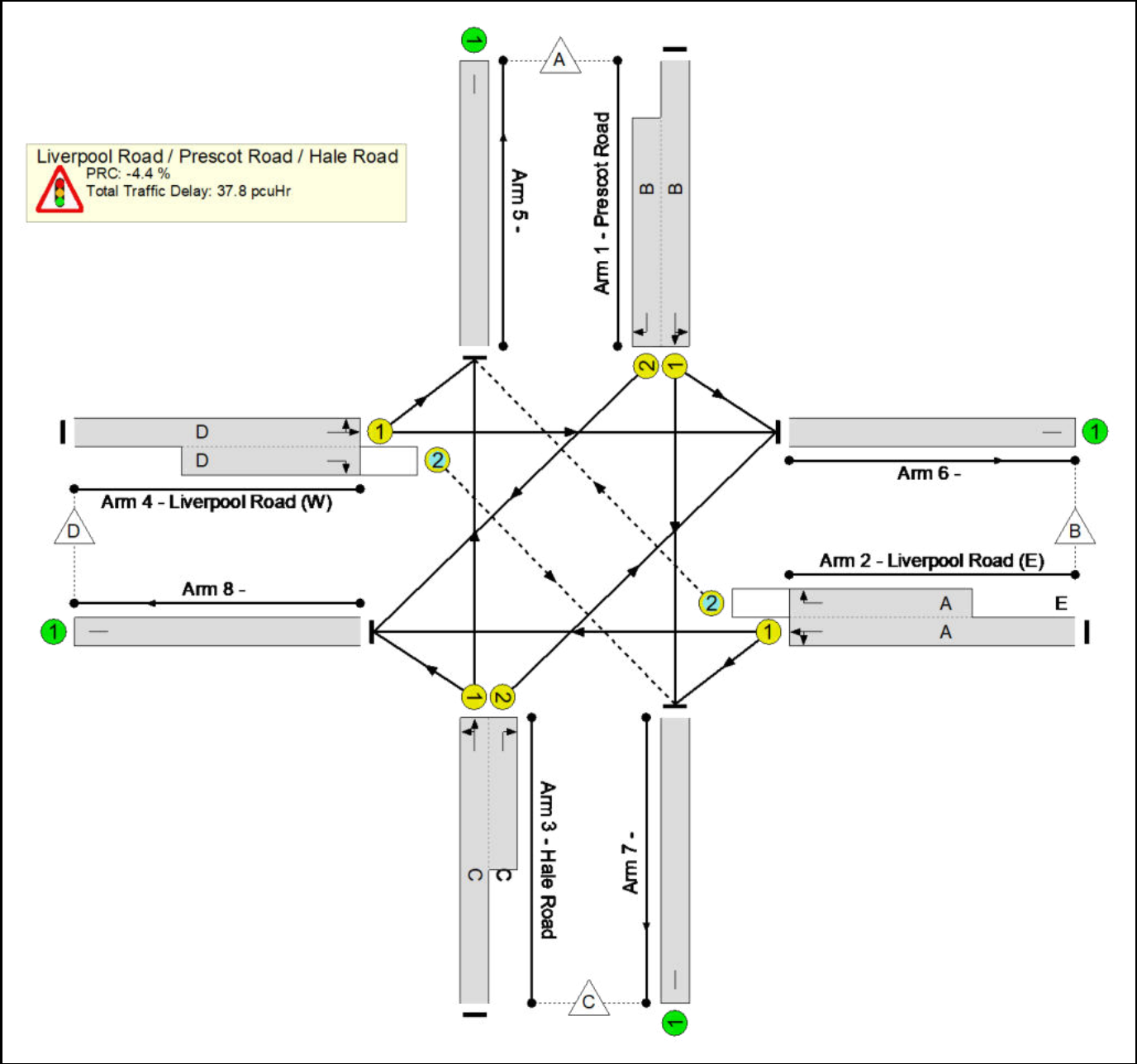
Stage	1	2	3	4
Duration	25	7	24	14
Change Point	0	32	46	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	94.0%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	94.0%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	566	1813:1851	453+159	92.4 : 92.4%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	39	7	592	1814:1791	629+233	68.7 : 68.7%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	467	1812:1892	299+198	94.0 : 94.0%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	25	-	505	1826:1743	456+83	93.7 : 93.7%
5/1		U	N/A	N/A	-		-	-	-	494	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	611	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	554	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	471	Inf	Inf	0.0%

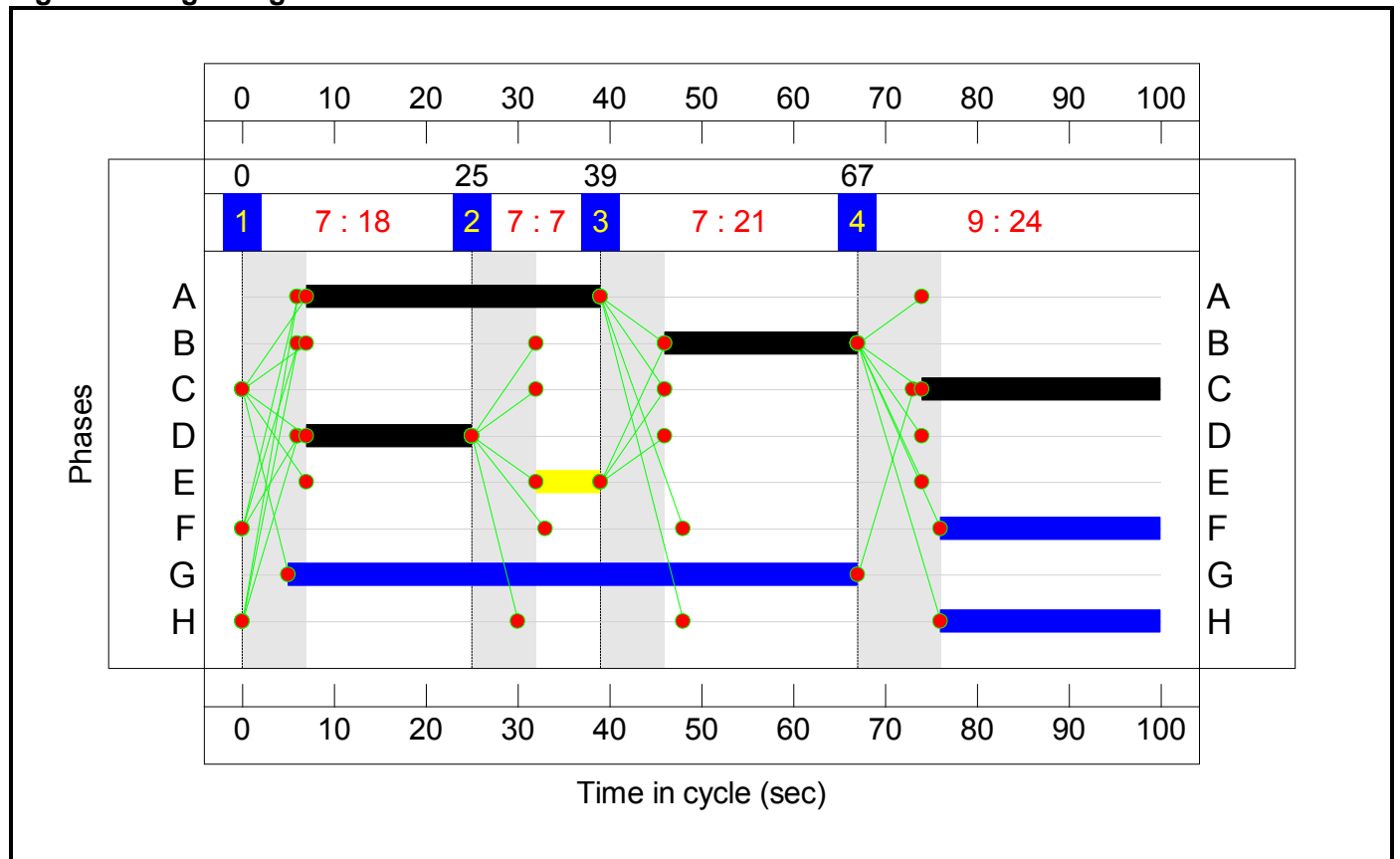
Full Input Data And Results

[illegible]

Stage Sequence Diagram

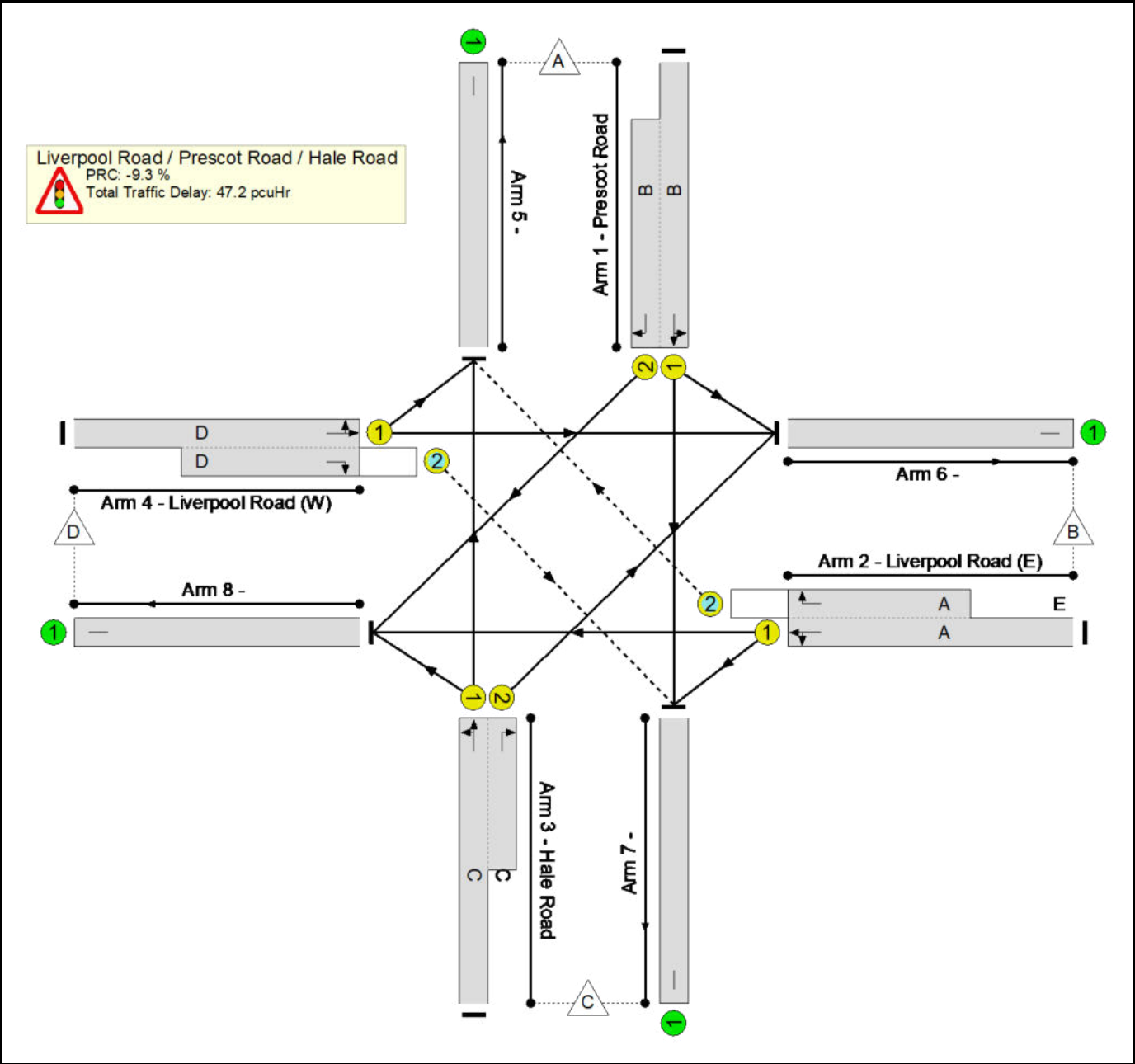


Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	98.4%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	98.4%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	500	1801:1851	396+124	96.2 : 96.2%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	611	1832:1791	521+263	78.0 : 78.0%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	559	1832:1892	446+128	97.4 : 97.4%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	411	1813:1743	344+73	98.4 : 98.4%
5/1		U	N/A	N/A	-		-	-	-	700	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	474	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	430	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	477	Inf	Inf	0.0%

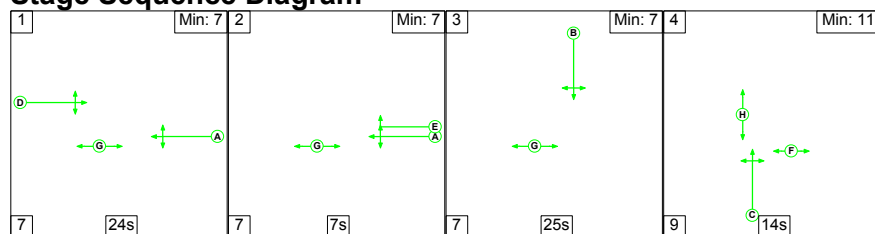
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	73	198	6	20.0	26.3	0.9	47.2	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	73	198	6	20.0	26.3	0.9	47.2	-	-	-	-
1/1+1/2	500	500	-	-	-	5.2	7.3	-	12.4	89.4	10.4	7.3	17.6
2/1+2/2	611	611	1	198	6	5.0	1.7	0.6	7.3	43.1	9.8	1.7	11.5
3/1+3/2	559	559	-	-	-	5.4	8.7	-	14.0	90.3	12.9	8.7	21.6
4/1+4/2	411	411	72	0	0	4.5	8.6	0.4	13.5	118.0	9.3	8.6	17.9
5/1	700	700	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	474	474	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	430	430	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	477	477	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -9.3 Total Delay for Signalled Lanes (pcuHr): 47.20 Cycle Time (s): 100 PRC Over All Lanes (%): -9.3 Total Delay Over All Lanes(pcuHr): 47.20													

Full Input Data And Results

Scenario 9: '2028 + Com + Dev AM' (FG9: '2028 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

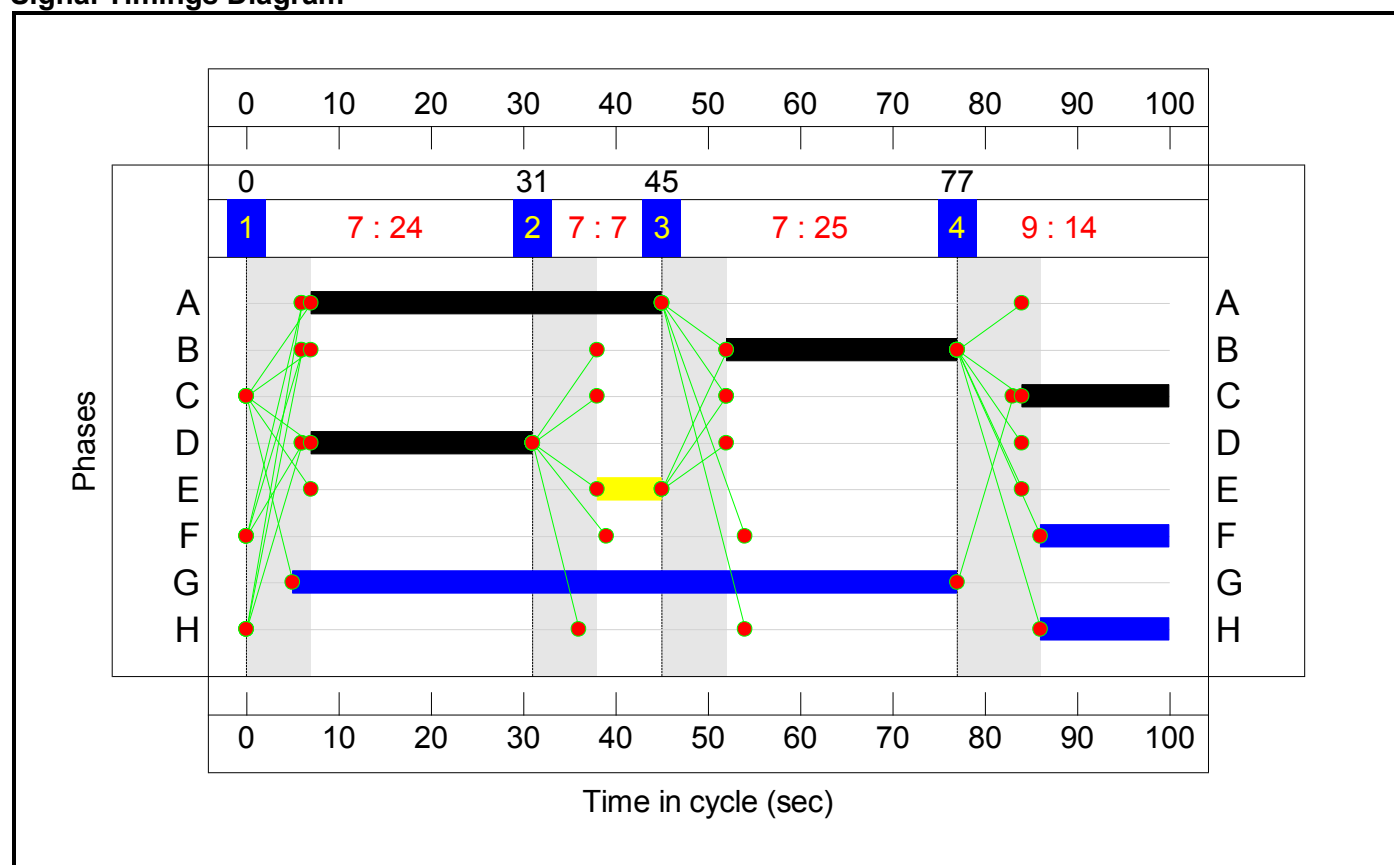
Stage Sequence Diagram



Stage Timings

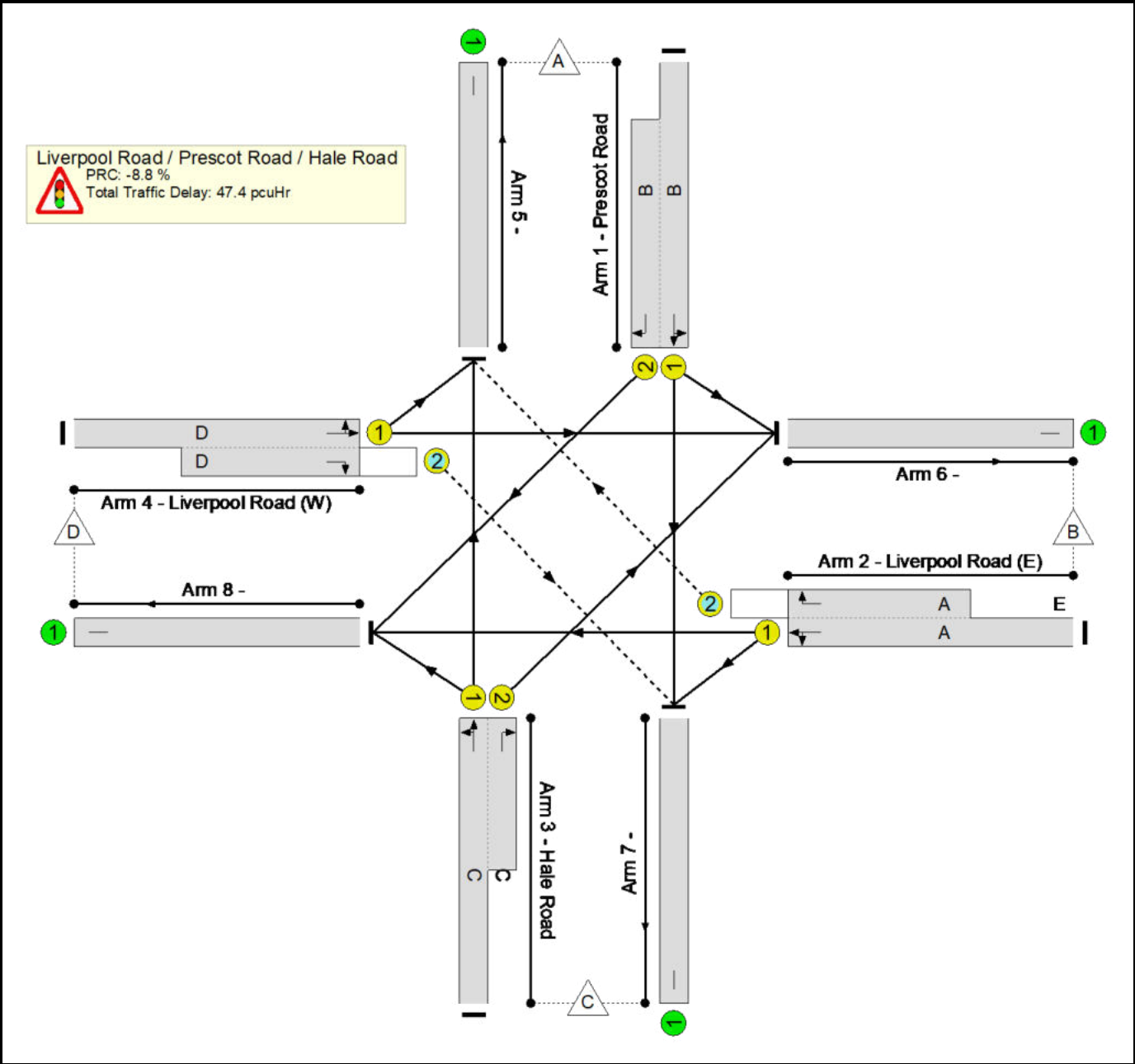
Stage	1	2	3	4
Duration	24	7	25	14
Change Point	0	31	45	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	97.9%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	97.9%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	25	-	615	1811:1851	471+157	97.9 : 97.9%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	38	7	596	1814:1791	614+233	70.4 : 70.4%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	473	1814:1892	299+194	95.9 : 95.9%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	24	-	507	1825:1743	440+80	97.5 : 97.5%
5/1		U	N/A	N/A	-		-	-	-	506	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	630	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	577	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%

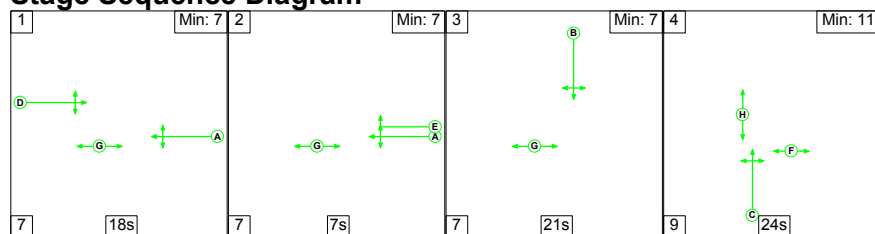
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	88	149	5	20.3	26.1	1.1	47.4	-	-	-	-
Liverpool Road / Prescot Road / Hale Road	-	-	88	149	5	20.3	26.1	1.1	47.4	-	-	-	-
1/1+1/2	615	615	-	-	-	6.0	9.5	-	15.5	90.9	12.7	9.5	22.2
2/1+2/2	596	596	10	149	5	4.0	1.2	0.7	5.9	35.6	9.6	1.2	10.8
3/1+3/2	473	473	-	-	-	5.2	7.0	-	12.2	92.8	7.8	7.0	14.8
4/1+4/2	507	507	78	0	0	5.1	8.4	0.4	13.8	98.2	12.1	8.4	20.5
5/1	506	506	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	630	630	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	577	577	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	478	478	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -8.8 Total Delay for Signalled Lanes (pcuHr): 47.44 Cycle Time (s): 100 PRC Over All Lanes (%): -8.8 Total Delay Over All Lanes(pcuHr): 47.44													

Full Input Data And Results

Scenario 10: '2028 + Com + Dev PM' (FG10: '2028 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

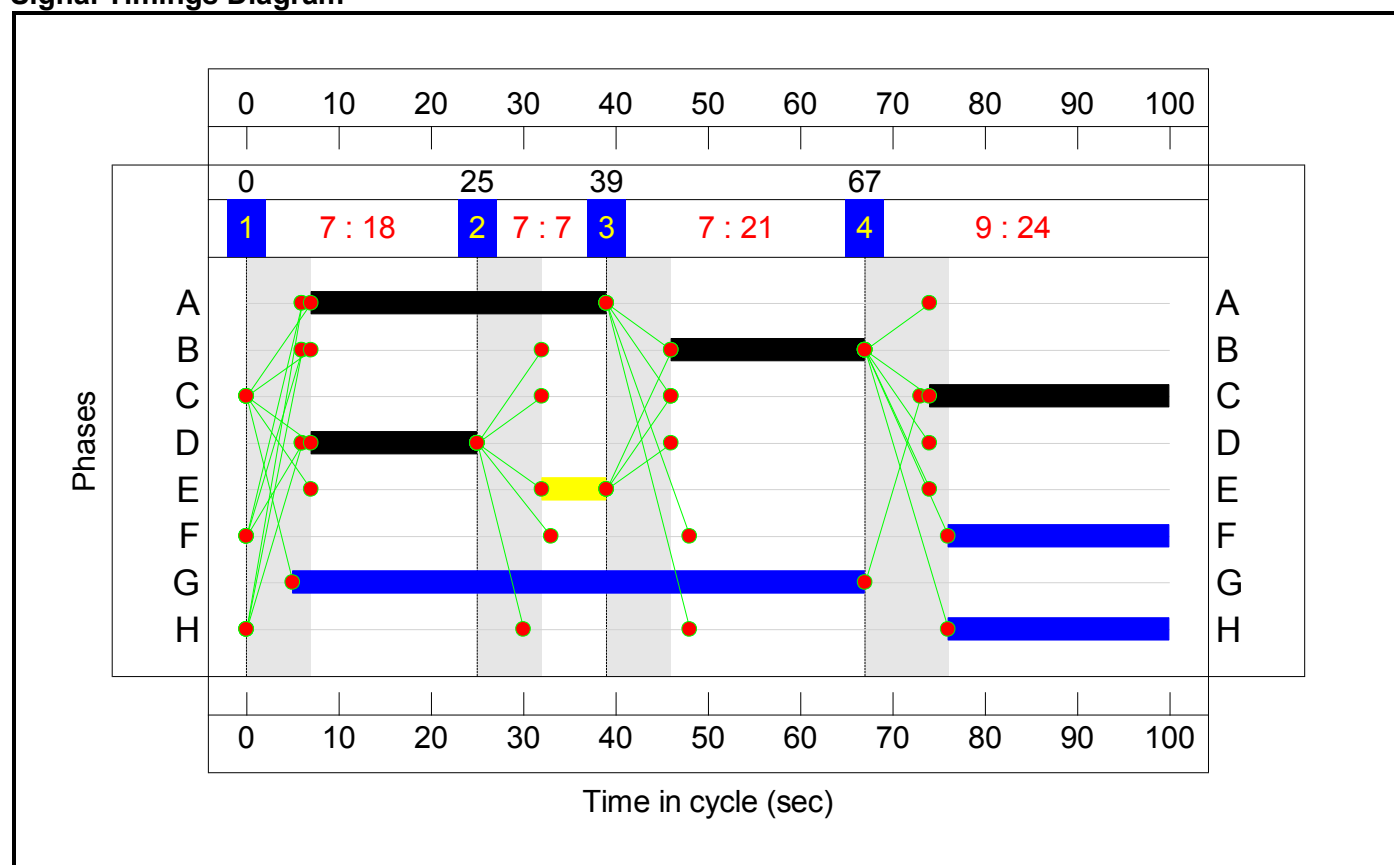
Stage Sequence Diagram



Stage Timings

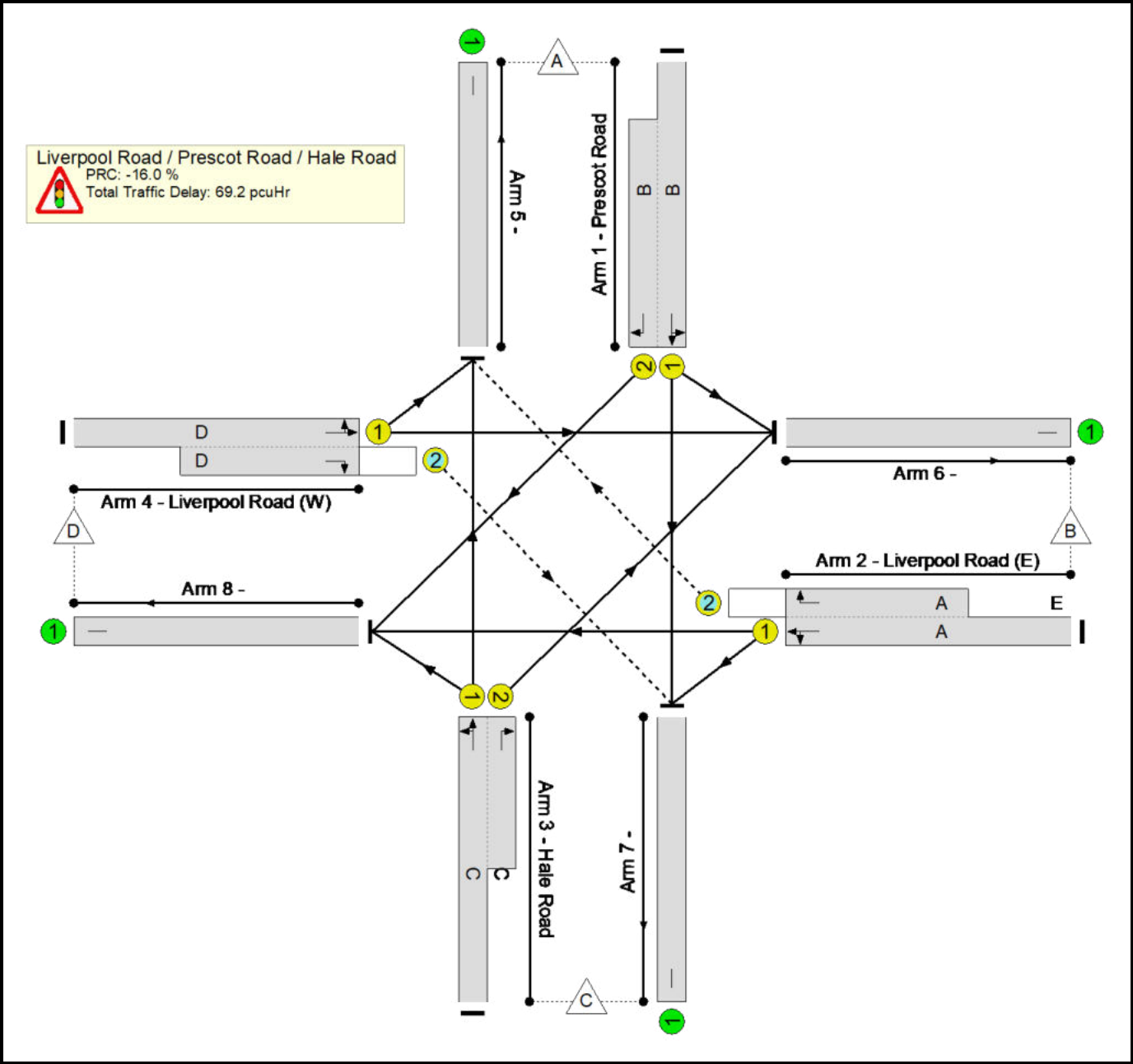
Stage	1	2	3	4
Duration	18	7	21	24
Change Point	0	25	39	67

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	104.4%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	104.4%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	526	1801:1851	396+118	102.2 : 102.2%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	633	1832:1791	515+269	78.9 : 84.3%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	593	1834:1892	448+120	104.4 : 104.4%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	414	1813:1743	344+73	99.3 : 99.3%
5/1		U	N/A	N/A	-		-	-	-	759	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	483	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%

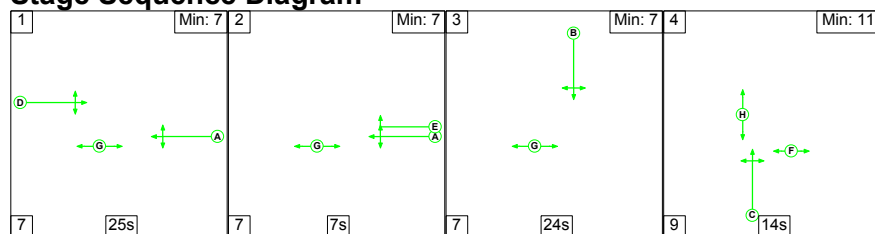
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	72	215	12	22.2	46.1	0.9	69.2	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	72	215	12	22.2	46.1	0.9	69.2	-	-	-	-
1/1+1/2	526	517	-	-	-	5.8	14.7	-	20.5	140.3	11.5	14.7	26.2
2/1+2/2	633	633	0	215	12	5.3	2.0	0.5	7.9	44.9	9.8	2.0	11.8
3/1+3/2	593	568	-	-	-	6.5	19.9	-	26.4	160.4	14.5	19.9	34.5
4/1+4/2	414	414	72	0	0	4.5	9.5	0.4	14.4	124.8	9.5	9.5	19.0
5/1	742	742	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	474	474	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	440	440	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -16.0 Total Delay for Signalled Lanes (pcuHr): 69.17 Cycle Time (s): 100 PRC Over All Lanes (%): -16.0 Total Delay Over All Lanes(pcuHr): 69.17													

Full Input Data And Results

Scenario 11: '2033 + Com AM' (FG11: '2033 + Com AM', Plan 1: 'Network Control Plan 1')

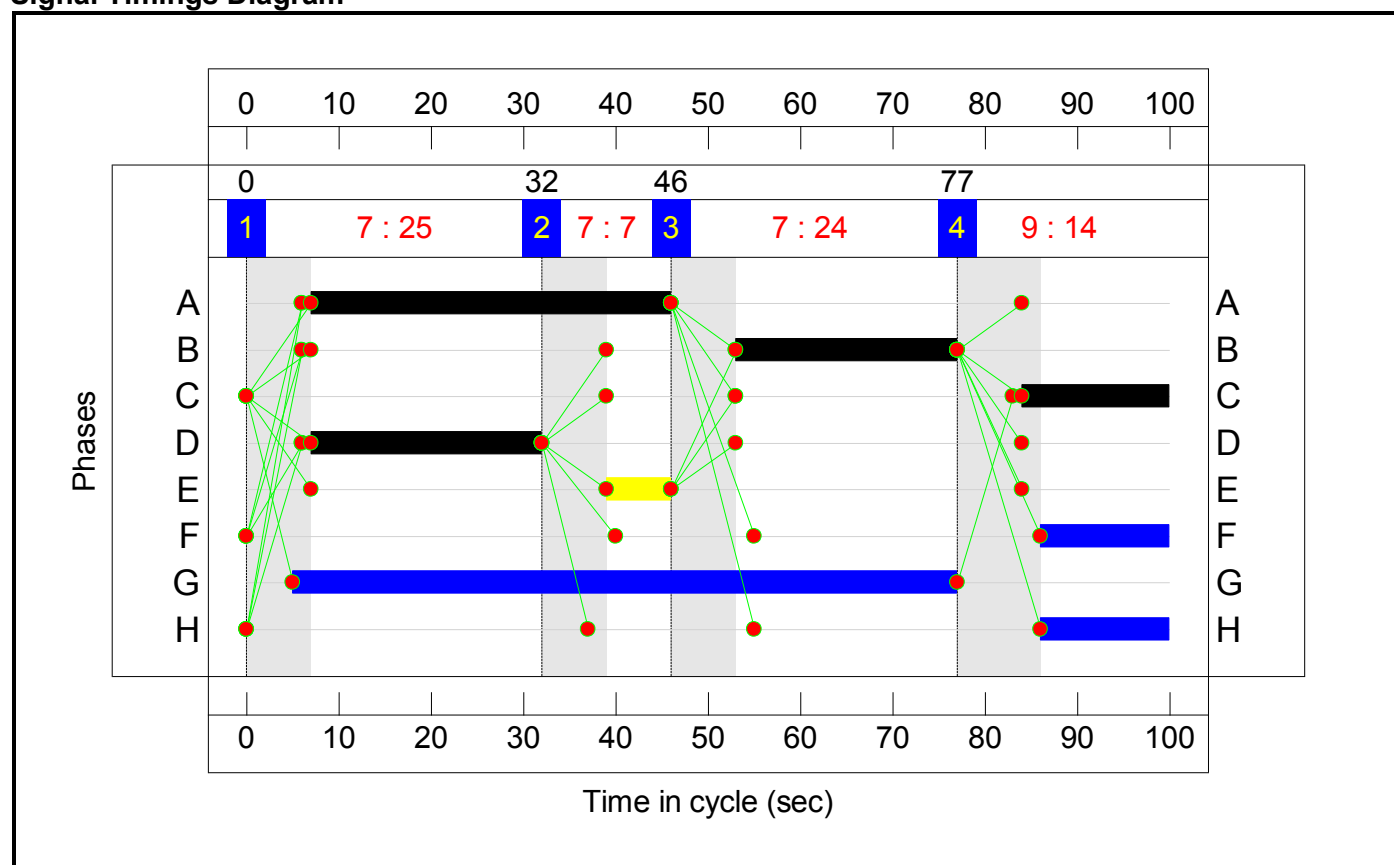
Stage Sequence Diagram



Stage Timings

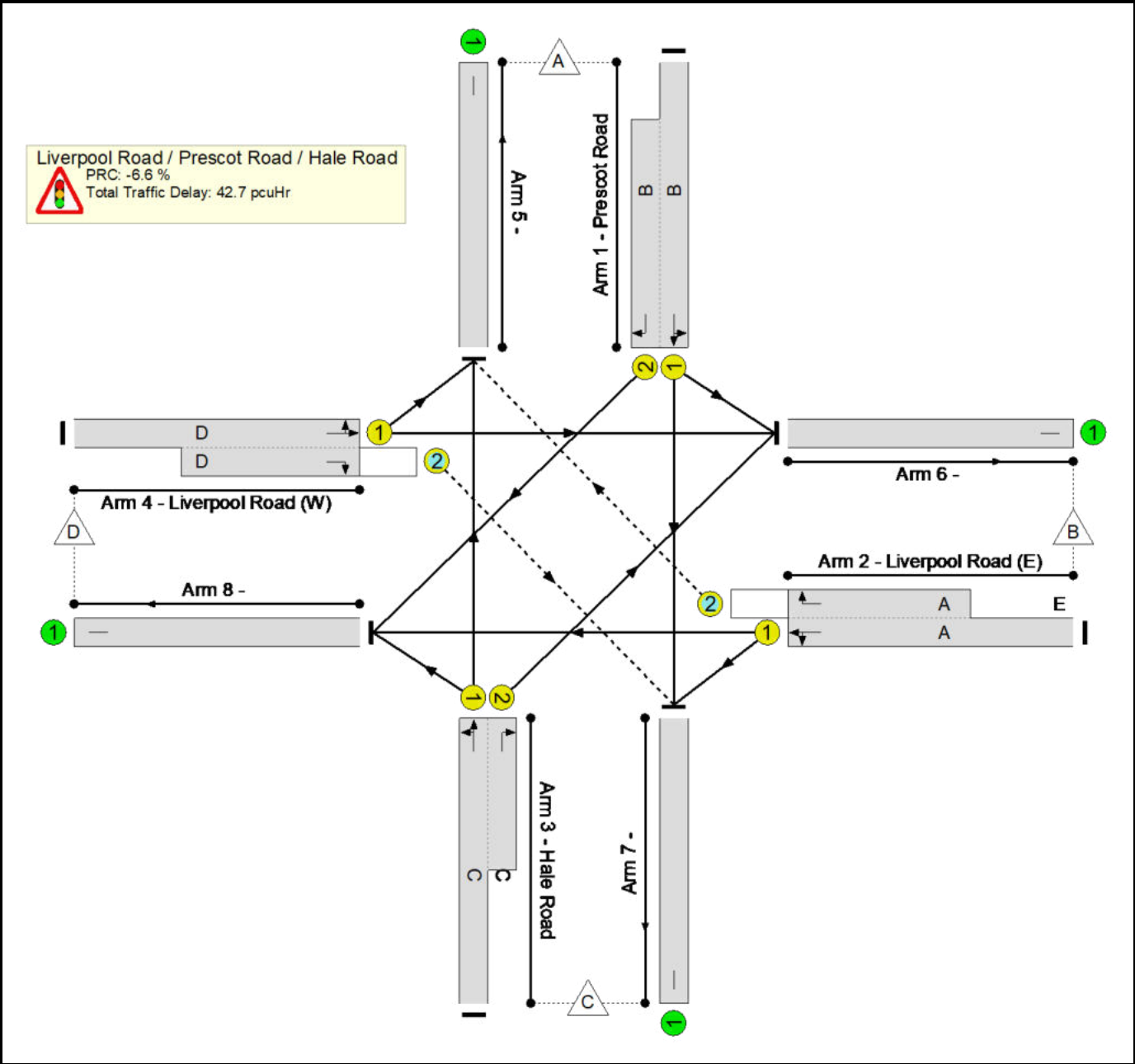
Stage	1	2	3	4
Duration	25	7	24	14
Change Point	0	32	46	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	96.0%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	96.0%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	579	1813:1851	453+158	94.6 : 94.6%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	39	7	605	1814:1791	629+232	70.2 : 70.2%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	477	1813:1892	299+198	96.0 : 96.0%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	25	-	516	1826:1743	456+82	95.9 : 95.9%
5/1		U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	625	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	566	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	481	Inf	Inf	0.0%

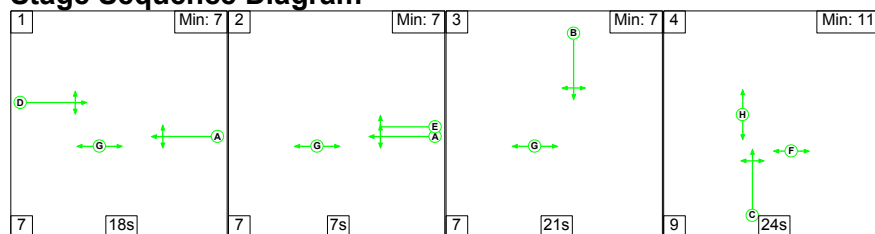
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	95	142	5	19.9	21.6	1.1	42.7	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	95	142	5	19.9	21.6	1.1	42.7	-	-	-	-
1/1+1/2	579	579	-	-	-	5.7	6.4	-	12.0	74.8	11.7	6.4	18.0
2/1+2/2	605	605	16	142	5	3.9	1.2	0.7	5.9	34.8	9.7	1.2	10.9
3/1+3/2	477	477	-	-	-	5.3	7.0	-	12.3	92.7	7.8	7.0	14.8
4/1+4/2	516	516	79	0	0	5.0	7.1	0.4	12.5	87.3	12.3	7.1	19.5
5/1	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	625	625	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	566	566	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	481	481	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalised Lanes (%): -6.6 Total Delay for Signalised Lanes (pcuHr): 42.68 Cycle Time (s): 100 PRC Over All Lanes (%): -6.6 Total Delay Over All Lanes(pcuHr): 42.68													

Full Input Data And Results

Scenario 12: '2033 + Com PM' (FG12: '2033 + Com PM', Plan 1: 'Network Control Plan 1')

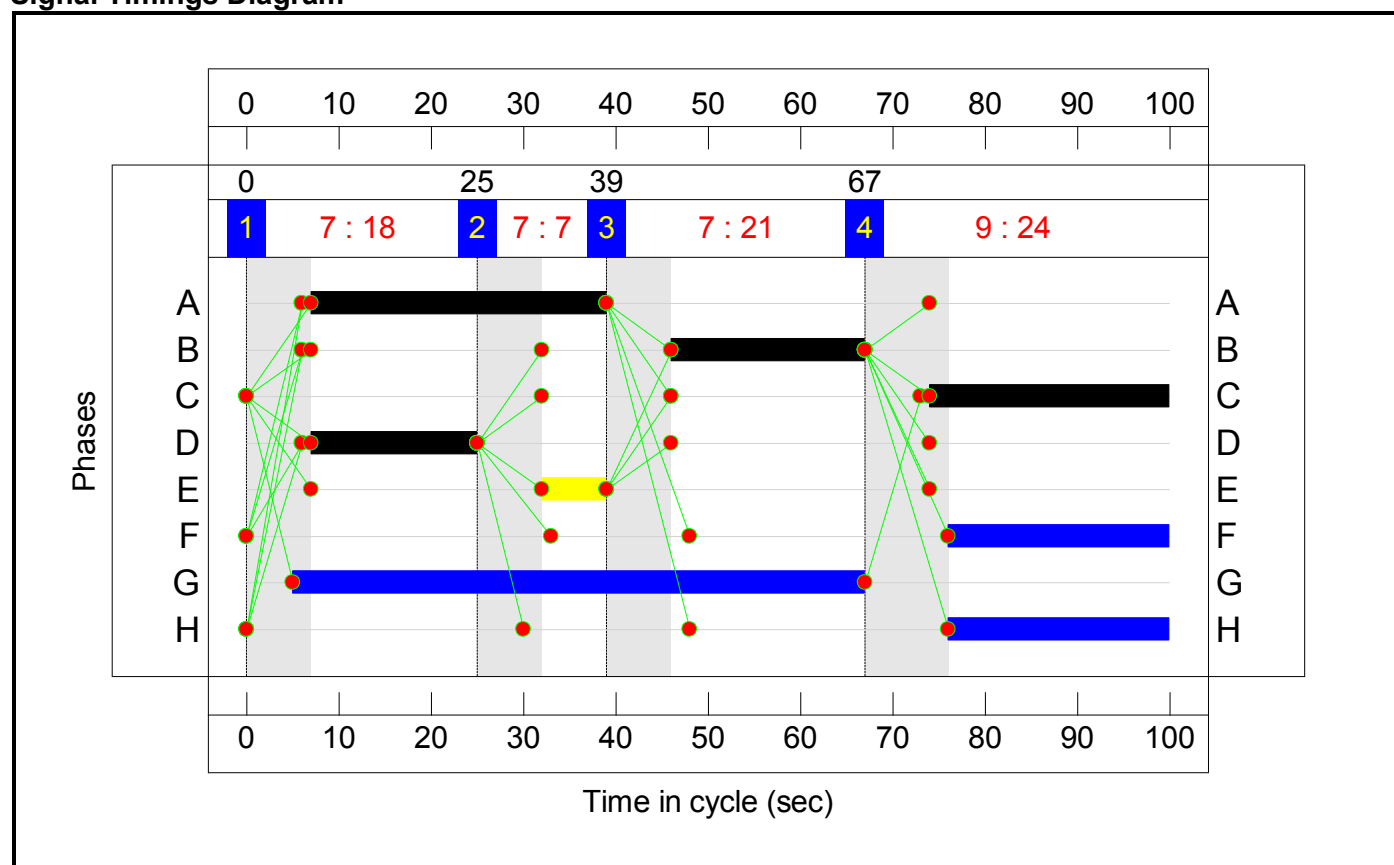
Stage Sequence Diagram



Stage Timings

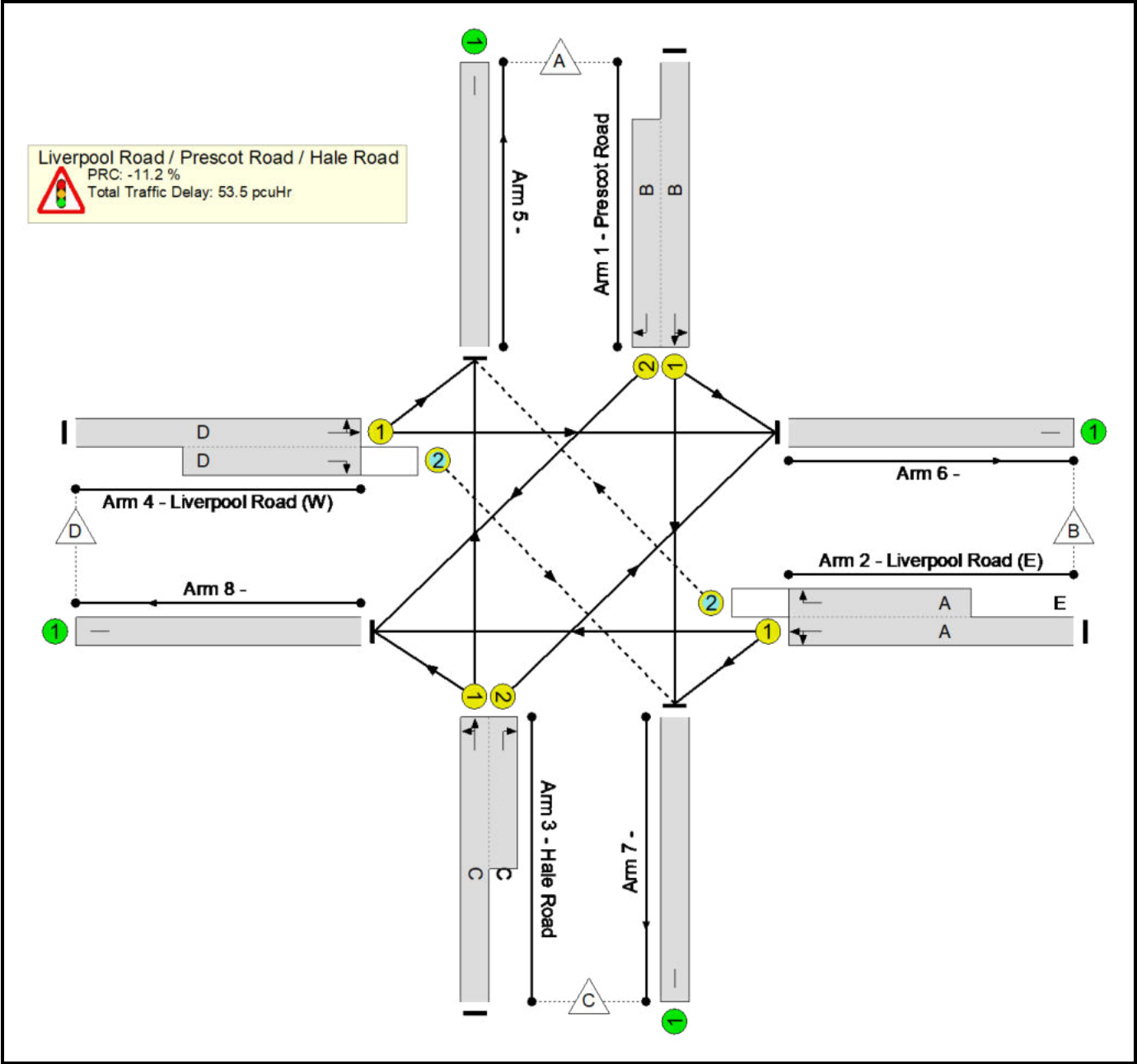
Stage	1	2	3	4
Duration	18	7	21	24
Change Point	0	25	39	67

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	100.1%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	100.1%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	511	1801:1851	396+124	98.2 : 98.2%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	623	1832:1791	521+263	79.5 : 79.5%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	569	1832:1892	445+129	99.0 : 99.0%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	419	1814:1743	345+74	100.1 : 100.1%
5/1		U	N/A	N/A	-		-	-	-	712	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	484	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	487	Inf	Inf	0.0%

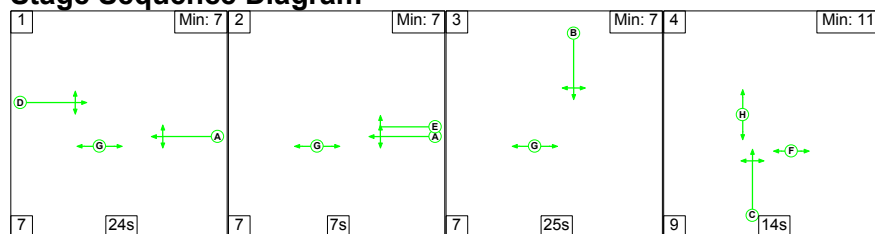
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 13: '2033 + Com + Dev AM' (FG13: '2033 + Com + Dev AM', Plan 1: 'Network Control Plan 1')

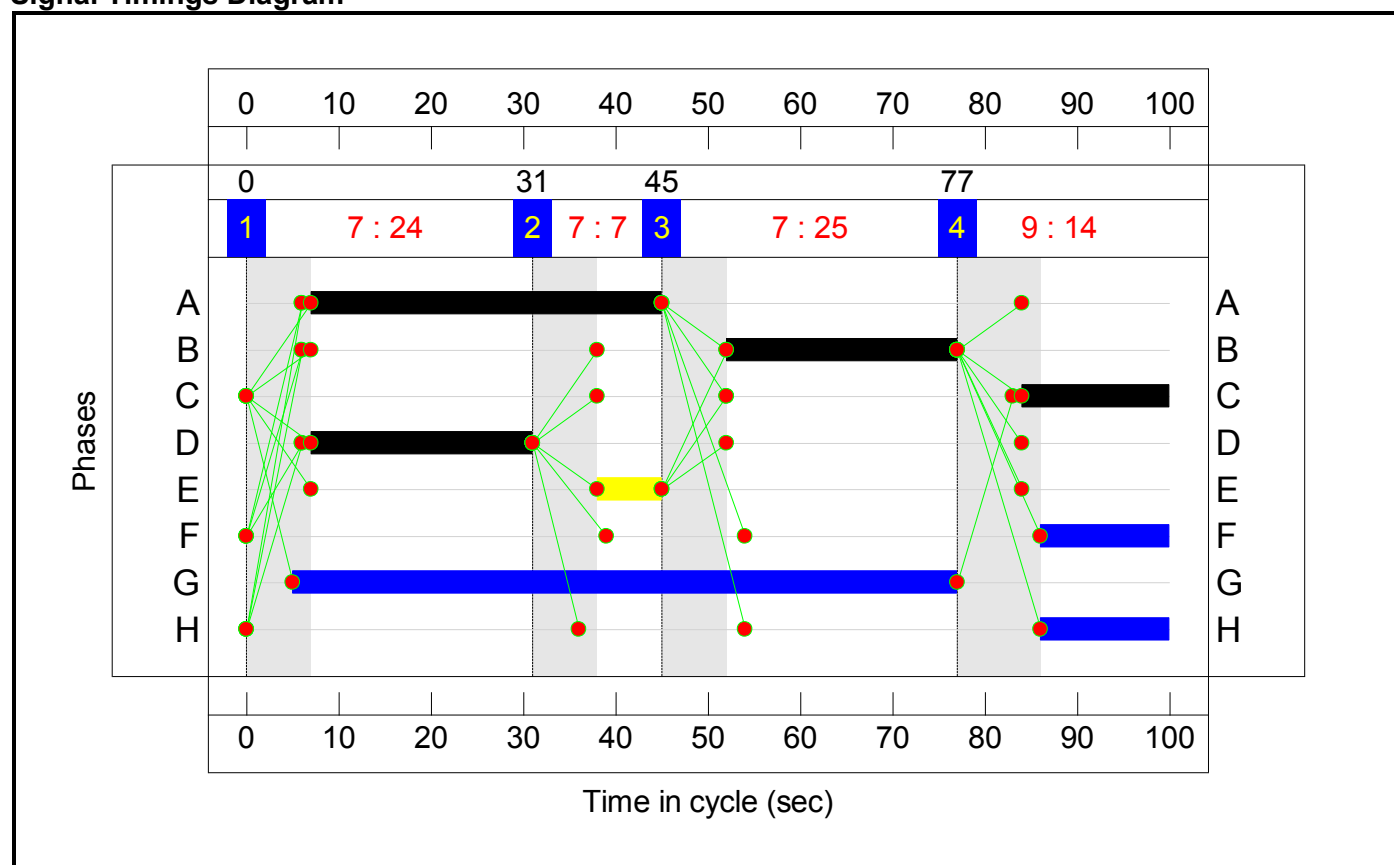
Stage Sequence Diagram



Stage Timings

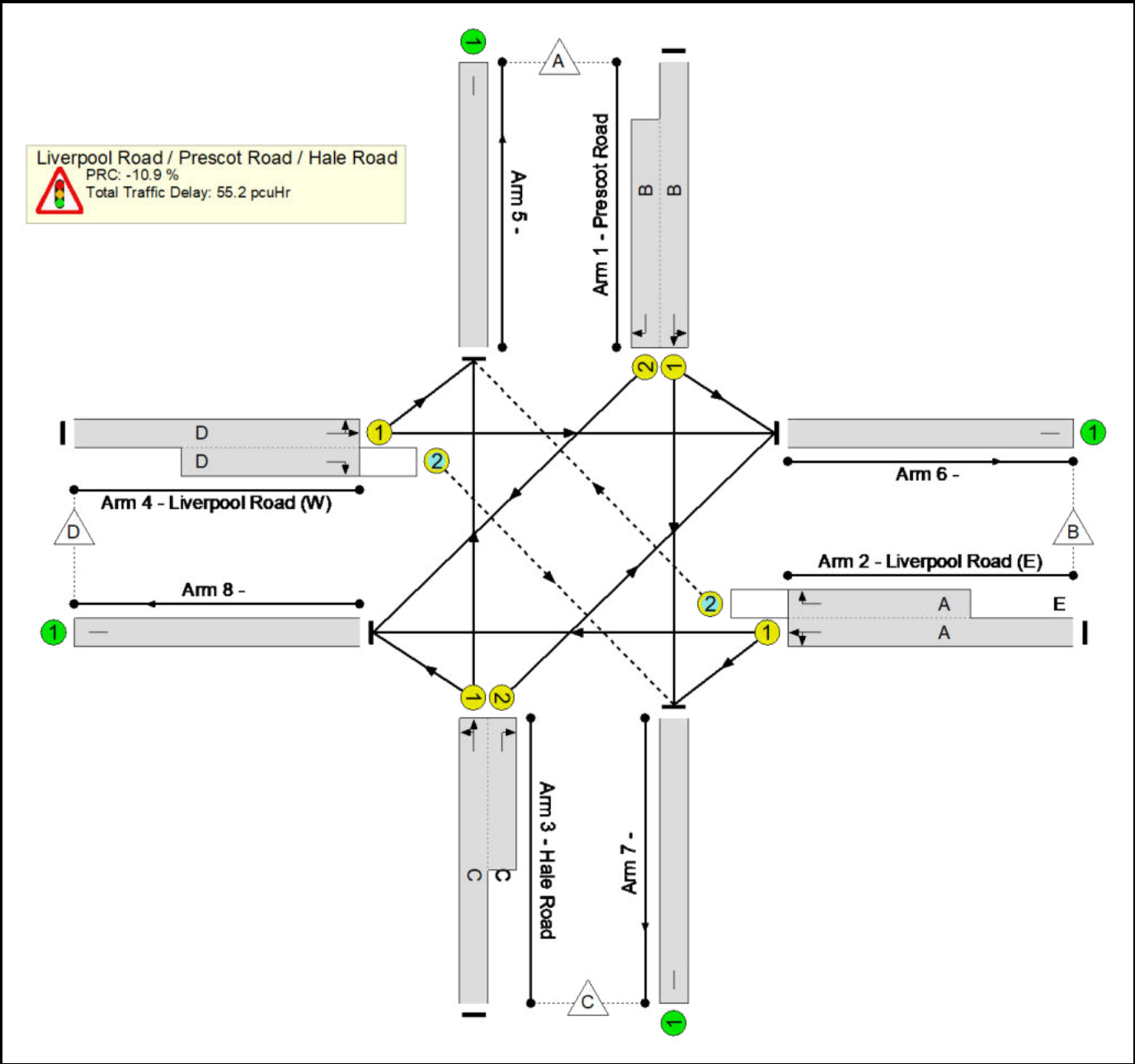
Stage	1	2	3	4
Duration	24	7	25	14
Change Point	0	31	45	77

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	99.8%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	99.8%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	25	-	628	1811:1851	471+158	99.8 : 99.8%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	38	7	610	1814:1791	614+233	72.0 : 72.0%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	16	-	483	1814:1892	299+194	97.9 : 97.9%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	24	-	518	1825:1743	440+79	99.7 : 99.7%
5/1		U	N/A	N/A	-		-	-	-	518	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	644	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	588	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	489	Inf	Inf	0.0%

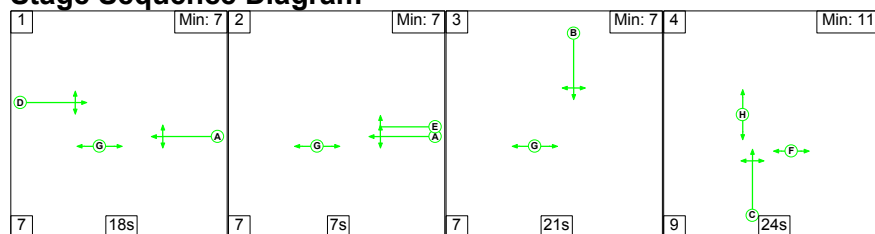
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	79	163	5	20.9	33.2	1.1	55.2	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	79	163	5	20.9	33.2	1.1	55.2	-	-	-	-
1/1+1/2	628	628	-	-	-	6.1	12.2	-	18.4	105.4	12.9	12.2	25.2
2/1+2/2	610	610	0	163	5	4.2	1.3	0.7	6.2	36.3	9.9	1.3	11.2
3/1+3/2	483	483	-	-	-	5.4	8.7	-	14.1	105.1	8.1	8.7	16.9
4/1+4/2	518	518	79	0	0	5.3	11.0	0.4	16.6	115.4	12.6	11.0	23.5
5/1	518	518	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	644	644	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	588	588	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	489	489	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -10.9 Total Delay for Signalled Lanes (pcuHr): 55.25 Cycle Time (s): 100 PRC Over All Lanes (%): -10.9 Total Delay Over All Lanes(pcuHr): 55.25													

Full Input Data And Results

Scenario 14: '2033 + Com + Dev PM' (FG14: '2033 + Com + Dev PM', Plan 1: 'Network Control Plan 1')

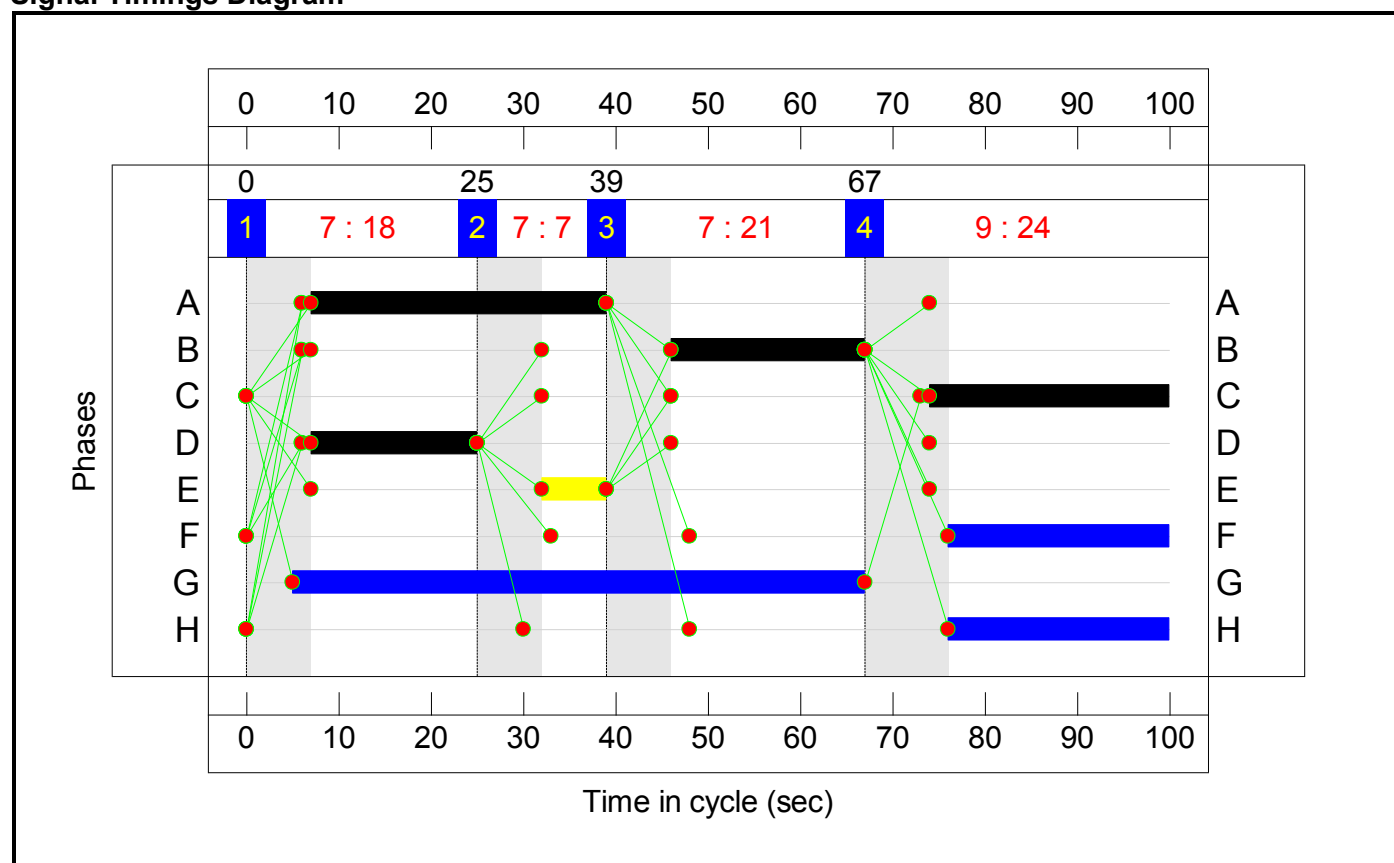
Stage Sequence Diagram



Stage Timings

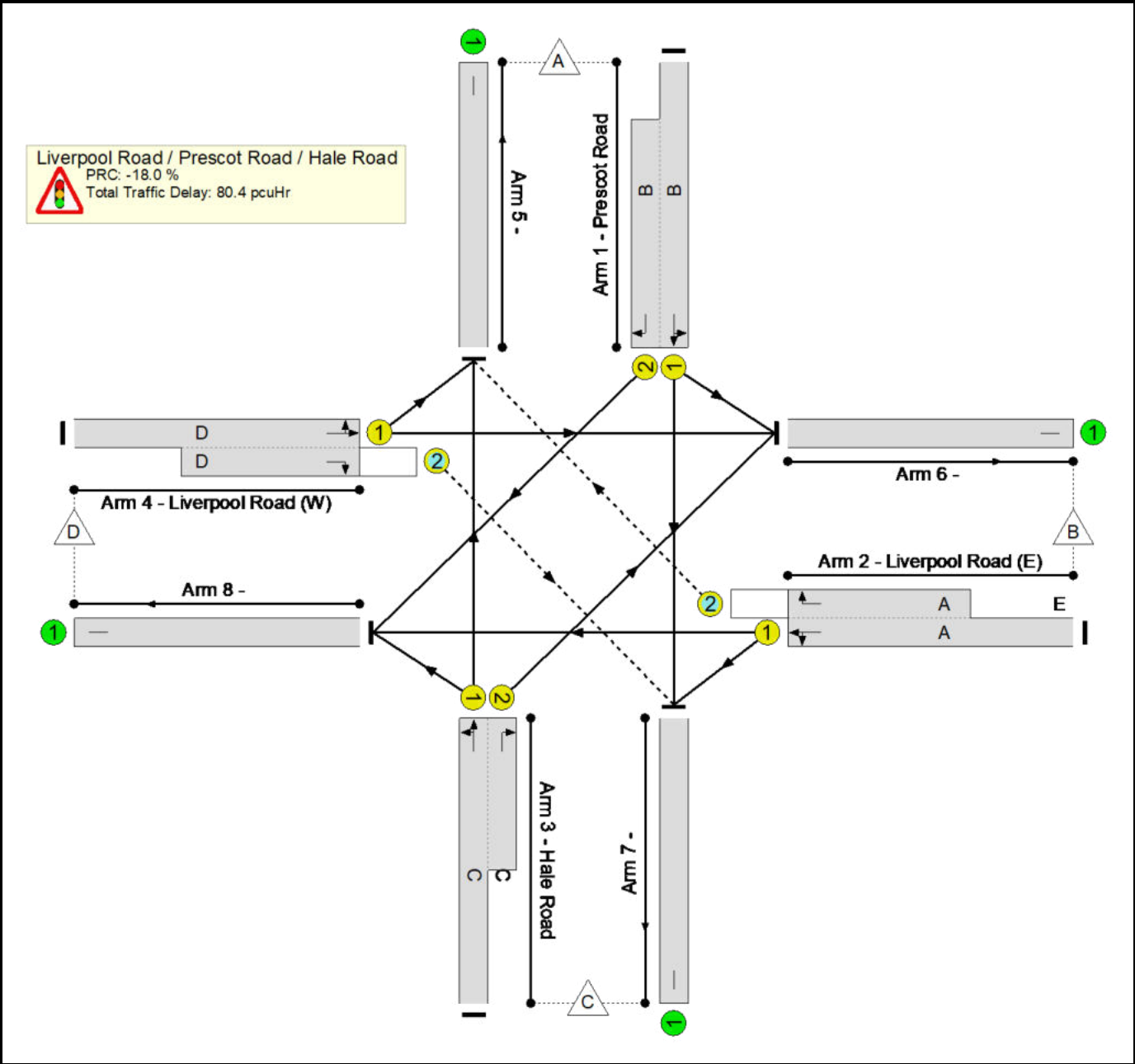
Stage	1	2	3	4
Duration	18	7	21	24
Change Point	0	25	39	67

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	106.2%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	106.2%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	21	-	535	1801:1851	396+118	104.0 : 104.0%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	645	1832:1791	515+269	80.4 : 85.8%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	26	-	604	1834:1892	448+120	106.2 : 106.2%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	423	1813:1743	344+73	101.3 : 101.3%
5/1		U	N/A	N/A	-		-	-	-	773	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	493	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	453	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	488	Inf	Inf	0.0%

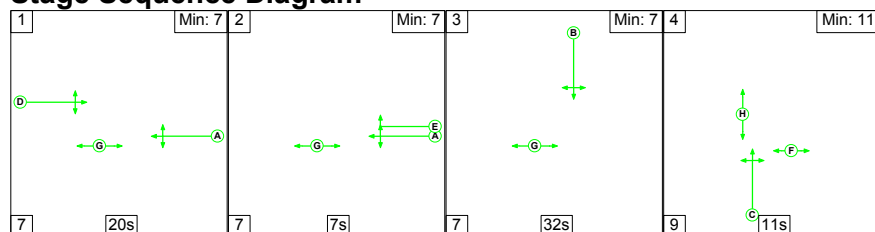
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 15: '2022 Observed AM (0700-0800)' (FG15: '2022 Observed AM (0700-0800)', Plan 1: 'Network Control Plan 1')

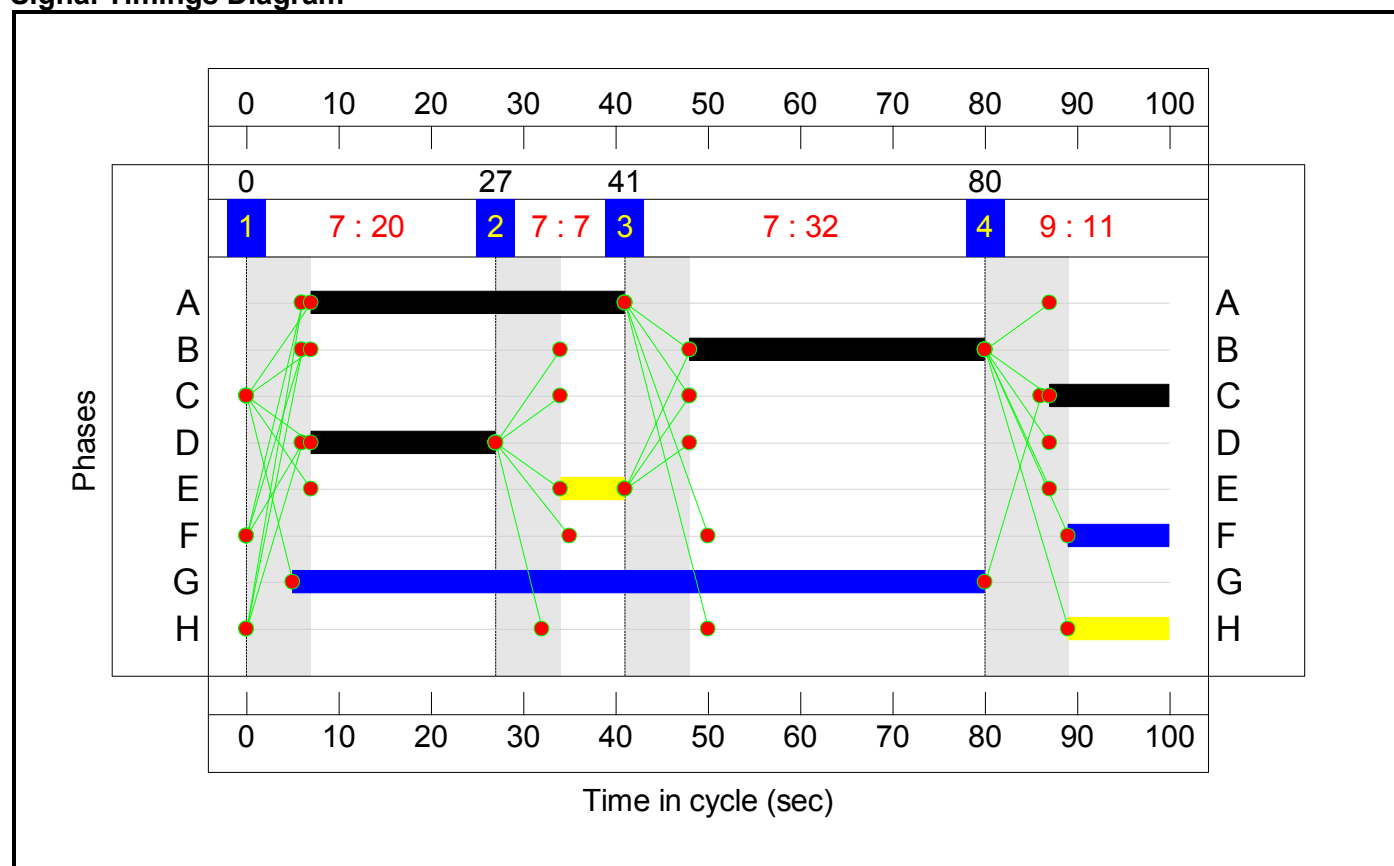
Stage Sequence Diagram



Stage Timings

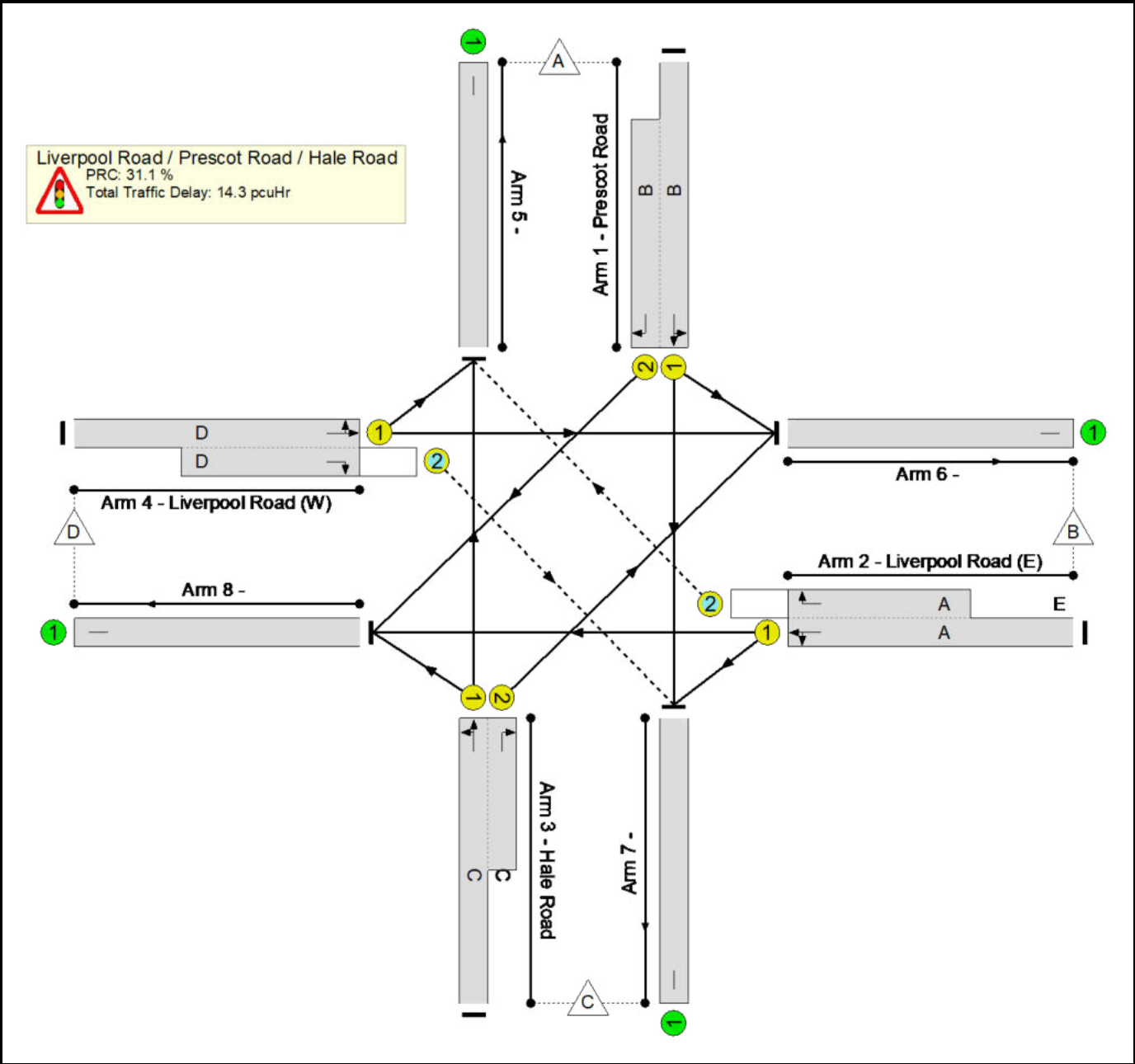
Stage	1	2	3	4
Duration	20	7	32	11
Change Point	0	27	41	80

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	68.7%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	68.7%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	32	-	502	1821:1851	583+149	68.7 : 68.7%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	34	7	259	1812:1791	579+160	35.1 : 35.1%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	13	-	212	1798:1892	252+93	61.6 : 61.6%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	20	-	305	1824:1743	379+71	67.9 : 67.9%
5/1		U	N/A	N/A	-		-	-	-	238	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	337	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	433	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	270	Inf	Inf	0.0%

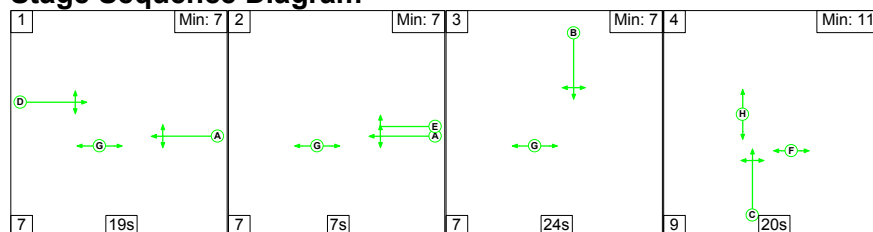
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 16: '2022 Observed PM (1730-1830)' (FG16: '2022 Observed PM (1730-1830)', Plan 1: 'Network Control Plan 1')

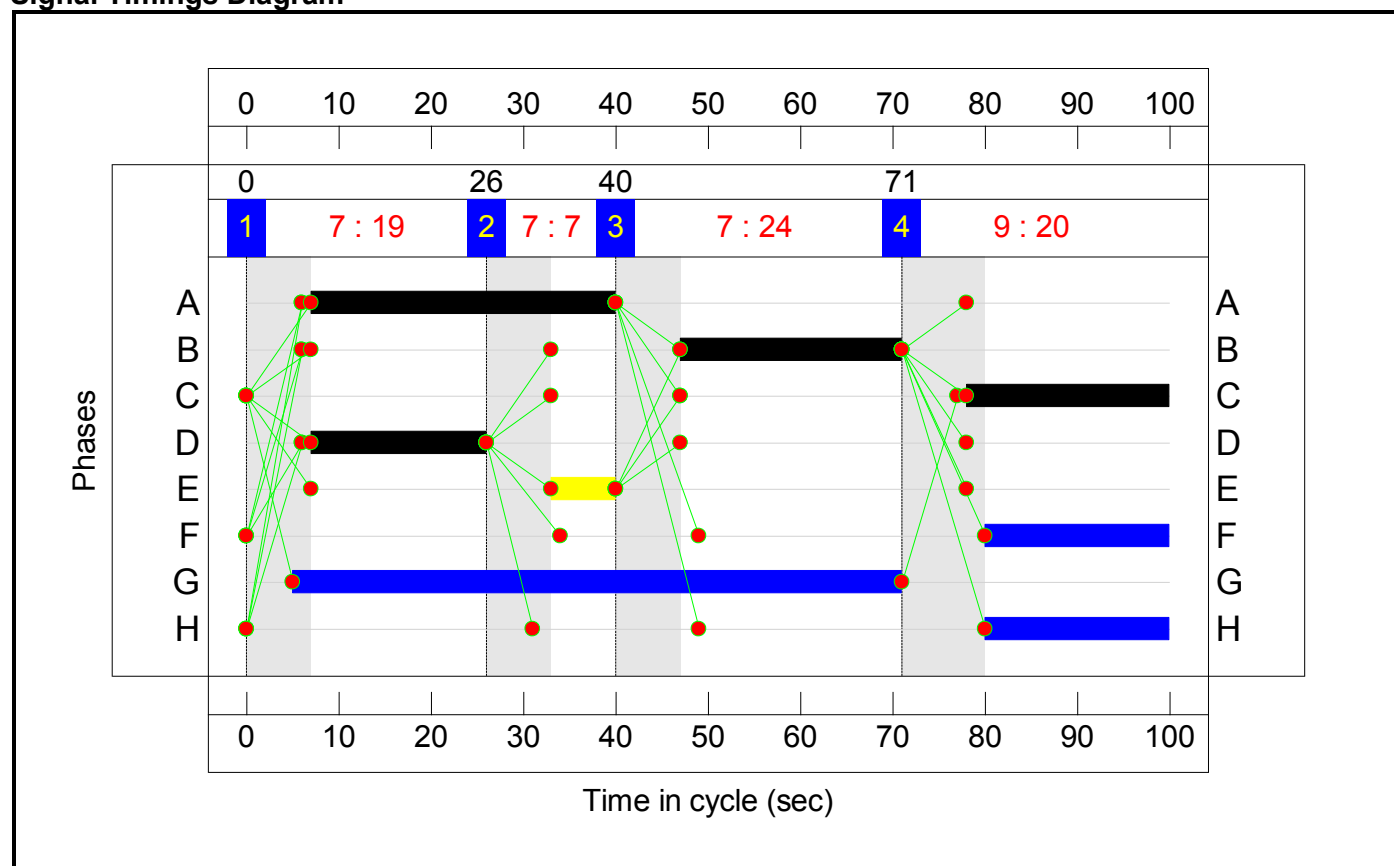
Stage Sequence Diagram



Stage Timings

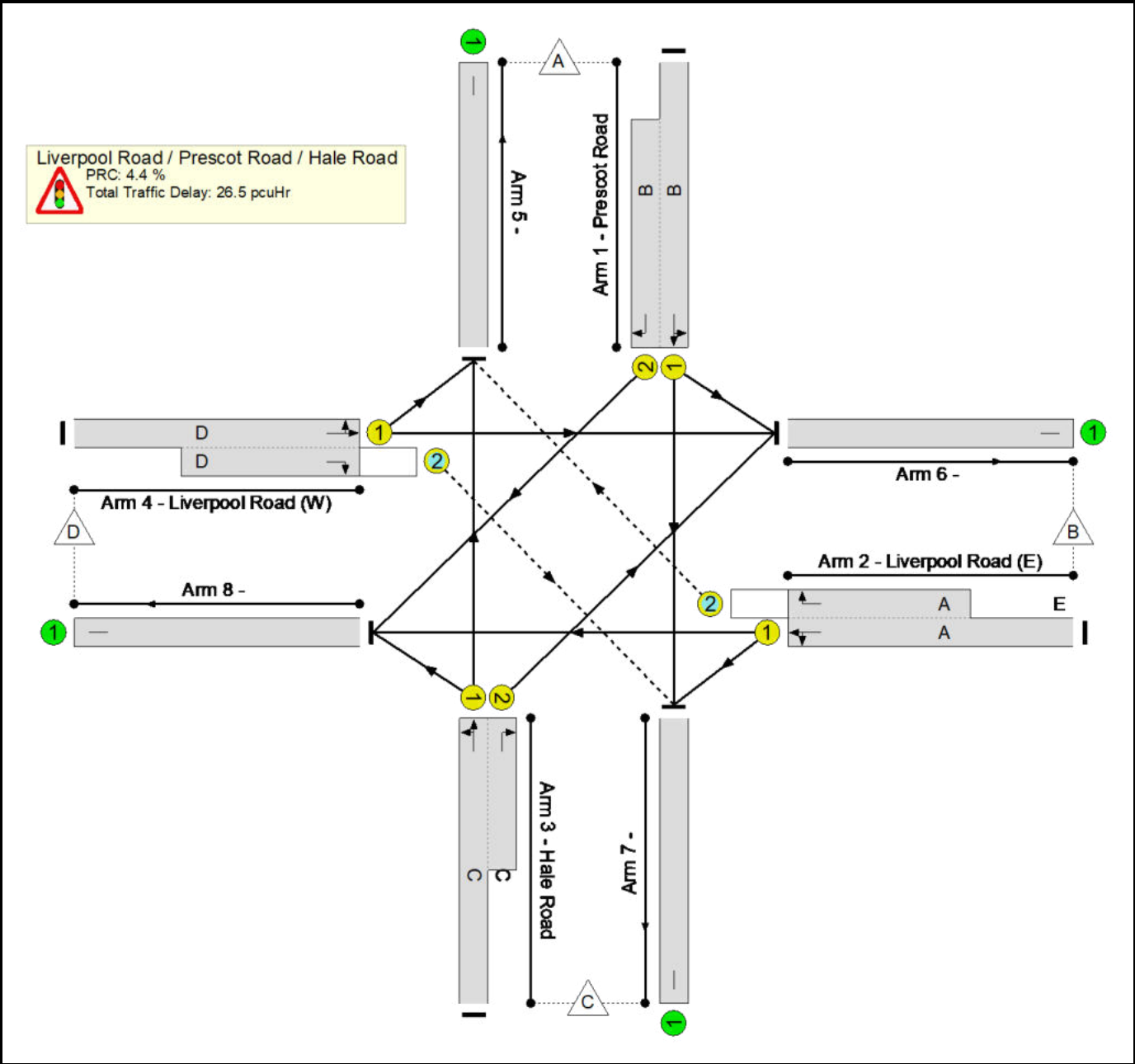
Stage	1	2	3	4
Duration	19	7	24	20
Change Point	0	26	40	71

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	86.2%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	86.2%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	491	1793:1851	448+132	84.6 : 84.6%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	33	7	527	1838:1791	526+299	63.9 : 63.9%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	22	-	429	1823:1892	386+119	84.9 : 84.9%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	19	-	375	1819:1743	363+72	86.2 : 86.2%
5/1		U	N/A	N/A	-		-	-	-	559	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	467	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	364	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	432	Inf	Inf	0.0%

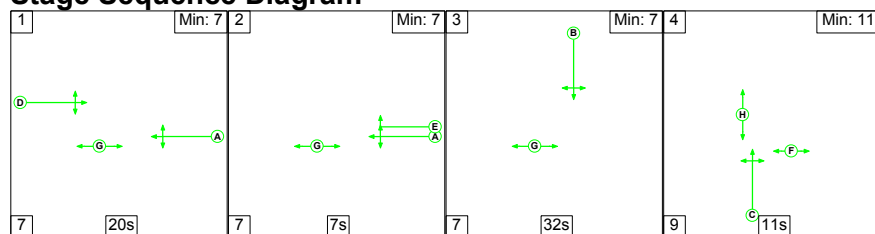
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 17: '2033 + Com AM (0700-0800)' (FG29: '2033 + Com AM (0700-0800)', Plan 1: 'Network Control Plan 1')

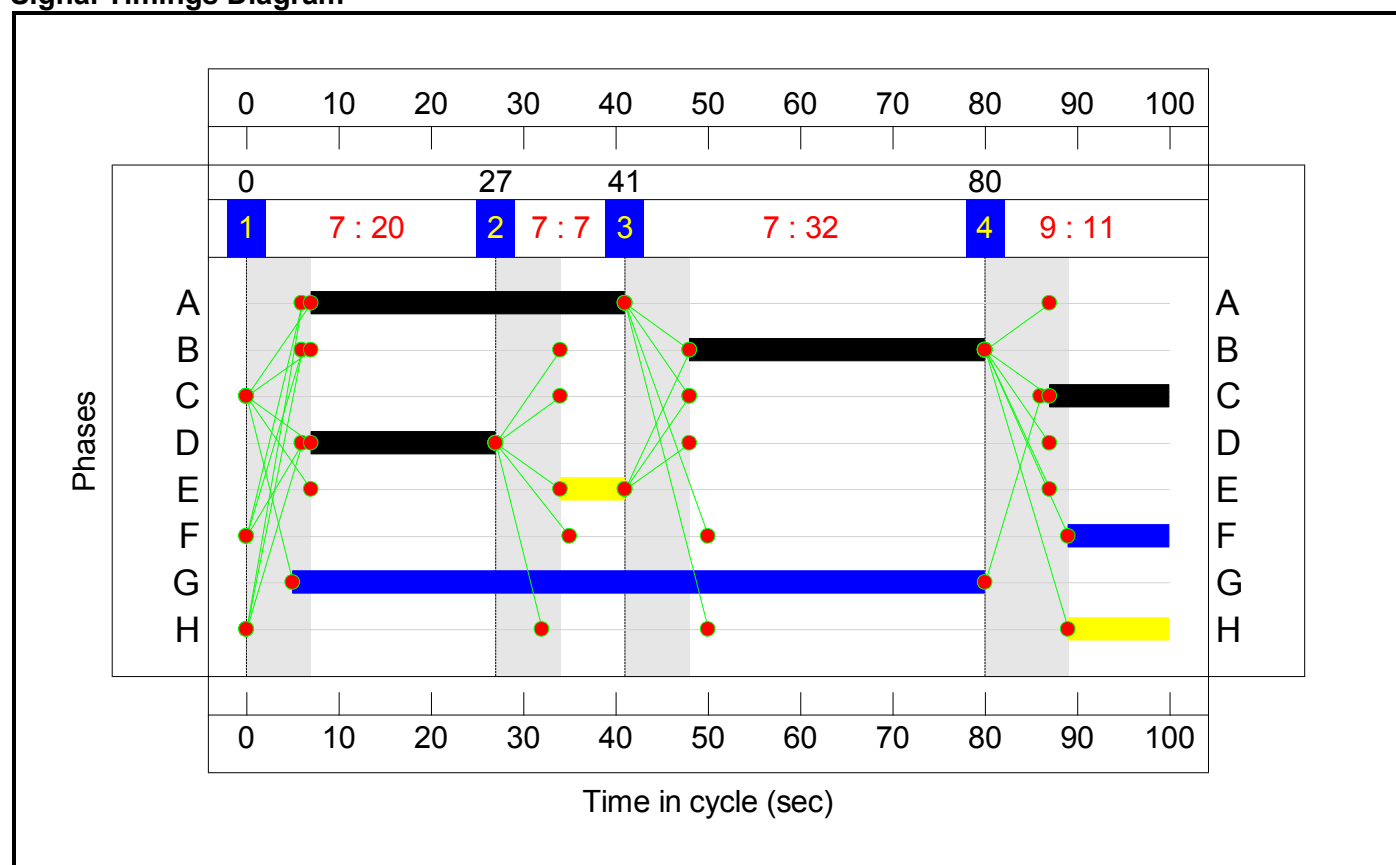
Stage Sequence Diagram



Stage Timings

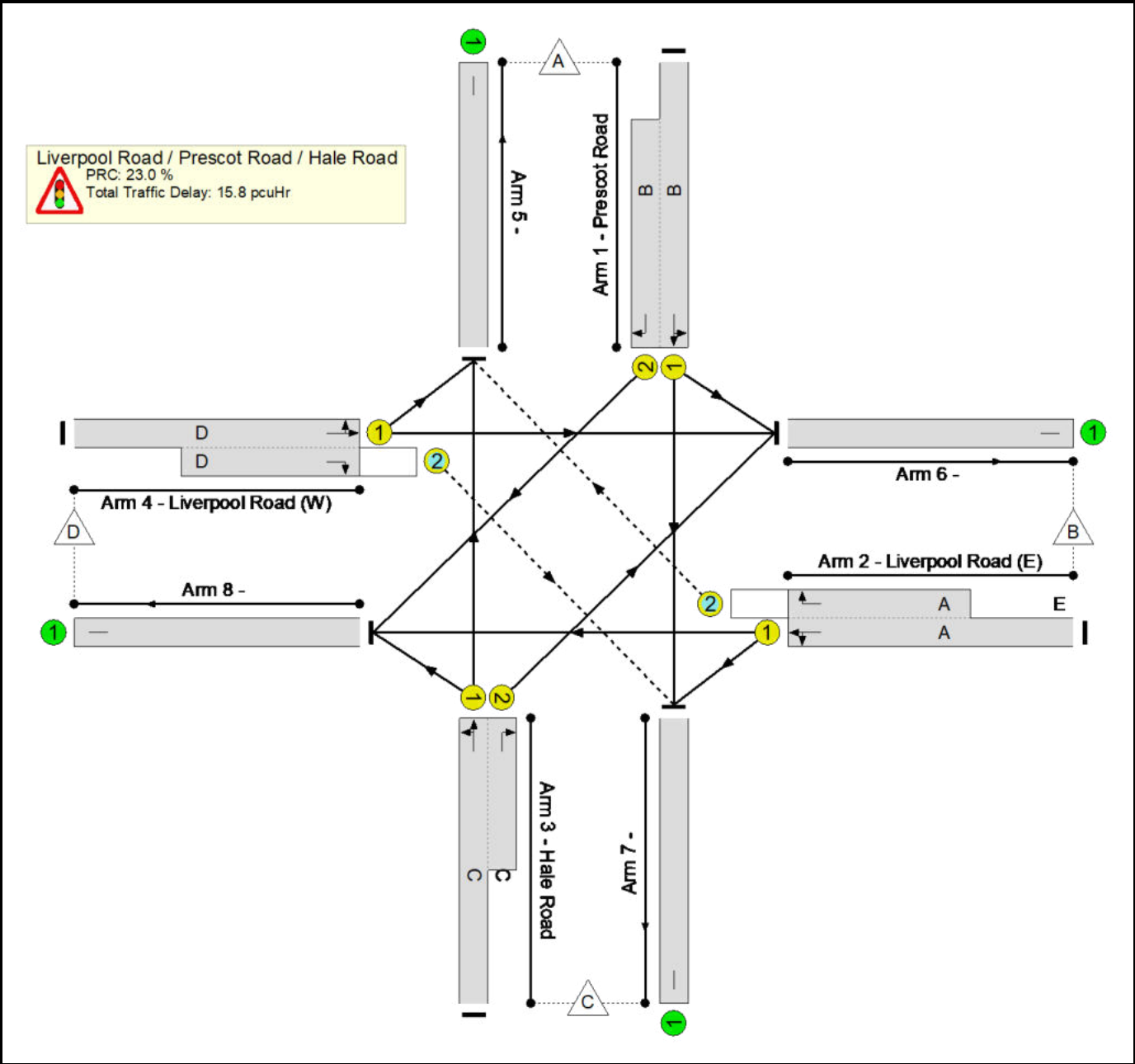
Stage	1	2	3	4
Duration	20	7	32	11
Change Point	0	27	41	80

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	73.2%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	73.2%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	32	-	536	1821:1851	582+150	73.2 : 73.2%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	34	7	273	1812:1791	579+160	37.0 : 37.0%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	13	-	225	1798:1892	252+92	65.5 : 65.5%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	20	-	323	1824:1743	379+71	71.8 : 71.8%
5/1		U	N/A	N/A	-		-	-	-	253	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	356	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	461	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	287	Inf	Inf	0.0%

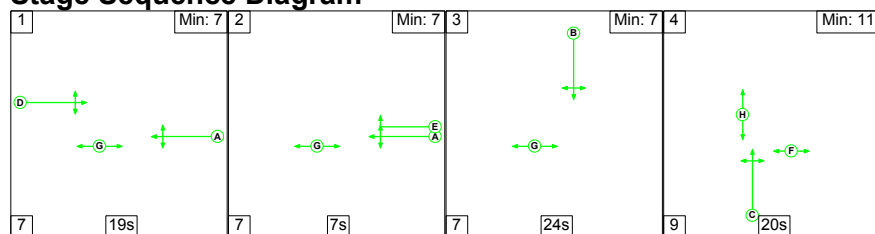
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	101	7	2	11.7	3.8	0.3	15.8	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	101	7	2	11.7	3.8	0.3	15.8	-	-	-	-
1/1+1/2	536	536	-	-	-	4.2	1.3	-	5.5	37.2	10.3	1.3	11.6
2/1+2/2	273	273	50	7	2	1.8	0.3	0.2	2.2	29.6	4.3	0.3	4.6
3/1+3/2	225	225	-	-	-	2.5	0.9	-	3.4	55.0	4.3	0.9	5.2
4/1+4/2	323	323	51	0	0	3.2	1.3	0.1	4.6	51.1	7.0	1.3	8.2
5/1	253	253	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	356	356	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	461	461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	287	287	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalised Lanes (%): 23.0 Total Delay for Signalised Lanes (pcuHr): 15.81 Cycle Time (s): 100 PRC Over All Lanes (%): 23.0 Total Delay Over All Lanes(pcuHr): 15.81													

Full Input Data And Results

Scenario 18: '2033 + Com PM (1730-1830)' (FG30: '2033 + Com PM (1730-1830)', Plan 1: 'Network Control Plan 1')

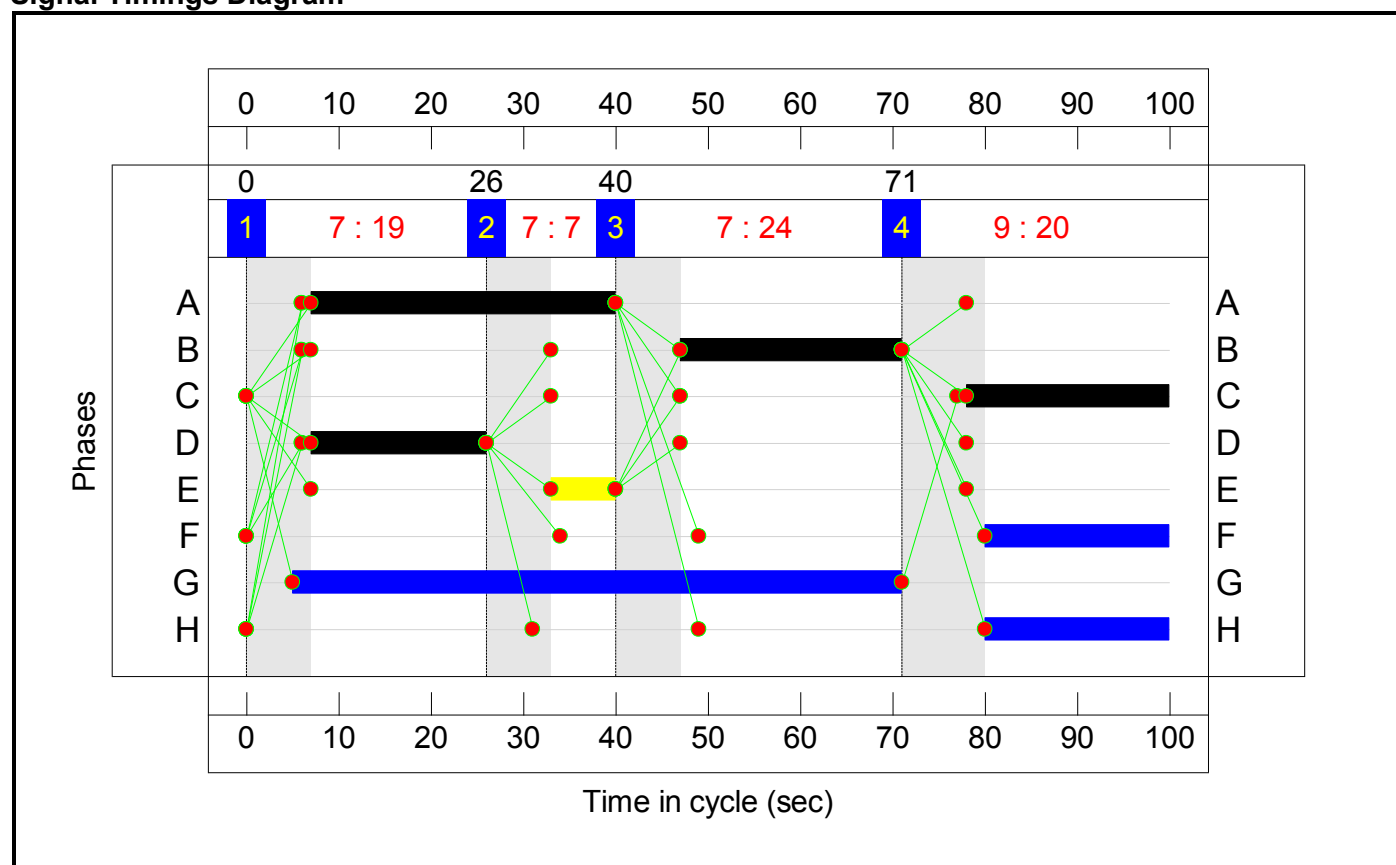
Stage Sequence Diagram



Stage Timings

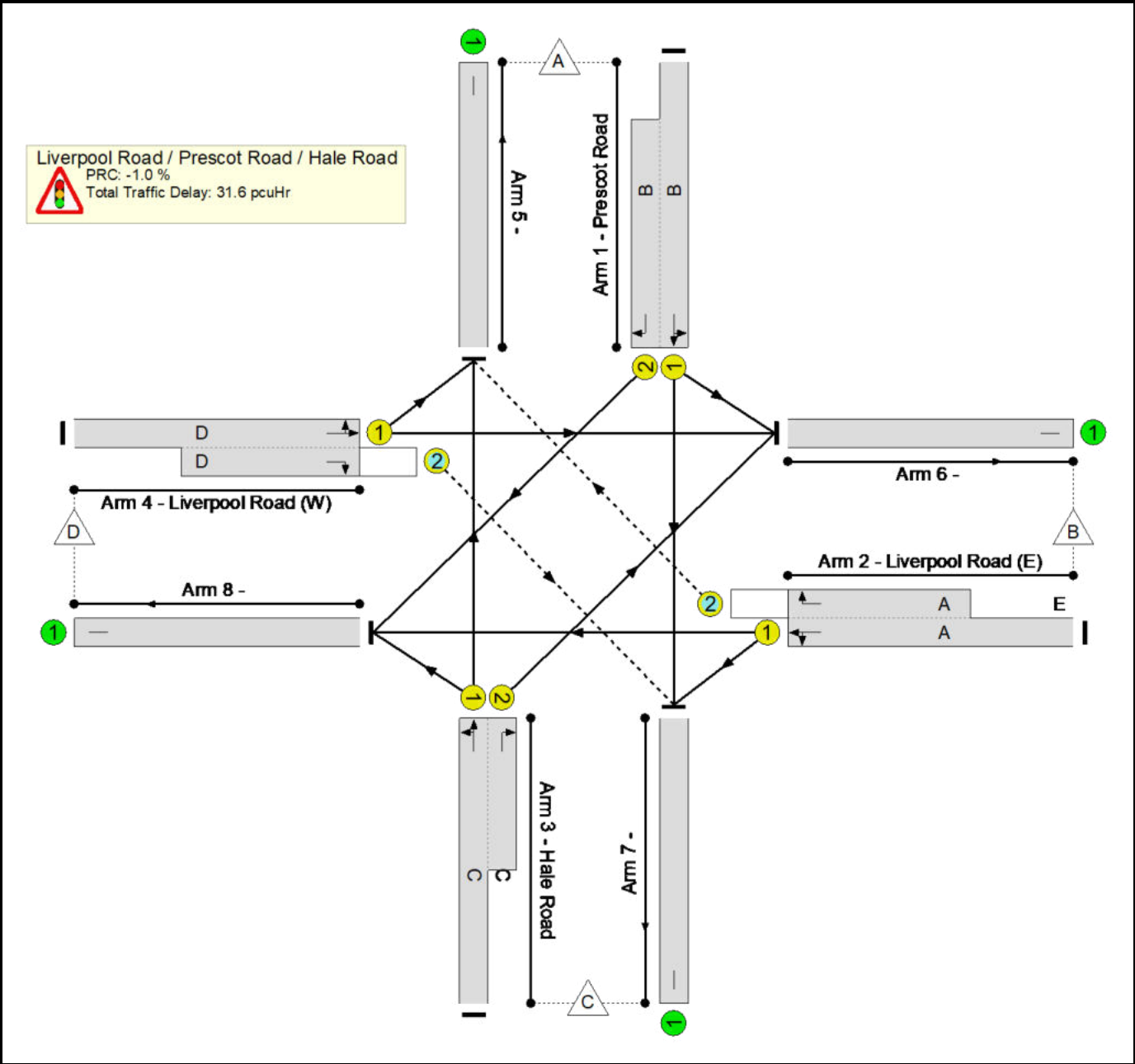
Stage	1	2	3	4
Duration	19	7	24	20
Change Point	0	26	40	71

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	90.9%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	90.9%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	518	1793:1851	448+132	89.2 : 89.2%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	33	7	552	1838:1791	526+299	67.0 : 67.0%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	22	-	455	1824:1892	387+117	90.2 : 90.2%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	19	-	395	1819:1743	363+72	90.9 : 90.9%
5/1		U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	384	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	453	Inf	Inf	0.0%

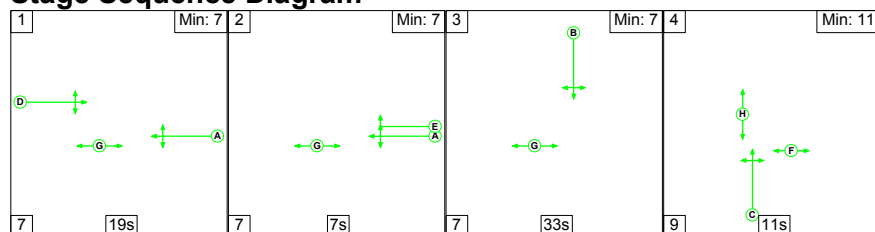
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	87	172	6	18.0	12.8	0.8	31.6	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	87	172	6	18.0	12.8	0.8	31.6	-	-	-	-
1/1+1/2	518	518	-	-	-	5.0	3.7	-	8.7	60.6	10.7	3.7	14.4
2/1+2/2	552	552	22	172	6	4.3	1.0	0.5	5.8	38.0	7.9	1.0	8.9
3/1+3/2	455	455	-	-	-	4.5	4.0	-	8.5	67.2	9.7	4.0	13.7
4/1+4/2	395	395	65	0	0	4.2	4.1	0.3	8.6	78.1	8.9	4.1	13.0
5/1	593	593	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	384	384	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	453	453	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -1.0 Total Delay for Signalled Lanes (pcuHr): 31.60 Cycle Time (s): 100 PRC Over All Lanes (%): -1.0 Total Delay Over All Lanes(pcuHr): 31.60													

Full Input Data And Results

Scenario 19: '2033 + Com + Dev AM (0700-0800)' (FG31: '2033 + Com + Dev AM (0700-0800)', Plan 1: 'Network Control Plan 1')

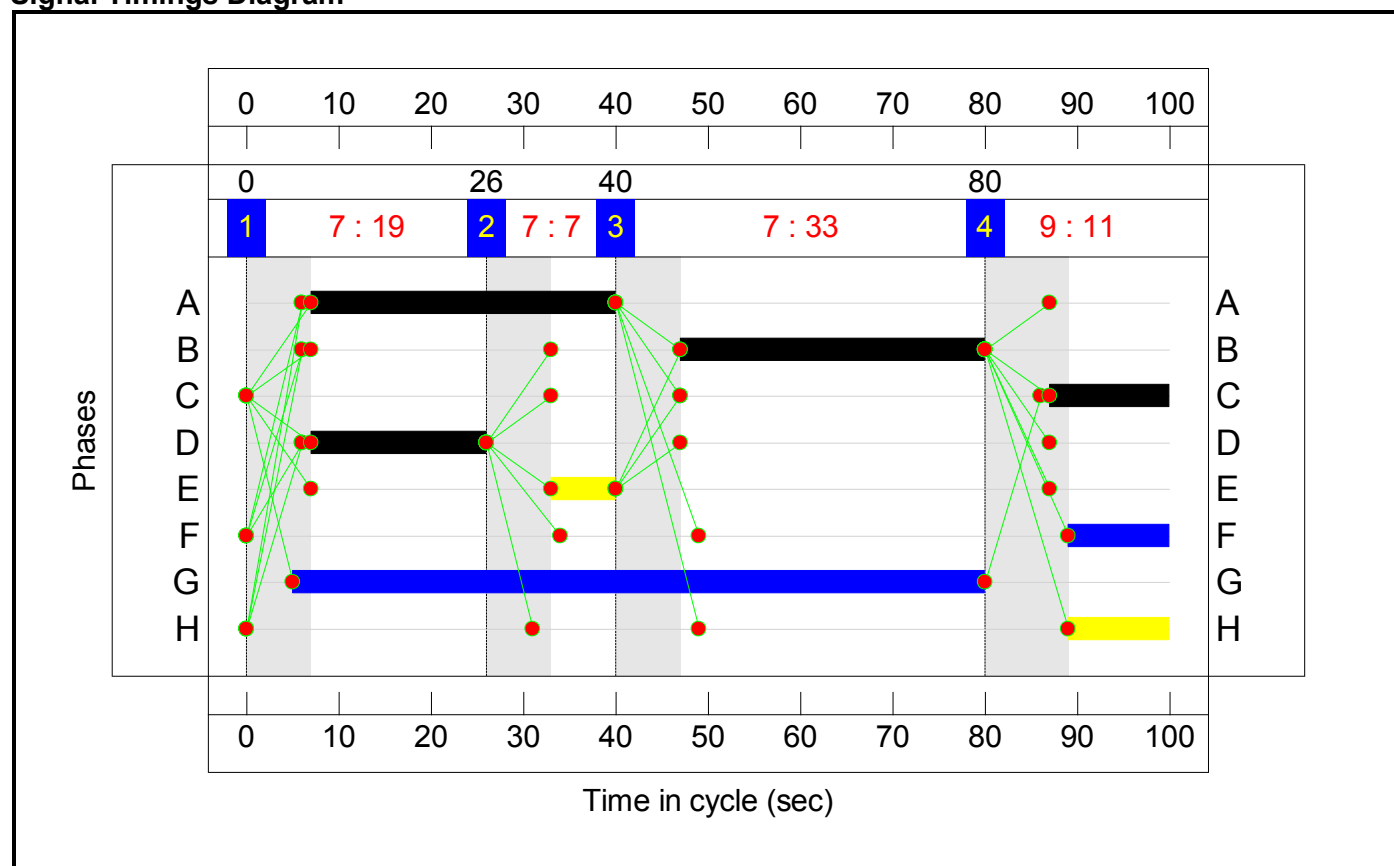
Stage Sequence Diagram



Stage Timings

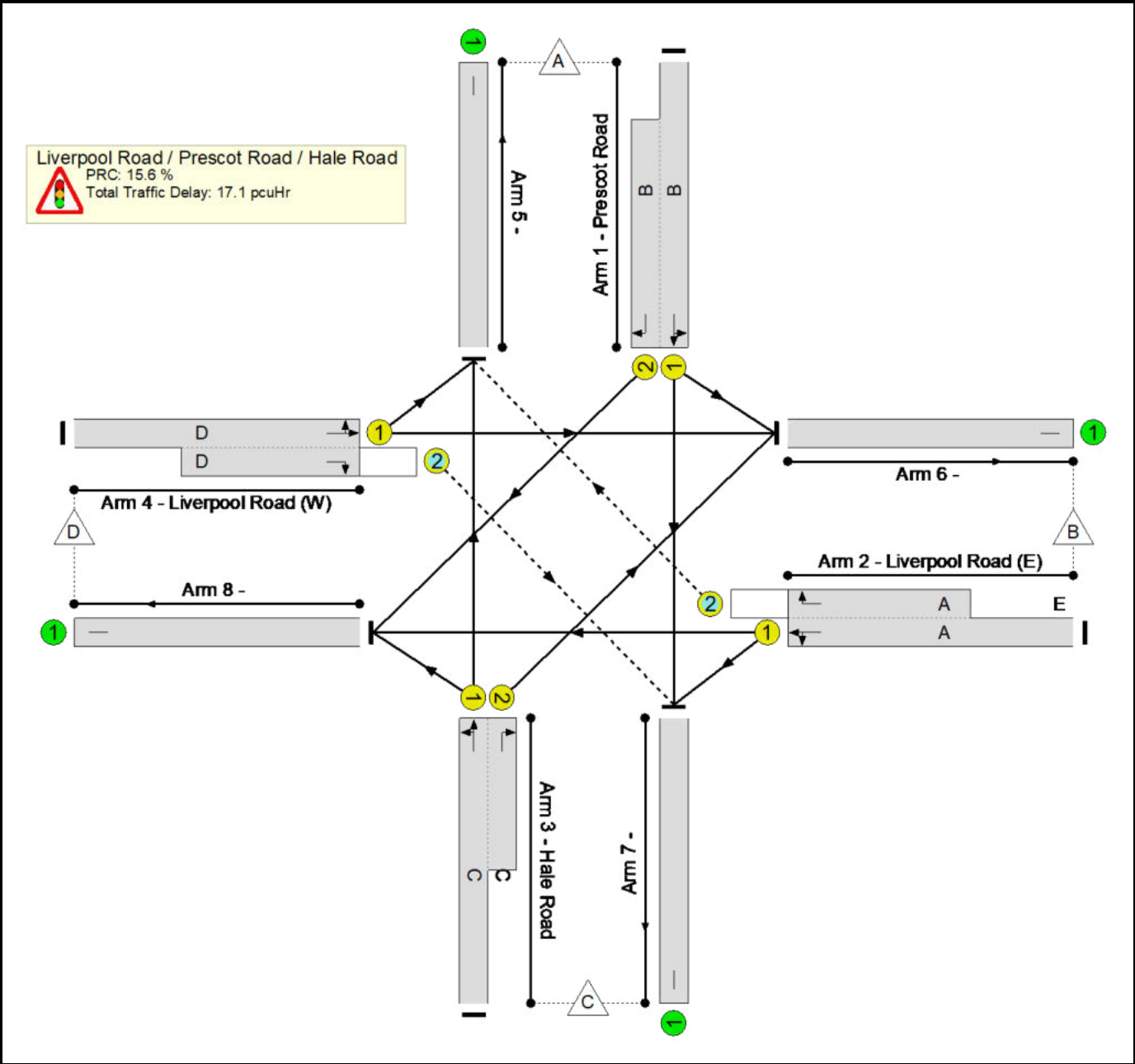
Stage	1	2	3	4
Duration	19	7	33	11
Change Point	0	26	40	80

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	77.9%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	77.9%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	33	-	579	1819:1851	598+145	77.9 : 77.9%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	33	7	277	1812:1791	562+165	38.1 : 38.1%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	13	-	231	1801:1892	252+88	67.8 : 67.8%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	19	-	324	1823:1743	363+68	75.1 : 75.1%
5/1		U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	372	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	290	Inf	Inf	0.0%

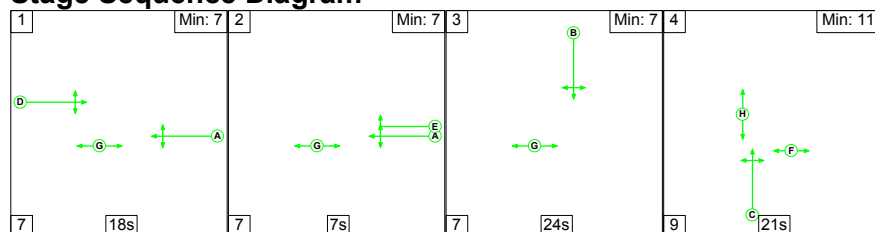
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 20: '2033 + Com + Dev PM (1730-1830)' (FG32: '2033 + Com + Dev PM (1730-1830)', Plan 1: 'Network Control Plan 1')

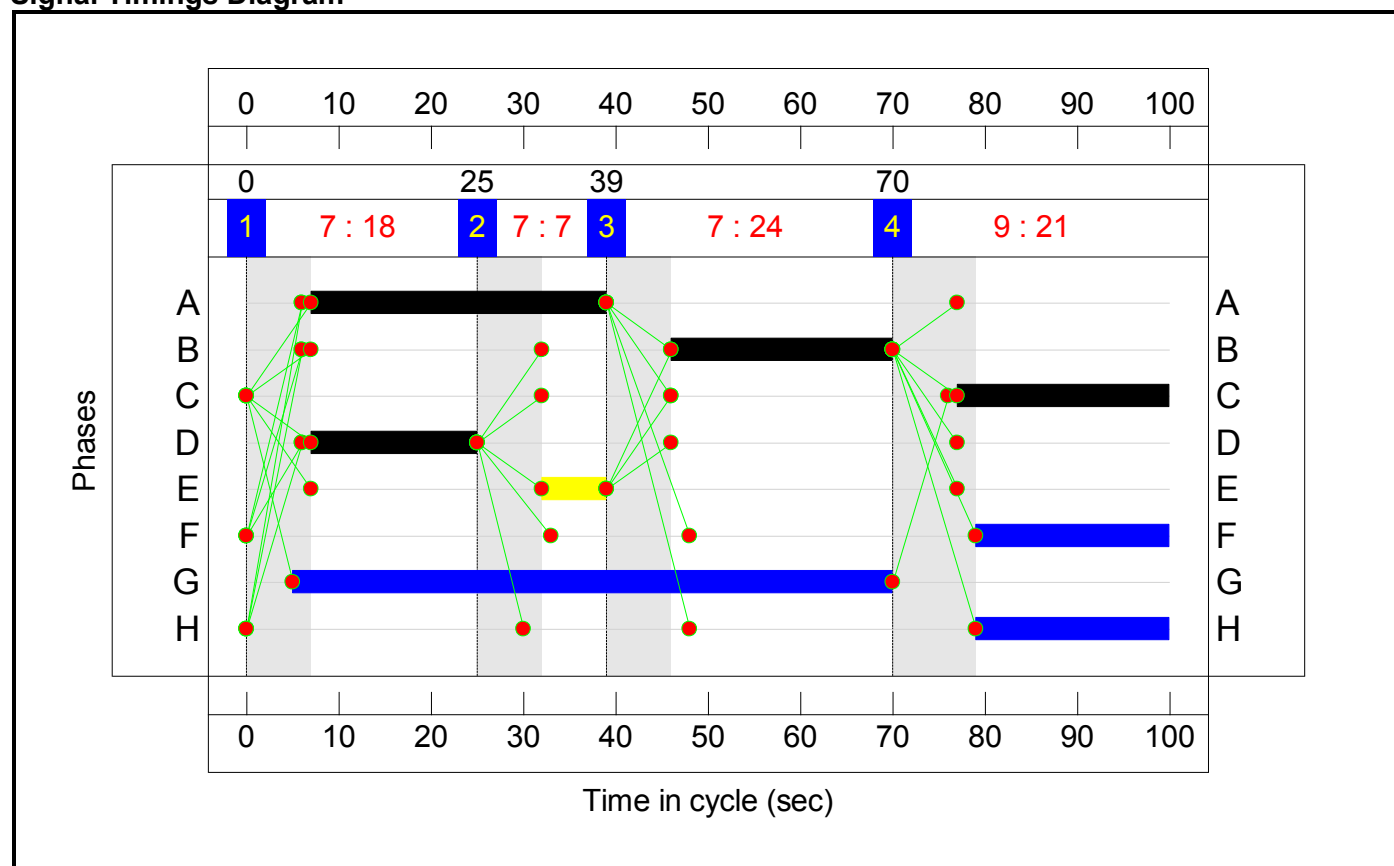
Stage Sequence Diagram



Stage Timings

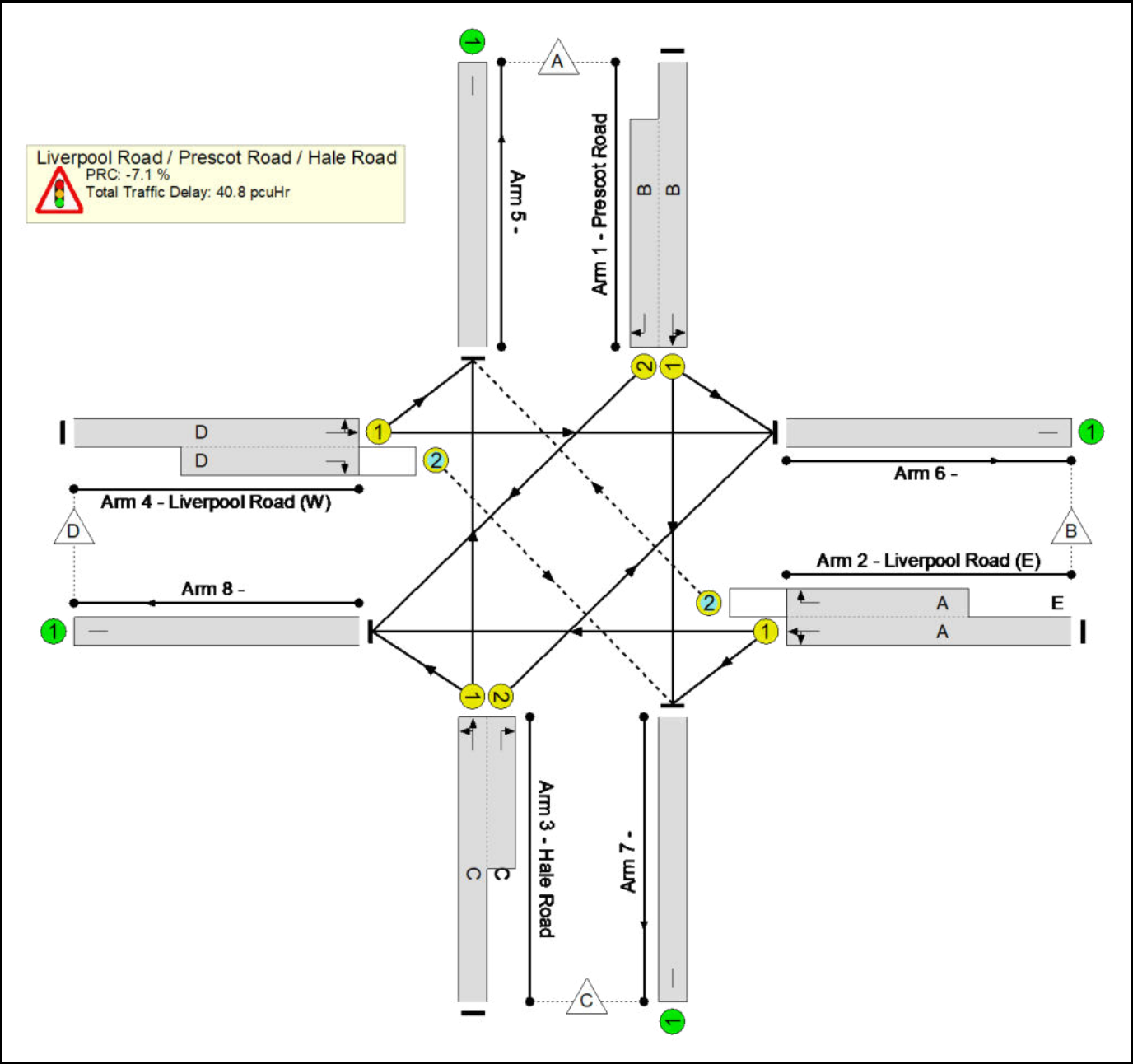
Stage	1	2	3	4
Duration	18	7	24	21
Change Point	0	25	39	70

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	96.4%
Liverpool Road / Prescott Road / Hale Road	-	-	N/A	-	-		-	-	-	-	-	-	96.4%
1/1+1/2	Prescot Road Left Ahead Right	U	N/A	N/A	B		1	24	-	548	1794:1851	448+126	95.4 : 95.4%
2/1+2/2	Liverpool Road (E) Right Left Ahead	U+O	N/A	N/A	A	E	1	32	7	571	1838:1791	509+287	69.2 : 76.3%
3/1+3/2	Hale Road Ahead Right Left	U	N/A	N/A	C		1	23	-	485	1827:1892	403+113	94.0 : 94.0%
4/1+4/2	Liverpool Road (W) Left Ahead Right	U+O	N/A	N/A	D		1	18	-	398	1818:1743	345+67	96.4 : 96.4%
5/1		U	N/A	N/A	-		-	-	-	645	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	501	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	401	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	455	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	73	204	7	19.2	20.8	0.8	40.8	-	-	-	-
Liverpool Road / Prescott Road / Hale Road	-	-	73	204	7	19.2	20.8	0.8	40.8	-	-	-	-
1/1+1/2	548	548	-	-	-	5.4	6.9	-	12.3	80.5	11.7	6.9	18.5
2/1+2/2	571	571	8	204	7	4.6	1.3	0.5	6.4	40.7	8.0	1.3	9.3
3/1+3/2	485	485	-	-	-	4.8	5.7	-	10.5	78.2	10.8	5.7	16.6
4/1+4/2	398	398	65	0	0	4.3	6.9	0.3	11.5	104.3	9.2	6.9	16.1
5/1	645	645	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	501	501	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	401	401	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	455	455	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): -7.1 Total Delay for Signalled Lanes (pcuHr): 40.77 Cycle Time (s): 100 PRC Over All Lanes (%): -7.1 Total Delay Over All Lanes(pcuHr): 40.77													

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