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MG0123 - A49 Warrington Corridor - Technical Note v1

1. Option B Access Strategy – VISSIM Modelling Summary

- 1.1. Modelling Group Ltd has previously developed a base-year microsimulation model of the A49 corridor and some surrounding areas to the north of Warrington. For further detailed information relating to this exercise, please refer to 'MG0123 A49 Warrington Corridor Base Modelling Report_v1.2'.
- 1.2. The aim of this model has been to provide a robust platform on which the proposed development (Peel Hall) can be tested and impact upon the highway network assessed in the future years 2022, 2027 and 2032.
- 1.3. Following on from the base-year model development, a comparative modelling and analysis study was then carried out for the proposed scheme Option A Access Strategy. The aim of this analysis was to assess the potential impacts of the proposed scheme in the stated future year flow scenarios, comparing a 'Do Minimum' reference case, with a 'Do Something' proposed development case.
- 1.4. During the development of the Option A Access Strategy Do Something models, various optimisations and mitigations were also tested in order to assess to what level any potential impacts could be compensated for. Details of this study can be found in 'MG0123 A49 Warrington Corridor Option A Modelling Report_v2'.



FIGURE 1.1: NETWORK EXTENTS AND APPROXIMATE LOCATION OF DEVELOPMENT

2. Technical Note Purpose

2.1. Option B Access Strategy has also been proposed. This note documents the use of the developed VISSIM model platform for the testing and analysis of potential impacts arising from those proposals.



3. Scheme Analysis Details

FIGURE 3.1: A49/ POPLARS AVENUE PROPOSED JUNCTION

- 3.1. Central to Option B is the creation of a larger, all-movements signalised junction at the intersection between A49 Winwick Road/ Poplars Avenue. This would involve the widening of the northbound carriageway of the A49 to allow a dedicated right-turn filter lane into Poplars Avenue. The proposed design would also include the widening of Poplars Avenue, creating dedicated left and right-turn lanes.
- 3.2. Although there is currently a junction at A49/ Poplars Avenue, it is a small left-in, left-out, prioritycontrolled junction. As a result, the new layout required the development and testing of new signal plans before being modelled in VISSIM.
- 3.3. The creation and testing of signal plans was initially carried out in LinSig, which is a dedicated software platform for the creation and analysis of signal strategies. However, it was very quickly clear that this proposal was likely to cause issues although different approaches and cycle times were tested, acceptable levels of queuing and DoS (Degree of Saturation) appeared to be a long way from achievable. See Appendix A for further details regarding the LinSig testing.
- 3.4. LinSig does not model in the level of detail available in VISSIM though linkage between junctions is less obvious, queuing happens vertically and are generally output as hourly averages, so results can require more interpretation. As a result, it was decided that it was still worth testing in VISSIM in order to be able to visualise the scheme in the context of the surrounding network and see the detailed impact.



4. VISSIM Modelling

- 4.1. Testing was started with the AM 2022 Do Something scenario. Using a DWG file of the scheme drawing, the link structure and associated physical changes were created to scale in the VISSIM scenario. Flows and routing were added from the spreadsheet '*Peel Hall Access Strategy B Flow Diagram Spreadsheet REISSUE 210120*', provided by Highgate Transportation Ltd.
- 4.2. Once the model was ready, a signal controller was created, along with associated signal heads, to replicate the LinSig model timings. The same range of cycle times were used, and it was found that keeping the cycle times as low as was possible had the best overall effect.
- 4.3. However, there were four main issues which couldn't be overcome, even with the 2022 flows, given the constraints of the scheme. These were:
 - Ensuring that traffic from Poplars Avenue gets enough green time to stop large queues forming on Poplars Avenue – As a result of the constant need to give the A49 traffic phases so much priority in an attempt to stop the occurrence of exit-arm blocking on the southern arm of M62 junction 9.
 - Ensuring that northbound right-turners from the A49 into Poplars Avenue get enough green time to stop large queues forming on the A49 northbound As above, the conflicting demands of needing to give high priority to the A49 southbound to ensure smooth running of the M62 junction 9 and M62 mainline, as well as trying to give traffic on Poplars Avenue anything like enough green time to stop major delays there.
 - The interaction with M62 junction 9 to the north Even in 2022, there are high volumes of traffic travelling between these two junctions, and these volumes will only get larger in the further future scenarios. Added to this the very small distance between these junctions (approx. 150m). The result is very little tolerance for any delay at either junction before the other junction is also affected. Unfortunately, with the tested AM 2022 scenario, there is the added effect of delays further south (see below). This can lead to southbound queuing from the A49/ Sandy Lane West/ Cromwell Avenue roundabout reaching back to the proposed junction at Poplars Avenue, causing exit-arm blocking for southbound traffic which, as a result of the high traffic volumes, causes a rapidly escalating delay which can very quickly reach back to the M62 mainline.
 - The interaction with the A49 junction with Sandy Lane West and Cromwell Avenue to the south Testing has proven that this junction is very sensitive to traffic growth. This often results in long queues forming on all arms, even if only temporarily, in future year scenarios. Of particular relevance is the tendency particularly in AM peak models, for long queues to form on the A49 southbound. This occasionally causes exit-arm blocking back through the proposed Poplars Avenue junction and even as far as M62 junction 9. Additionally, as a result of the high volume of northbound right-turning traffic at the proposed Poplars Avenue junction, queuing sometimes also reaches back as far as the A49/ Sandy Lane West/ Cromwell Avenue roundabout, affecting northbound traffic there.

5. Results



FIGURE 5.1: IMPACT FROM POPLAR AVENUE JUNCTION PROPOSAL – AM 2022

	08:00-09:00													
	Average Per/Vehicle				Total Network Statistics									
	Dolay	Stops	Spood	Stopped	Distance	Travel	Delay	Stops	Stopped	Vehicles	Vehicles	Latent	Latent	
	Delay	Delay Stops S	speed	Delay	Distance	Time	Time	stops	Delay	Active	Arrived	Delay	Demand	
AM DoMin 2022	138	8	27	55	62824	5203267	2354196	133077	939669	1298	15736	885	0	
AM Option A 2022	167	9	24	64	64182	5955184	2974860	153729	1137841	1513	16303	28663	43	
AM Option B 2022	227	10	21	129	61457	6796758	3977008	183882	2240162	1982	15740	524861	499	

TABLE 5.1: NETWORK PERFORMANCE DATA – AM 2022

- 5.1. As it was clear that the model was completely congested, even in 2022, the analysis wasn't completed for all future years and peak models. As a result of southbound queuing blocking the exit from it, M62 junction 9 becomes overly congested very quickly, as can be seen in Figure 5.1 above. This quickly leads to queuing on all approach arms, meaning blocking back onto the motorway, as well as for traffic on the northbound approach to M62 junction 9.
- 5.2. Once there is northbound queuing, this then immediately blocks back to the proposed Poplars Avenue junction, further aggravating the congested conditions.
- 5.3. As can be seen in Table 5.1 above, stopped delay is over twice as bad as that found in the Do Minimum and Option A Do Something 2022 AM models, as a result of the creation of localised 'gridlocked' conditions.
- 5.4. There are also high levels of Latent Demand (vehicle demand unable to enter the network due to congestion) and associated Latent Delay (delay experience by vehicles trapped outside of the network due to congestion).



6. Summary

- 6.1. Option B proposals centre around the creation of a new signalised junction between A49 and Poplars Avenue. This was tested first in the junction modelling software, LinSig, in order to design and refine a signal strategy and optimise signal plan/s as needed.
- 6.2. The design and associated signal controller were then tested in the existing VISSIM microsimulation network of the A49 and surrounding area to assess the validity and wider impacts of the proposal.
- 6.3. In both LinSig and VISSIM, it was quickly obvious that the impact was unacceptable levels of delay, creating widespread queuing and delay. As a result of high levels of delay, degree of saturation levels far over 100%, congestion reaching the M62 mainline etc. all within a 2022 model scenario, it was decided that there would be no value to completing the modelling of other future year scenarios where there would only be higher traffic volumes and greater network sensitivity.

APPENDIX A

- LinSig Modelling Report

Full Input Data And Results Full Input Data And Results

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Option B Layout.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
А	Traffic		7	7
В	Traffic		7	7
С	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		6	6
F	Pedestrian		6	6

Phase Intergreens Matrix

	_										
	Starting Phase										
		А	в	С	D	Е	F				
	А		-	6	6	7	-				
	в	-		-	5	-	-				
Terminating Phase	С	6	-		6	7	-				
	D	5	8	6		-	5				
	Е	9	-	9	-		-				
	F	-	-	-	9	-					

Phases in Stage

Stage No.	Phases in Stage
1	ABF
2	BCF
3	DE



Phase Delays

Term. Stage	Start Stage	Phase	Туре	Value	Cont value
2	3	В	Losing	4	4
2	3	С	Losing	3	3
3	1	D	Losing	4	4

Prohibited Stage Change



Full Input Data And Results Give-Way Lane Input Data

Junction: Warwick Rd/Poplars Avenue

There are no Opposed Lanes in this Junction

Full Input Data And Results Lane Input Data

Junction: Warwick Rd/Poplars Avenue												
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 (Warwick		Δ	2	3	60.0	Geom	_	4 50	0.00	v	Arm 4 Left	20.00
Rd SB)	0		2	5	00.0	Geom		4.00	0.00		Arm 6 Ahead	Inf
1/2 (Warwick Rd SB)	U	А	2	3	60.0	Geom	-	4.50	0.00	Ν	Arm 6 Ahead	Inf
2/1 (Warwick Rd NB)	U	В	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 5 Ahead	Inf
2/2 (Warwick Rd NB)	U	В	2	3	60.0	Geom	-	3.60	0.00	Ν	Arm 5 Ahead	Inf
2/3 (Warwick Rd NB)	U	С	2	3	7.0	Geom	-	3.60	0.00	Y	Arm 4 Right	20.00
3/1 (Poplars Avenue)	U	D	2	3	12.9	Geom	-	3.60	0.00	Y	Arm 6 Left	20.00
3/2 (Poplars Avenue)	U	D	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 5 Right	20.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2032 AM Do Something'	08:00	09:00	01:00	
2: '2032 PM Do Something'	17:00	18:00	01:00	

Scenario 1: '2032 AM Do Something 60s CT' (FG1: '2032 AM Do Something', Plan 1: 'Network Control Plan 1') Traffic Flows, Desired Desired Flow :

		Destination										
		А	В	С	Tot.							
	А	0	0	0	0							
Origin	В	0	0	0	0							
	С	0	0	0	0							
	Tot.	0	0	0	0							

Traffic Lane Flows

Lane	Scenario 1: 2032 AM Do Something 60s CT							
Junction: Warwick Rd/Poplars Avenu								
1/1	1013							
1/2	990							
2/1	675							
2/2 (with short)	938(In) 671(Out)							
2/3 (short)	267							
3/1 (short)	374							
3/2 (with short)	840(In) 466(Out)							
4/1	416							
5/1	675							
5/2	1137							
6/1	1238							
6/2	990							

Lane Saturation Flows

Junction: Warwick Rd/Poplars Avenue											
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	4 50	0.00	~	Arm 4 Left	20.00	14.7 %	2042	2042			
(Warwick Rd SB)	4.50	0.00	ř	Arm 6 Ahead	Inf	85.3 %	2042	2042			
1/2 (Warwick Rd SB)	4.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2205	2205			
2/1 (Warwick Rd NB)	3.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1975	1975			
2/2 (Warwick Rd NB)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115			
2/3 (Warwick Rd NB)	3.60	0.00	Y	Arm 4 Right	20.00	100.0 %	1837	1837			
3/1 (Poplars Avenue)	3.60	0.00	Y	Arm 6 Left	20.00	100.0 %	1837	1837			
3/2 (Poplars Avenue)	3.60	0.00	Y	Arm 5 Right	20.00	100.0 %	1837	1837			
4/1			Infinite S	aturation Flow			Inf	Inf			
5/1			Infinite S		Inf	Inf					
5/2		Infinite Saturation Flow Inf Inf									
6/1			Infinite S	aturation Flow			Inf	Inf			
6/2			Infinite S	aturation Flow			Inf	Inf			

Scenario 2: '2032 PM Do Something 60s CT' (FG2: '2032 PM Do Something', Plan 1: 'Network Control Plan 1') Traffic Flows, Desired Desired Flow :

	Destination							
		А	В	С	Tot.			
	А	0	0	0	0			
Origin	В	0	0	0	0			
	С	0	0	0	0			
	Tot.	0	0	0	0			

Traffic Lane Flows

Lane	Scenario 2: 2032 PM Do Something 60s CT					
Junction: Warwick Rd/Poplars Avenue						
1/1	1076					
1/2	1048					
2/1	844					
2/2 (with short)	1184(In) 840(Out)					
2/3 (short)	344					
3/1 (short)	264					
3/2 (with short)	717(In) 453(Out)					
4/1	460					
5/1	844					
5/2	1293					
6/1	1224					
6/2	1048					

Lane	Satu	ration	Flows
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Junction: Warwick Rd/Poplars Avenue								
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 (Warwick Bd SB)	4.50	0.00	Y	Arm 4 Left	20.00	10.8 %	2048	2048
(Warwick Rd SB)				Arm 6 Ahead	Inf	89.2 %		
1/2 (Warwick Rd SB)	4.50	0.00	Ν	Arm 6 Ahead	Inf	100.0 %	2205	2205
2/1 (Warwick Rd NB)	3.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1975	1975
2/2 (Warwick Rd NB)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
2/3 (Warwick Rd NB)	3.60	0.00	Y	Arm 4 Right	20.00	100.0 %	1837	1837
3/1 (Poplars Avenue)	3.60	0.00	Y	Arm 6 Left	20.00	100.0 %	1837	1837
3/2 (Poplars Avenue)	3.60	0.00	Y	Arm 5 Right	20.00	100.0 %	1837	1837
4/1		Infinite Saturation Flow					Inf	Inf
5/1		Infinite Saturation Flow					Inf	Inf
5/2		Infinite Saturation Flow					Inf	Inf
6/1		Infinite Saturation Flow					Inf	Inf
6/2			Infinite S	aturation Flow			Inf	Inf

Scenario 3: '2032 AM Do Something 72s CT' (FG1: '2032 AM Do Something', Plan 1: 'Network Control Plan 1') Traffic Flows, Desired Desired Flow :

	Destination							
		A	В	С	Tot.			
	A	0	0	0	0			
Origin	В	0	0	0	0			
	С	0	0	0	0			
	Tot.	0	0	0	0			

Traffic Lane Flows

Lane	Scenario 3: 2032 AM Do Something 72s CT					
Junction: Warwick Rd/Poplars Avenue						
1/1	1013					
1/2	990					
2/1	675					
2/2 (with short)	938(In) 671(Out)					
2/3 (short)	267					
3/1 (short)	374					
3/2 (with short)	840(In) 466(Out)					
4/1	416					
5/1	675					
5/2	1137					
6/1	1238					
6/2	990					

Lane Saturation Flows

Junction: Warwick Rd/Poplars Avenue								
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	4 50	0.00	×	Arm 4 Left	20.00	14.7 %	2042	2042
(Warwick Rd SB)	4.50	0.00	I	Arm 6 Ahead	Inf	85.3 %	2042	2042
1/2 (Warwick Rd SB)	4.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2205	2205
2/1 (Warwick Rd NB)	3.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1975	1975
2/2 (Warwick Rd NB)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
2/3 (Warwick Rd NB)	3.60	0.00	Y	Arm 4 Right	20.00	100.0 %	1837	1837
3/1 (Poplars Avenue)	3.60	0.00	Y	Arm 6 Left	20.00	100.0 %	1837	1837
3/2 (Poplars Avenue)	3.60	0.00	Y	Arm 5 Right	20.00	100.0 %	1837	1837
4/1		Infinite Saturation Flow						Inf
5/1		Infinite Saturation Flow					Inf	Inf
5/2	Infinite Saturation Flow					Inf	Inf	
6/1		Infinite Saturation Flow						Inf
6/2			Infinite S	aturation Flow			Inf	Inf

Scenario 4: '2032 PM Do Something 72s CT' (FG2: '2032 PM Do Something', Plan 1: 'Network Control Plan 1') Traffic Flows, Desired Desired Flow :

	Destination							
		А	В	С	Tot.			
	А	0	0	0	0			
Origin	В	0	0	0	0			
	С	0	0	0	0			
	Tot.	0	0	0	0			

Traffic Lane Flows

Lane	Scenario 4: 2032 PM Do Something 72s CT					
Junction: Warwick Rd/Poplars Avenue						
1/1	1076					
1/2	1048					
2/1	844					
2/2 (with short)	1184(In) 840(Out)					
2/3 (short)	344					
3/1 (short)	264					
3/2 (with short)	717(In) 453(Out)					
4/1	460					
5/1	844					
5/2	1293					
6/1	1224					
6/2	1048					

Lane	Satu	ration	Flows
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Junction: Warwick Rd/Poplars Avenue								
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	4 50	0.00	Y	Arm 4 Left	20.00	10.8 %	2048	2048
(Warwick Rd SB)		0.00	•	Arm 6 Ahead	Inf	89.2 %	2010	2010
1/2 (Warwick Rd SB)	4.50	0.00	Ν	Arm 6 Ahead	Inf	100.0 %	2205	2205
2/1 (Warwick Rd NB)	3.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1975	1975
2/2 (Warwick Rd NB)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
2/3 (Warwick Rd NB)	3.60	0.00	Y	Arm 4 Right	20.00	100.0 %	1837	1837
3/1 (Poplars Avenue)	3.60	0.00	Y	Arm 6 Left	20.00	100.0 %	1837	1837
3/2 (Poplars Avenue)	3.60	0.00	Y	Arm 5 Right	20.00	100.0 %	1837	1837
4/1			Infinite S	aturation Flow			Inf	Inf
5/1		Infinite Saturation Flow					Inf	Inf
5/2	Infinite Saturation Flow					Inf	Inf	
6/1	Infinite Saturation Flow					Inf	Inf	
6/2			Infinite S	aturation Flow			Inf	Inf

Scenario 5: '2032 AM Do Something 90s CT' (FG1: '2032 AM Do Something', Plan 1: 'Network Control Plan 1') Traffic Flows, Desired Desired Flow :

	Destination							
		A	В	С	Tot.			
	A	0	0	0	0			
Origin	В	0	0	0	0			
	С	0	0	0	0			
	Tot.	0	0	0	0			

Traffic Lane Flows

Lane	Scenario 5: 2032 AM Do Something 90s CT
Junction: Warwie	ck Rd/Poplars Avenue
1/1	1013
1/2	990
2/1	675
2/2 (with short)	938(In) 671(Out)
2/3 (short)	267
3/1 (short)	374
3/2 (with short)	840(In) 466(Out)
4/1	416
5/1	675
5/2	1137
6/1	1238
6/2	990

Lane Saturation Flows

Junction: Warwig	Junction: Warwick Rd/Poplars Avenue											
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	4 50	0.00	×	Arm 4 Left	20.00	14.7 %	2042	2042				
(Warwick Rd SB)	4.50	0.00	I	Arm 6 Ahead	Inf	85.3 %	2042	2042				
1/2 (Warwick Rd SB)	4.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2205	2205				
2/1 (Warwick Rd NB)	3.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1975	1975				
2/2 (Warwick Rd NB)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115				
2/3 (Warwick Rd NB)	3.60	0.00	Y	Arm 4 Right	20.00	100.0 %	1837	1837				
3/1 (Poplars Avenue)	3.60	0.00	Y	Arm 6 Left	20.00	100.0 %	1837	1837				
3/2 (Poplars Avenue)	3.60	0.00	Y	Arm 5 Right	20.00	100.0 %	1837	1837				
4/1			Infinite S	aturation Flow			Inf	Inf				
5/1			Infinite S	aturation Flow			Inf	Inf				
5/2		Infinite Saturation Flow Inf Inf										
6/1			Infinite S	aturation Flow			Inf	Inf				
6/2			Infinite S	aturation Flow			Inf	Inf				

Scenario 6: '2032 PM Do Something 90s CT' (FG2: '2032 PM Do Something', Plan 1: 'Network Control Plan 1') Traffic Flows, Desired Desired Flow :

		Destination										
		А	В	С	Tot.							
	А	0	0	0	0							
Origin	В	0	0	0	0							
	С	0	0	0	0							
	Tot.	0	0	0	0							

Traffic Lane Flows

Lane	Scenario 6: 2032 PM Do Something 90s CT
Junction: Warwie	ck Rd/Poplars Avenue
1/1	1076
1/2	1048
2/1	844
2/2 (with short)	1184(In) 840(Out)
2/3 (short)	344
3/1 (short)	264
3/2 (with short)	717(In) 453(Out)
4/1	460
5/1	844
5/2	1293
6/1	1224
6/2	1048

Lane	Saturation	Flows
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Junction: Warwick Rd/Poplars Avenue											
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	4 50	0.00	Y	Arm 4 Left	20.00	10.8 %	2048	2048			
(Warwick Rd SB)		0.00	•	Arm 6 Ahead	Inf	89.2 %	2010	2010			
1/2 (Warwick Rd SB)	4.50	0.00	N	Arm 6 Ahead	Inf	100.0 %	2205	2205			
2/1 (Warwick Rd NB)	3.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1975	1975			
2/2 (Warwick Rd NB)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115			
2/3 (Warwick Rd NB)	3.60	0.00	Y	Arm 4 Right	20.00	100.0 %	1837	1837			
3/1 (Poplars Avenue)	3.60	0.00	Y	Arm 6 Left	20.00	100.0 %	1837	1837			
3/2 (Poplars Avenue)	3.60	0.00	Y	Arm 5 Right	Arm 5 Right 20.00 100.0 %		1837	1837			
4/1			Infinite S	aturation Flow			Inf	Inf			
5/1			Infinite S	aturation Flow			Inf	Inf			
5/2		Infinite Saturation Flow Inf Inf									
6/1			Infinite S	aturation Flow			Inf	Inf			
6/2			Infinite S	aturation Flow			Inf	Inf			

Scenario 1: '2032 AM Do Something 60s CT' (FG1: '2032 AM Do Something', Plan 1: 'Network Control Plan 1') Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	18	7	7
Change Point	10	40	53

Signal Timings Diagram



Full Input Data And Results **Network Layout Diagram**



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	-	-		-	-	-	-	-	-	135.3%
Warwick Rd/Poplars Avenue	-	-	N/A	-	-		-	-	-	-	-	-	135.3%
1/1	Warwick Rd SB Left Ahead	U	N/A	N/A	А		1	21	-	1013	2042	749	135.3%
1/2	Warwick Rd SB Ahead	U	N/A	N/A	А		1	21	-	990	2205	808	122.4%
2/1	Warwick Rd NB Ahead	U	N/A	N/A	В		1	35	-	675	1975	1185	57.0%
2/2+2/3	Warwick Rd NB Right Ahead	U	N/A	N/A	ВC		1	35:10	-	938	2115:1837	846+337	79.3 : 79.3%
3/2+3/1	Poplars Avenue Right Left	U	N/A	N/A	D		1	12	-	840	1837:1837	398+398	117.1 : 94.0%
4/1		U	N/A	N/A	-		-	-	-	416	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1137	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1238	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	990	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	7	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	34	-	0	-	0	0.0%

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	-	-	0	0	0	33.5	271.2	0.0	304.6	-	-	-	-
Warwick Rd/Poplars Avenue	-	-	0	0	0	33.5	271.2	0.0	304.6	-	-	-	-
1/1	1013	749	-	-	-	11.8	134.0	-	145.9	518.4	21.3	134.0	155.3
1/2	990	809	-	-	-	9.7	93.4	-	103.1	374.9	19.5	93.4	112.9
2/1	675	675	-	-	-	1.4	0.7	-	2.0	10.8	6.7	0.7	7.4
2/2+2/3	938	938	-	-	-	3.0	1.9	-	4.9	18.9	6.5	1.9	8.4
3/2+3/1	840	772	-	-	-	7.5	41.2	-	48.7	208.8	8.9	41.2	50.1
4/1	377	377	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	675	675	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1069	1069	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1013	1013	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	809	809	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1 PRC for Signalled Lanes (%): -50.3 Total Delay for Signalled Lanes (pcuHr): 304.62 Cycle PRC Over All Lanes (%): -50.3 Total Delay Over All Lanes(pcuHr): 304.62										e Time (s): 60		-	-

Full Input Data And Results Scenario 2: '2032 PM Do Something 60s CT' (FG2: '2032 PM Do Something', Plan 1: 'Network Control Plan 1') Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	18	7	7
Change Point	0	30	43

Signal Timings Diagram



Full Input Data And Results **Network Layout Diagram**



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	-	-		-	-	-	-	-	-	143.3%
Warwick Rd/Poplars Avenue	-	-	N/A	-	-		-	-	-	-	-	-	143.3%
1/1	Warwick Rd SB Left Ahead	U	N/A	N/A	А		1	21	-	1076	2048	751	143.3%
1/2	Warwick Rd SB Ahead	U	N/A	N/A	А		1	21	-	1048	2205	808	129.6%
2/1	Warwick Rd NB Ahead	U	N/A	N/A	В		1	35	-	844	1975	1185	71.2%
2/2+2/3	Warwick Rd NB Right Ahead	U	N/A	N/A	ВC		1	35:10	-	1184	2115:1837	822+337	102.1 : 102.1%
3/2+3/1	Poplars Avenue Right Left	U	N/A	N/A	D		1	12	-	717	1837:1837	398+285	113.8 : 92.6%
4/1		U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	844	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1293	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1224	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1048	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	7	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	34	-	0	-	0	0.0%

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	-	-	0	0	0	38.8	346.7	0.0	385.4	-	-	-	-
Warwick Rd/Poplars Avenue	-	-	0	0	0	38.8	346.7	0.0	385.4	-	-	-	-
1/1	1076	751	-	-	-	14.6	164.2	-	178.7	598.0	23.4	164.2	187.5
1/2	1048	809	-	-	-	12.1	121.9	-	134.0	460.2	21.5	121.9	143.4
2/1	844	844	-	-	-	2.0	1.2	-	3.2	13.6	9.6	1.2	10.8
2/2+2/3	1184	1177	-	-	-	4.4	24.5	-	28.9	87.9	11.9	24.5	36.4
3/2+3/1	717	662	-	-	-	5.7	34.9	-	40.6	203.8	7.9	34.9	42.7
4/1	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	844	844	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1238	1238	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	934	934	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	809	809	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1 PRC for Signalled Lanes (%): -59.2 Total Delay for Signalled Lanes (pcuHr): 385.42 Cycle Time (s): 60 PRC Over All Lanes (%): -59.2 Total Delay Over All Lanes(pcuHr): 385.42													

Full Input Data And Results Scenario 3: '2032 AM Do Something 72s CT' (FG1: '2032 AM Do Something', Plan 1: 'Network Control Plan 1') Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	27	7	10
Change Point	10	49	62

Signal Timings Diagram



Full Input Data And Results **Network Layout Diagram**



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	-	-		-	-	-	-	-	-	115.2%
Warwick Rd/Poplars Avenue	-	-	N/A	-	-		-	-	-	-	-	-	115.2%
1/1	Warwick Rd SB Left Ahead	U	N/A	N/A	А		1	30	-	1013	2042	879	115.2%
1/2	Warwick Rd SB Ahead	U	N/A	N/A	А		1	30	-	990	2205	949	104.3%
2/1	Warwick Rd NB Ahead	U	N/A	N/A	В		1	44	-	675	1975	1234	54.7%
2/2+2/3	Warwick Rd NB Right Ahead	U	N/A	N/A	ВC		1	44:10	-	938	2115:1837	705+281	95.1 : 95.1%
3/2+3/1	Poplars Avenue Right Left	U	N/A	N/A	D		1	15	-	840	1837:1837	408+408	114.2 : 91.6%
4/1		U	N/A	N/A	-		-	-	-	416	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1137	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1238	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	990	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	Е		1	10	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	43	-	0	-	0	0.0%

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	-	-	0	0	0	30.3	146.1	0.0	176.4	-	-	-	-
Warwick Rd/Poplars Avenue	-	-	0	0	0	30.3	146.1	0.0	176.4	-	-	-	-
1/1	1013	879	-	-	-	9.8	70.5	-	80.3	285.3	22.9	70.5	93.4
1/2	990	949	-	-	-	6.9	28.9	-	35.7	130.0	20.6	28.9	49.5
2/1	675	675	-	-	-	1.4	0.6	-	2.0	10.9	7.7	0.6	8.3
2/2+2/3	938	938	-	-	-	3.6	7.5	-	11.1	42.5	7.8	7.5	15.2
3/2+3/1	840	782	-	-	-	8.6	38.6	-	47.3	202.6	10.5	38.6	49.1
4/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	675	675	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1079	1079	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1124	1124	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	949	949	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
		C1	PRC for PRC (Signalled Lanes (%): Over All Lanes (%):	-28.0 -28.0	Total Delay fo Total De	or Signalled Lanes lay Over All Lane	s (pcuHr): 176.4 s(pcuHr): 176.4	I3 Cycle I3	e Time (s): 72			

Full Input Data And Results Scenario 4: '2032 PM Do Something 72s CT' (FG2: '2032 PM Do Something', Plan 1: 'Network Control Plan 1') Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	27	8	9
Change Point	0	39	53

Signal Timings Diagram



Full Input Data And Results **Network Layout Diagram**



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	-	-		-	-	-	-	-	-	122.0%
Warwick Rd/Poplars Avenue	-	-	N/A	-	-		-	-	-	-	-	-	122.0%
1/1	Warwick Rd SB Left Ahead	U	N/A	N/A	А		1	30	-	1076	2048	882	122.0%
1/2	Warwick Rd SB Ahead	U	N/A	N/A	А		1	30	-	1048	2205	949	110.4%
2/1	Warwick Rd NB Ahead	U	N/A	N/A	В		1	45	-	844	1975	1262	66.9%
2/2+2/3	Warwick Rd NB Right Ahead	U	N/A	N/A	ВC		1	45:11	-	1184	2115:1837	748+306	112.4 : 112.4%
3/2+3/1	Poplars Avenue Right Left	U	N/A	N/A	D		1	14	-	717	1837:1837	383+223	118.4 : 118.4%
4/1		U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	844	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1293	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1224	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1048	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	Е		1	9	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	44	-	0	-	0	0.0%

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	-	-	0	0	0	37.5	283.0	0.0	320.6	-	-	-	-
Warwick Rd/Poplars Avenue	-	-	0	0	0	37.5	283.0	0.0	320.6	-	-	-	-
1/1	1076	882	-	-	-	12.5	99.8	-	112.3	375.7	25.4	99.8	125.2
1/2	1048	949	-	-	-	9.2	54.2	-	63.4	217.6	22.9	54.2	77.1
2/1	844	844	-	-	-	1.9	1.0	-	2.9	12.5	10.5	1.0	11.6
2/2+2/3	1184	1053	-	-	-	6.2	69.4	-	75.6	229.8	13.3	69.4	82.6
3/2+3/1	717	647	-	-	-	7.7	58.7	-	66.4	333.4	10.4	58.7	69.0
4/1	401	401	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	844	844	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1130	1130	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1051	1051	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	949	949	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
		C1	PRC for PRC (Signalled Lanes (%): Over All Lanes (%):	-35.6 -35.6	Total Delay fo Total De	or Signalled Lanes lay Over All Lane	s (pcuHr): 320.5 s(pcuHr): 320.5	56 Cycle 56	e Time (s): 72			

Full Input Data And Results Scenario 5: '2032 AM Do Something 90s CT' (FG1: '2032 AM Do Something', Plan 1: 'Network Control Plan 1') Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	38	9	15
Change Point	0	50	65

Signal Timings Diagram



Full Input Data And Results **Network Layout Diagram**



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	-	-		-	-	-	-	-	-	108.7%
Warwick Rd/Poplars Avenue	-	-	N/A	-	-		-	-	-	-	-	-	108.7%
1/1	Warwick Rd SB Left Ahead	U	N/A	N/A	А		1	41	-	1013	2042	953	106.3%
1/2	Warwick Rd SB Ahead	U	N/A	N/A	А		1	41	-	990	2205	1029	96.2%
2/1	Warwick Rd NB Ahead	U	N/A	N/A	В		1	57	-	675	1975	1273	53.0%
2/2+2/3	Warwick Rd NB Right Ahead	U	N/A	N/A	ВC		1	57:12	-	938	2115:1837	667+265	100.6 : 100.6%
3/2+3/1	Poplars Avenue Right Left	U	N/A	N/A	D		1	20	-	840	1837:1837	429+344	108.7 : 108.7%
4/1		U	N/A	N/A	-	ĺ	-	-	-	416	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1137	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1238	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	990	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	Е		1	15	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	56	-	0	-	0	0.0%

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	-	-	0	0	0	30.9	102.1	0.0	133.0	-	-	-	-
Warwick Rd/Poplars Avenue	-	-	0	0	0	30.9	102.1	0.0	133.0	-	-	-	-
1/1	1013	953	-	-	-	9.2	36.9	-	46.1	163.9	26.8	36.9	63.7
1/2	990	990	-	-	-	6.4	8.8	-	15.1	55.1	23.9	8.8	32.7
2/1	675	675	-	-	-	1.6	0.6	-	2.2	11.7	9.0	0.6	9.6
2/2+2/3	938	936	-	-	-	4.5	16.8	-	21.3	81.8	10.1	16.8	27.0
3/2+3/1	840	803	-	-	-	9.2	39.1	-	48.2	206.7	12.0	39.1	51.0
4/1	406	406	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	675	675	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1100	1100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1187	1187	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	990	990	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
		C1	PRC for PRC (Signalled Lanes (%): Over All Lanes (%):	-20.8 -20.8	Total Delay fo Total De	r Signalled Lanes lay Over All Lane	s (pcuHr): 133.0 s(pcuHr): 133.0)1 Cycle)1	e Time (s): 90			

Full Input Data And Results Scenario 6: '2032 PM Do Something 90s CT' (FG2: '2032 PM Do Something', Plan 1: 'Network Control Plan 1') Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	37	12	13
Change Point	0	49	67

Signal Timings Diagram



Full Input Data And Results **Network Layout Diagram**



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	-	-		-	-	-	-	-	-	117.4%
Warwick Rd/Poplars Avenue	-	-	N/A	-	-		-	-	-	-	-	-	117.4%
1/1	Warwick Rd SB Left Ahead	U	N/A	N/A	А		1	40	-	1076	2048	933	115.3%
1/2	Warwick Rd SB Ahead	U	N/A	N/A	А		1	40	-	1048	2205	1005	104.3%
2/1	Warwick Rd NB Ahead	U	N/A	N/A	В		1	59	-	844	1975	1317	64.1%
2/2+2/3	Warwick Rd NB Right Ahead	U	N/A	N/A	ВC		1	59:15	-	1184	2115:1837	716+293	117.4 : 117.4%
3/2+3/1	Poplars Avenue Right Left	U	N/A	N/A	D		1	18	-	717	1837:1837	388+226	116.8 : 116.8%
4/1		U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	844	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1293	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	1224	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	1048	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	13	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	58	-	0	-	0	0.0%

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	-	-	0	0	0	44.7	252.1	0.0	296.8	-	-	-	-
Warwick Rd/Poplars Avenue	-	-	0	0	0	44.7	252.1	0.0	296.8	-	-	-	-
1/1	1076	933	-	-	-	13.2	75.1	-	88.3	295.5	30.5	75.1	105.6
1/2	1048	1005	-	-	-	8.9	30.4	-	39.3	135.0	27.3	30.4	57.7
2/1	844	844	-	-	-	2.0	0.9	-	2.9	12.5	12.2	0.9	13.1
2/2+2/3	1184	1009	-	-	-	10.9	90.9	-	101.8	309.5	32.1	90.9	122.9
3/2+3/1	717	648	-	-	-	9.6	54.9	-	64.4	323.4	13.3	54.9	68.2
4/1	394	394	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	844	844	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1103	1103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1092	1092	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1005	1005	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
	-	C1	PRC for PRC (Signalled Lanes (%): Over All Lanes (%):	-30.4 -30.4	Total Delay fo Total De	or Signalled Lanes lay Over All Lane	s (pcuHr): 296.7 s(pcuHr): 296.7	76 Cycle 76	e Time (s): 90	-		