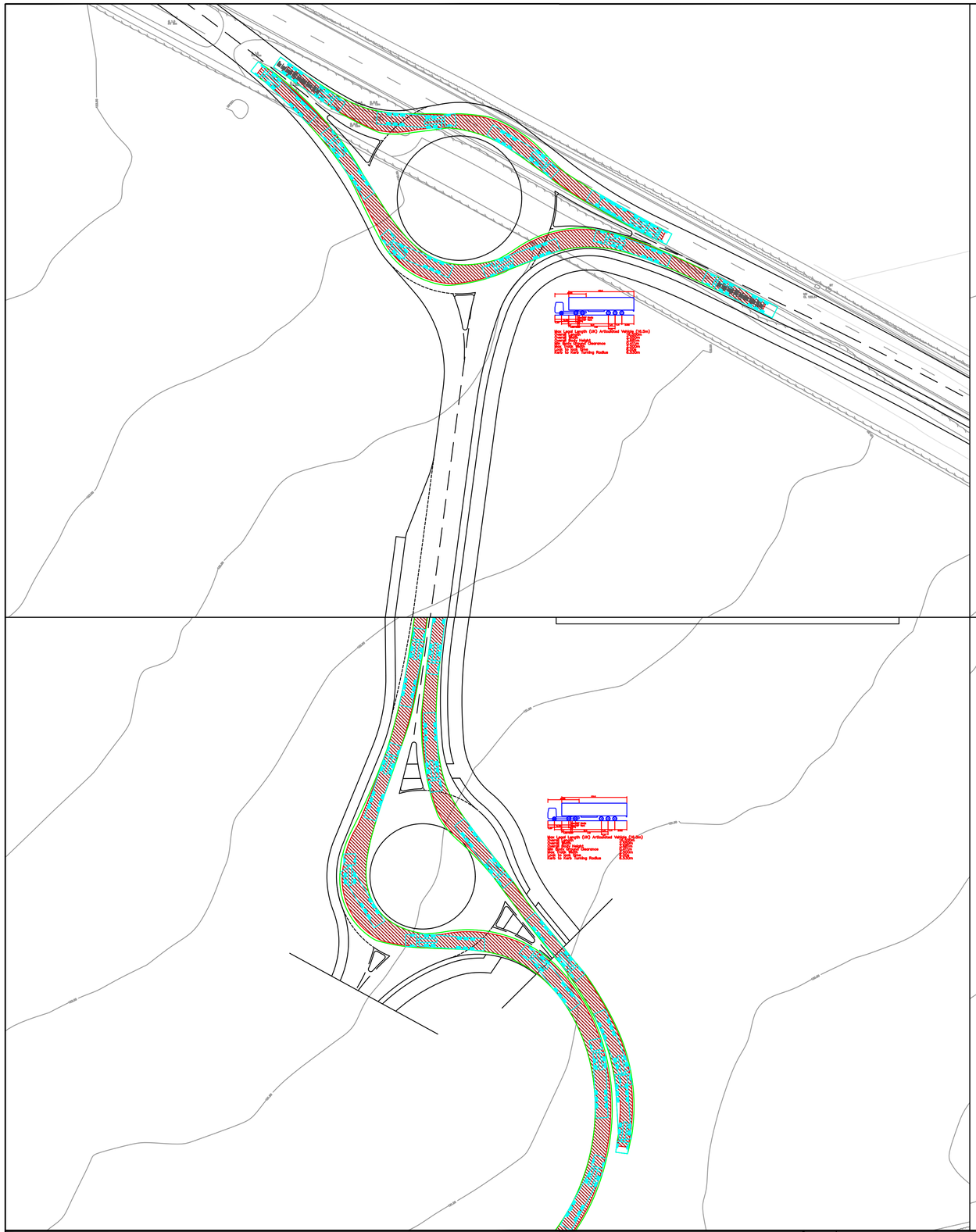

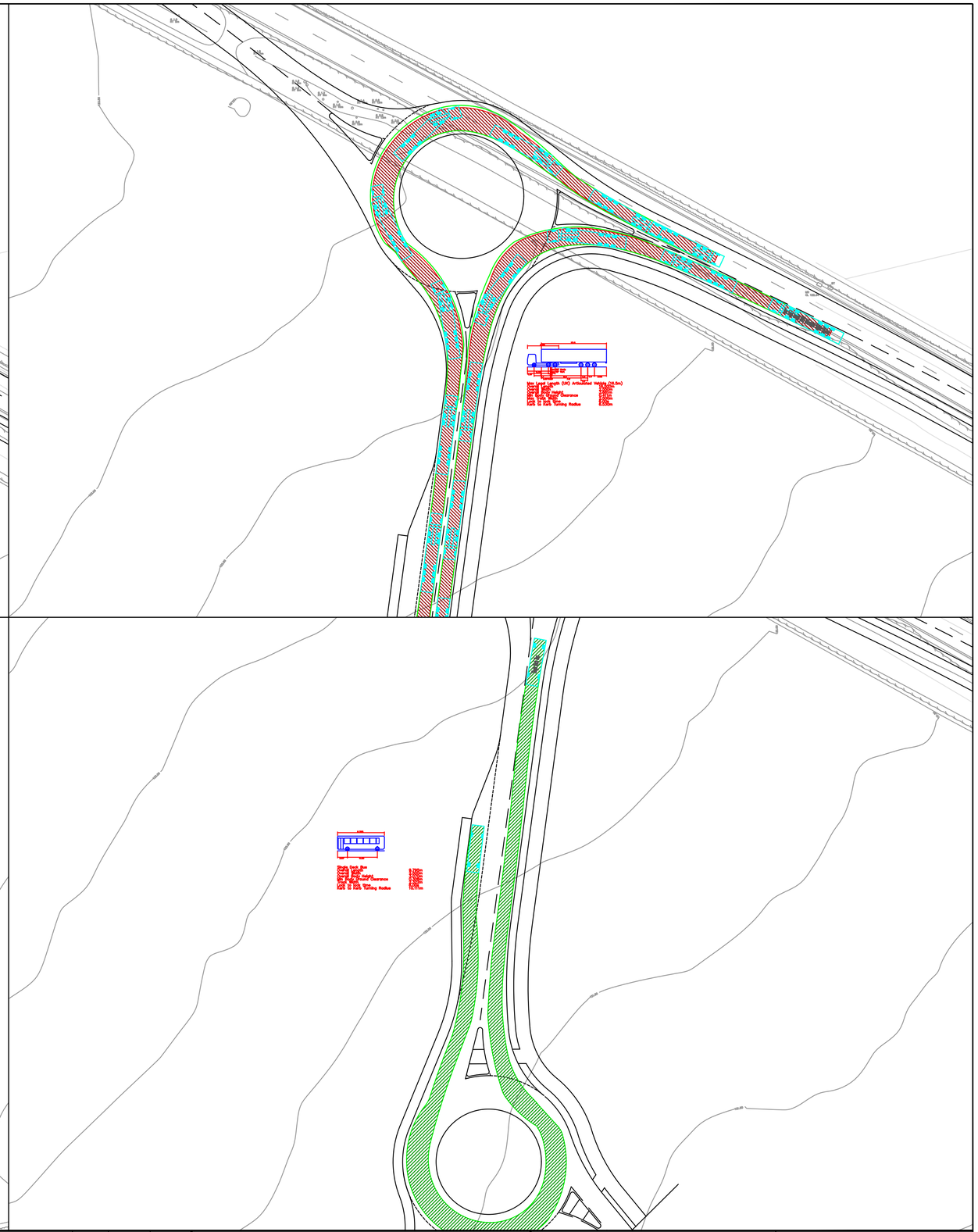

REV	DESCRIPTION	DRAWN	INITIALS	DATE

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JOB TITLE	M40 JUNCTION 10
CLIENT	ALBION LAND
DRAWING TITLE	WESTERN ACCESS GENERAL ARRANGEMENT VEHICLE TRACKING
SCALE	1:500@A1
DRAWN BY	
DATE	18/03/24
DRAWING No	17213-13-TRACK
REVISION	K

APPENDIX L

Albion Land Western Parcel Access JUNCTIONS

Junctions 10

ARCADY 10 - Roundabout Module

Filename: Western Site Roundabout RevF.j10
Path: P:\17000's\17213\Junction Assessments
Report generation date: 19/03/2024 15:15:16

»2026 Dev 5 (AI Only), AM
»2026 Dev 5 (AI Only), PM
»2031 Dev 5 (AI Only), AM
»2031 Dev 5 (AI Only), PM
»2026 Dev 4 (Both Developments), AM
»2026 Dev 4 (Both Developments), PM
»2031 Dev 4 (Both Developments), AM
»2031 Dev 4 (Both Developments), PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity
	2026 Dev 5 (AI Only)							
1 - B4100 (W)	1.0	6.03	0.51	75 % [1 - B4100 (W)]	0.4	4.29	0.27	156 % [2 - B4100 (E)]
2 - B4100 (E)	1.0	6.07	0.48		0.6	4.73	0.36	
3 - Site Arm 3	0.2	5.18	0.12		0.3	4.72	0.23	
	2031 Dev 5 (AI Only)							
1 - B4100 (W)	1.3	6.72	0.56	60 % [1 - B4100 (W)]	0.5	4.81	0.33	134 % [1 - B4100 (W)]
2 - B4100 (E)	1.3	6.76	0.54		0.6	4.60	0.34	
3 - Site Arm 3	0.2	5.31	0.12		0.3	4.61	0.23	
	2026 Dev 4 (Both Developments)							
1 - B4100 (W)	1.7	7.94	0.62	43 % [2 - B4100 (E)]	0.9	5.79	0.45	85 % [1 - B4100 (W)]
2 - B4100 (E)	2.0	8.86	0.64		1.0	5.98	0.47	
3 - Site Arm 3	0.2	5.88	0.13		0.4	5.20	0.25	
	2031 Dev 4 (Both Developments)							
1 - B4100 (W)	1.8	8.50	0.65	34 % [2 - B4100 (E)]	1.0	6.23	0.50	71 % [1 - B4100 (W)]
2 - B4100 (E)	2.3	9.90	0.68		1.0	5.96	0.47	
3 - Site Arm 3	0.2	5.98	0.13		0.4	5.16	0.25	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Western Parcel Site Access
Location	B4100 nr Bicester
Site number	
Date	22/07/2021
Version	
Status	(new file)
Identifier	
Client	Albion Land
Jobnumber	17213
Enumerator	DTA\arcady
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D25	2026 Dev 5 (AI Only)	AM	ONE HOUR	07:45	09:15	15
D26	2026 Dev 5 (AI Only)	PM	ONE HOUR	16:45	18:15	15
D27	2031 Dev 5 (AI Only)	AM	ONE HOUR	07:45	09:15	15
D28	2031 Dev 5 (AI Only)	PM	ONE HOUR	16:45	18:15	15
D29	2026 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15
D30	2026 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15
D31	2031 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15
D32	2031 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2026 Dev 5 (Al Only), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	5.97	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	75	1 - B4100 (W)	5.97	A

Arms

Arms

Arm	Name	Description	No give-way line
1	B4100 (W)		
2	B4100 (E)		
3	Site Arm 3		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - B4100 (W)	3.65	4.50	10.3	20.0	40.0	35.0		
2 - B4100 (E)	3.65	4.50	4.5	20.0	40.0	26.0		
3 - Site Arm 3	3.65	4.50	8.1	25.0	40.0	27.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - B4100 (W)	0.554	1287
2 - B4100 (E)	0.563	1284
3 - Site Arm 3	0.573	1325

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

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)
D25	2026 Dev 5 (Al Only)	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	561	100.000
2 - B4100 (E)		✓	547	100.000
3 - Site Arm 3		✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	527	34
	2 - B4100 (E)	346	0	201
	3 - Site Arm 3	8	109	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	1	0
	2 - B4100 (E)	7	0	20
	3 - Site Arm 3	0	45	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.51	6.03	1.0	A
2 - B4100 (E)	0.48	6.07	1.0	A
3 - Site Arm 3	0.12	5.18	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	422	82	1242	0.340	420	0.5	4.413	A
2 - B4100 (E)	412	25	1270	0.324	410	0.5	4.653	A
3 - Site Arm 3	88	259	1176	0.075	88	0.1	4.648	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	504	98	1233	0.409	504	0.7	4.978	A
2 - B4100 (E)	492	31	1267	0.388	491	0.7	5.166	A
3 - Site Arm 3	105	311	1147	0.092	105	0.1	4.860	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	618	120	1221	0.506	616	1.0	6.000	A
2 - B4100 (E)	602	37	1263	0.477	601	1.0	6.049	A
3 - Site Arm 3	129	380	1107	0.116	129	0.2	5.176	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	618	120	1220	0.506	618	1.0	6.027	A
2 - B4100 (E)	602	37	1263	0.477	602	1.0	6.071	A
3 - Site Arm 3	129	381	1107	0.116	129	0.2	5.178	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	504	98	1233	0.409	506	0.7	5.006	A
2 - B4100 (E)	492	31	1267	0.388	493	0.7	5.191	A
3 - Site Arm 3	105	312	1146	0.092	105	0.1	4.867	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	422	82	1241	0.340	423	0.5	4.443	A
2 - B4100 (E)	412	26	1270	0.324	413	0.5	4.683	A
3 - Site Arm 3	88	261	1175	0.075	88	0.1	4.657	A

2026 Dev 5 (AI Only), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	4.59	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	156	2 - B4100 (E)	4.59	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)
D26	2026 Dev 5 (AI Only)	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	287	100.000
2 - B4100 (E)		✓	419	100.000
3 - Site Arm 3		✓	233	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	281	6
	2 - B4100 (E)	323	0	96
	3 - Site Arm 3	44	189	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	2	0
	2 - B4100 (E)	0	0	44
	3 - Site Arm 3	0	17	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.27	4.29	0.4	A
2 - B4100 (E)	0.36	4.73	0.6	A
3 - Site Arm 3	0.23	4.72	0.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	216	142	1208	0.179	215	0.2	3.691	A
2 - B4100 (E)	315	4	1282	0.246	314	0.3	3.995	A
3 - Site Arm 3	175	242	1186	0.148	175	0.2	4.032	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	258	170	1193	0.216	258	0.3	3.924	A
2 - B4100 (E)	377	5	1281	0.294	376	0.4	4.276	A
3 - Site Arm 3	209	290	1159	0.181	209	0.2	4.297	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	316	208	1172	0.270	316	0.4	4.285	A
2 - B4100 (E)	461	7	1280	0.360	461	0.6	4.720	A
3 - Site Arm 3	257	355	1121	0.229	256	0.3	4.713	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	316	208	1172	0.270	316	0.4	4.289	A
2 - B4100 (E)	461	7	1280	0.360	461	0.6	4.726	A
3 - Site Arm 3	257	356	1121	0.229	257	0.3	4.719	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	258	170	1193	0.216	258	0.3	3.931	A
2 - B4100 (E)	377	5	1281	0.294	377	0.5	4.285	A
3 - Site Arm 3	209	291	1158	0.181	210	0.3	4.305	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	216	142	1208	0.179	216	0.2	3.701	A
2 - B4100 (E)	315	5	1282	0.246	316	0.4	4.011	A
3 - Site Arm 3	175	243	1185	0.148	176	0.2	4.041	A

2031 Dev 5 (Al Only), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	6.62	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	60	1 - B4100 (W)	6.62	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)
D27	2031 Dev 5 (Al Only)	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	617	100.000
2 - B4100 (E)		✓	615	100.000
3 - Site Arm 3		✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	583	34
	2 - B4100 (E)	378	0	237
	3 - Site Arm 3	7	110	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	1	0
	2 - B4100 (E)	6	0	17
	3 - Site Arm 3	0	45	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.56	6.72	1.3	A
2 - B4100 (E)	0.54	6.76	1.3	A
3 - Site Arm 3	0.12	5.31	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	465	82	1241	0.374	462	0.6	4.650	A
2 - B4100 (E)	463	25	1270	0.365	461	0.6	4.878	A
3 - Site Arm 3	88	283	1163	0.076	88	0.1	4.725	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	555	99	1232	0.450	554	0.8	5.350	A
2 - B4100 (E)	553	31	1267	0.436	552	0.8	5.531	A
3 - Site Arm 3	105	339	1131	0.093	105	0.1	4.957	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	679	121	1220	0.557	678	1.2	6.679	A
2 - B4100 (E)	677	37	1263	0.536	675	1.3	6.720	A
3 - Site Arm 3	129	415	1087	0.119	129	0.2	5.304	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	679	121	1220	0.557	679	1.3	6.722	A
2 - B4100 (E)	677	37	1263	0.536	677	1.3	6.757	A
3 - Site Arm 3	129	416	1086	0.119	129	0.2	5.307	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	555	99	1232	0.450	556	0.8	5.393	A
2 - B4100 (E)	553	31	1267	0.436	554	0.9	5.570	A
3 - Site Arm 3	105	341	1130	0.093	105	0.1	4.962	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	465	83	1241	0.374	465	0.6	4.692	A
2 - B4100 (E)	463	26	1270	0.365	464	0.6	4.919	A
3 - Site Arm 3	88	285	1162	0.076	88	0.1	4.737	A

2031 Dev 5 (Al Only), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	4.68	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	134	1 - B4100 (W)	4.68	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)
D28	2031 Dev 5 (Al Only)	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	355	100.000
2 - B4100 (E)		✓	393	100.000
3 - Site Arm 3		✓	233	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	348	7
	2 - B4100 (E)	295	0	98
	3 - Site Arm 3	38	195	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	4	0
	2 - B4100 (E)	0	0	44
	3 - Site Arm 3	0	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.33	4.81	0.5	A
2 - B4100 (E)	0.34	4.60	0.6	A
3 - Site Arm 3	0.23	4.61	0.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	267	146	1206	0.222	266	0.3	3.975	A
2 - B4100 (E)	296	5	1281	0.231	295	0.3	3.945	A
3 - Site Arm 3	175	221	1198	0.146	175	0.2	3.974	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	319	175	1190	0.268	319	0.4	4.291	A
2 - B4100 (E)	353	6	1281	0.276	353	0.4	4.200	A
3 - Site Arm 3	209	265	1173	0.179	209	0.2	4.221	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	391	214	1168	0.335	390	0.5	4.806	A
2 - B4100 (E)	433	8	1280	0.338	432	0.5	4.594	A
3 - Site Arm 3	257	324	1139	0.225	256	0.3	4.609	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	391	215	1168	0.335	391	0.5	4.813	A
2 - B4100 (E)	433	8	1280	0.338	433	0.6	4.600	A
3 - Site Arm 3	257	325	1139	0.225	257	0.3	4.612	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	319	176	1190	0.268	320	0.4	4.304	A
2 - B4100 (E)	353	6	1281	0.276	354	0.4	4.207	A
3 - Site Arm 3	209	266	1173	0.179	210	0.2	4.227	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	267	147	1206	0.222	268	0.3	3.991	A
2 - B4100 (E)	296	5	1281	0.231	296	0.3	3.958	A
3 - Site Arm 3	175	222	1198	0.146	176	0.2	3.984	A

2026 Dev 4 (Both Developments), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	8.22	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	43	2 - B4100 (E)	8.22	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)
D29	2026 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	689	100.000
2 - B4100 (E)		✓	732	100.000
3 - Site Arm 3		✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	655	34
	2 - B4100 (E)	531	0	201
	3 - Site Arm 3	8	109	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	2	0
	2 - B4100 (E)	10	0	20
	3 - Site Arm 3	0	45	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.62	7.94	1.7	A
2 - B4100 (E)	0.64	8.86	2.0	A
3 - Site Arm 3	0.13	5.88	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	519	82	1242	0.418	516	0.7	5.033	A
2 - B4100 (E)	551	25	1270	0.434	548	0.9	5.588	A
3 - Site Arm 3	88	397	1097	0.080	88	0.1	5.013	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	619	98	1233	0.502	618	1.0	5.959	A
2 - B4100 (E)	658	31	1267	0.519	657	1.2	6.627	A
3 - Site Arm 3	105	476	1052	0.100	105	0.2	5.348	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	759	120	1221	0.622	756	1.6	7.855	A
2 - B4100 (E)	806	37	1263	0.638	803	1.9	8.754	A
3 - Site Arm 3	129	583	991	0.130	129	0.2	5.869	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	759	120	1220	0.622	759	1.7	7.937	A
2 - B4100 (E)	806	37	1263	0.638	806	2.0	8.860	A
3 - Site Arm 3	129	585	990	0.130	129	0.2	5.880	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	619	98	1233	0.503	622	1.0	6.032	A
2 - B4100 (E)	658	31	1267	0.519	661	1.2	6.723	A
3 - Site Arm 3	105	479	1050	0.100	105	0.2	5.362	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	519	82	1241	0.418	520	0.7	5.094	A
2 - B4100 (E)	551	26	1270	0.434	553	0.9	5.662	A
3 - Site Arm 3	88	401	1095	0.080	88	0.1	5.030	A

2026 Dev 4 (Both Developments), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	5.76	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	85	1 - B4100 (W)	5.76	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)
D30	2026 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	483	100.000
2 - B4100 (E)		✓	545	100.000
3 - Site Arm 3		✓	233	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	477	6
	2 - B4100 (E)	449	0	96
	3 - Site Arm 3	44	189	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	3	0
	2 - B4100 (E)	8	0	44
	3 - Site Arm 3	0	17	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.45	5.79	0.9	A
2 - B4100 (E)	0.47	5.98	1.0	A
3 - Site Arm 3	0.25	5.20	0.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	364	142	1208	0.301	362	0.4	4.369	A
2 - B4100 (E)	410	4	1282	0.320	408	0.5	4.646	A
3 - Site Arm 3	175	336	1132	0.155	175	0.2	4.258	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	434	170	1193	0.364	434	0.6	4.879	A
2 - B4100 (E)	490	5	1281	0.382	489	0.7	5.132	A
3 - Site Arm 3	209	403	1094	0.191	209	0.3	4.611	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	532	208	1172	0.454	531	0.8	5.772	A
2 - B4100 (E)	600	7	1280	0.469	599	1.0	5.959	A
3 - Site Arm 3	257	493	1042	0.246	256	0.4	5.189	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	532	208	1172	0.454	532	0.9	5.792	A
2 - B4100 (E)	600	7	1280	0.469	600	1.0	5.977	A
3 - Site Arm 3	257	494	1042	0.246	257	0.4	5.197	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	434	170	1193	0.364	435	0.6	4.901	A
2 - B4100 (E)	490	5	1281	0.382	491	0.7	5.157	A
3 - Site Arm 3	209	405	1093	0.192	210	0.3	4.622	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	364	142	1208	0.301	364	0.4	4.397	A
2 - B4100 (E)	410	5	1282	0.320	411	0.5	4.677	A
3 - Site Arm 3	175	339	1131	0.155	176	0.2	4.272	A

2031 Dev 4 (Both Developments), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	9.00	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	34	2 - B4100 (E)	9.00	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)
D31	2031 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	720	100.000
2 - B4100 (E)		✓	785	100.000
3 - Site Arm 3		✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	686	34
	2 - B4100 (E)	548	0	237
	3 - Site Arm 3	7	110	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	1	0
	2 - B4100 (E)	7	0	17
	3 - Site Arm 3	0	45	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.65	8.50	1.8	A
2 - B4100 (E)	0.68	9.90	2.3	A
3 - Site Arm 3	0.13	5.98	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	542	82	1241	0.437	539	0.8	5.151	A
2 - B4100 (E)	591	25	1270	0.465	587	0.9	5.763	A
3 - Site Arm 3	88	410	1090	0.081	88	0.1	5.068	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	647	99	1232	0.525	646	1.1	6.185	A
2 - B4100 (E)	706	31	1267	0.557	704	1.4	7.003	A
3 - Site Arm 3	105	491	1043	0.101	105	0.2	5.417	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	793	121	1220	0.650	790	1.8	8.391	A
2 - B4100 (E)	864	37	1263	0.684	861	2.3	9.729	A
3 - Site Arm 3	129	601	981	0.131	129	0.2	5.964	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	793	121	1220	0.650	793	1.8	8.501	A
2 - B4100 (E)	864	37	1263	0.684	864	2.3	9.903	A
3 - Site Arm 3	129	603	979	0.132	129	0.2	5.976	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	647	99	1232	0.525	650	1.1	6.277	A
2 - B4100 (E)	706	31	1267	0.557	709	1.4	7.143	A
3 - Site Arm 3	105	495	1041	0.101	105	0.2	5.435	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	542	83	1241	0.437	543	0.8	5.219	A
2 - B4100 (E)	591	26	1270	0.465	593	1.0	5.858	A
3 - Site Arm 3	88	414	1088	0.081	88	0.1	5.085	A

2031 Dev 4 (Both Developments), 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	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	5.93	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	71	1 - B4100 (W)	5.93	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)
D32	2031 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	526	100.000
2 - B4100 (E)		✓	542	100.000
3 - Site Arm 3		✓	233	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	519	7
	2 - B4100 (E)	444	0	98
	3 - Site Arm 3	38	195	0

Vehicle Mix

Heavy Vehicle %

		To		
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3
From	1 - B4100 (W)	0	2	0
	2 - B4100 (E)	8	0	44
	3 - Site Arm 3	0	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.50	6.23	1.0	A
2 - B4100 (E)	0.47	5.96	1.0	A
3 - Site Arm 3	0.25	5.16	0.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	396	146	1206	0.328	394	0.5	4.510	A
2 - B4100 (E)	408	5	1281	0.319	406	0.5	4.641	A
3 - Site Arm 3	175	333	1134	0.155	175	0.2	4.236	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	473	175	1190	0.397	472	0.7	5.110	A
2 - B4100 (E)	487	6	1281	0.381	487	0.7	5.124	A
3 - Site Arm 3	209	399	1097	0.191	209	0.3	4.585	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	579	214	1168	0.496	578	1.0	6.204	A
2 - B4100 (E)	597	8	1280	0.466	596	1.0	5.943	A
3 - Site Arm 3	257	488	1045	0.245	256	0.4	5.154	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	579	215	1168	0.496	579	1.0	6.233	A
2 - B4100 (E)	597	8	1280	0.466	597	1.0	5.961	A
3 - Site Arm 3	257	489	1045	0.246	257	0.4	5.162	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	473	176	1190	0.397	474	0.7	5.141	A
2 - B4100 (E)	487	6	1280	0.381	488	0.7	5.147	A
3 - Site Arm 3	209	400	1096	0.191	210	0.3	4.595	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	396	147	1206	0.328	397	0.5	4.544	A
2 - B4100 (E)	408	5	1281	0.319	409	0.5	4.672	A
3 - Site Arm 3	175	335	1133	0.155	176	0.2	4.251	A

APPENDIX M

Albion Land Western Parcel Access Road Safety Audit Stage 1

MOTT MACDONALD

Land Adjacent to M40 J10, Western Access

Road Safety Audit
Stage 1

12 August 2021

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Land Adjacent to M40 J10, Western Access

Road Safety Audit
Stage 1

12 August 2021

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	12/08/2021	T J Blaney	R J Collins	J T Pearson	First Issue
		[redacted]			

Document reference: 100414124 | TPN | ITD | 044 | 001 | A

Information class: Standard

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1 Introduction

This report describes a Stage 1 Road Safety Audit carried out on the proposed access arrangements for a new 280,000m^2 employment development on land adjacent to the M40 J10. Two access points (eastern and western) will be provided either side of the A43 / B4100 Baynards Green roundabout junction. This audit report considers the western access.

The audit was carried out at the request of David Tucker Associates.

The audit took place at the Bristol office of Mott MacDonald and consisted of a detailed examination of the submitted documentation and drawings listed in **Appendix A**.

It is confirmed that this is a Stage 1 Road Safety Audit and that the audit was undertaken upon completion of the preliminary design work.

The Road Safety Audit Team, as approved by the David Tucker Associates' Project Sponsor, Simon Parfitt, consisted of:

Tim Blaney	BSc (Hons), CMILT, MCIHT, MSoRSA (Certificate of Competency in Road Safety Audit, July 2012) Audit Team Leader, Mott MacDonald
Rachael Collins	BA (Hons), MSc, MCIHT (Certificate of Competency in Road Safety Audit, July 2016) Audit Team Member, Mott MacDonald

A visit to the site was completed on Wednesday 4th August at 1100 hrs. During this visit the weather was overcast, with sunny spells and the road surface was dry. Traffic conditions were moderate and free flowing. No pedestrian or cycle activity was observed.

This Road Safety Audit was carried out in accordance with Highways England's Departmental Standard GG119 and the Road Safety Audit Brief (*Doc. Ref: 17213-05*). The Road Safety Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

The comments and suggestions for road safety improvements made in this report seek to address matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme. Consequently, the auditors accept no responsibility for the design or construction of the scheme.

All the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. The Audit Response Report should be completed by the Design Team and kept on file for future reference.

A Key Plan indicating the location of any identified safety related issues is provided in **Appendix B**.

Scheme Description

Taken from the Audit Brief:

The western site access will serve up to 180,000m² GFA B8 use. A three-arm roundabout junction is proposed in line with the requirements of DMRB CD116. Access to plots will be taken from an internal roundabout junction within the site. A bus layby will be provided on the link between the two site roundabouts.

A pedestrian and cycle route will be provided between the B4100 accesses and will provide a safe route to and from the roadside services. The route has yet to be determined as this is likely to be incorporated into a wider HE improvement scheme at the Baynards Green roundabout. This is not therefore within the scope of this RSA.

This audit therefore considers the proposed provision of a new roundabout junction on the B4100 as well as the internal site roundabout and link road.

2 Items Raised at this Stage 1 Audit

This section describes road safety related issues identified by the Audit Team during the Stage 1 Road Safety Audit.

2.1 Problem 1.01

Location: *Throughout Scheme.*

Summary: *Unclear impact of additional traffic on surrounding highway network.*

The proposed development and its western access are in close proximity to the A43 Baynards Green roundabout. At present, no junction appraisals have been undertaken therefore it is not possible to consider the impact that this development will have on the local highway network and particularly the A43 junction. Should the junction fail to accommodate the increase in traffic, and particularly HGVs, there is an increased risk of rear end shunt or side impact type collisions associated with inappropriate turning manoeuvres resulting from driver frustration / impatience.

Recommendation

It is recommended that traffic modelling is undertaken to assess the impact that the proposed development will have on the surrounding highway network, and particularly the A43 Baynards Green roundabout.

2.2 Problem 1.02

Location: *B4100 Roundabout junction.*

Summary: *Unclear lighting provision may lead to loss of control collisions.*

The B4100 at the location of the proposed roundabout junction is a relatively straight section of single carriageway unlit rural highway. It is not clear from the information submitted if it is intended to light the roundabout. Failure to light this roundabout may result in motorists misjudging the position or geometry of the roundabout during the hours of darkness, increasing the risk of loss of control type collisions.

Figure 1: Existing B4100 on northbound approach to proposed roundabout.

Source: Mott MacDonald

Recommendation

Given the proximity of the illuminated A43 Baynards Green roundabout, it is considered appropriate for the proposed access roundabout to also be lit. Furthermore, the internal site roundabout is likely to also require lighting due to its close proximity. It is recommended that through the design process, a lighting assessment is carried out to confirm the need for lighting.

3 Audit Team Statement

We certify that this audit has been carried out in accordance with Highways England's Departmental Standard GG119.

Road Safety Audit Team Leader

T J Blaney BSc (Hons), CMILT, MCIHT, MSoRSA
(Certificate of Competency in Road Safety Audit, July 2012)

Signed:

Date: 12th August 2021

Principal Road Safety Engineer
Mott MacDonald
10 Temple Back
Bristol
BS1 6FL

Road Safety Audit Team Member

R J Collins BA (Hons), MSc, MCIHT
(Certificate of Competency in Road Safety Audit, July 2016)

Signed:

Date: 12th August 2021

Senior Road Safety Engineer
Mott MacDonald
9 Portland Street
Manchester
M1 3BE

Appendices

A. List of Drawings & Documents Examined 7
B. Location Plan – Western Access 8

A. List of Drawings & Documents Examined

Table 3.1: Drawings

Drawing Number	Revision	Drawing Title
20005-SK-029	B	Proposed Masterplan Option 8
17213-09-GA	B	West Site Access – General Arrangement
17213-09-TRACK	B	West Site Access – Vehicle Tracking

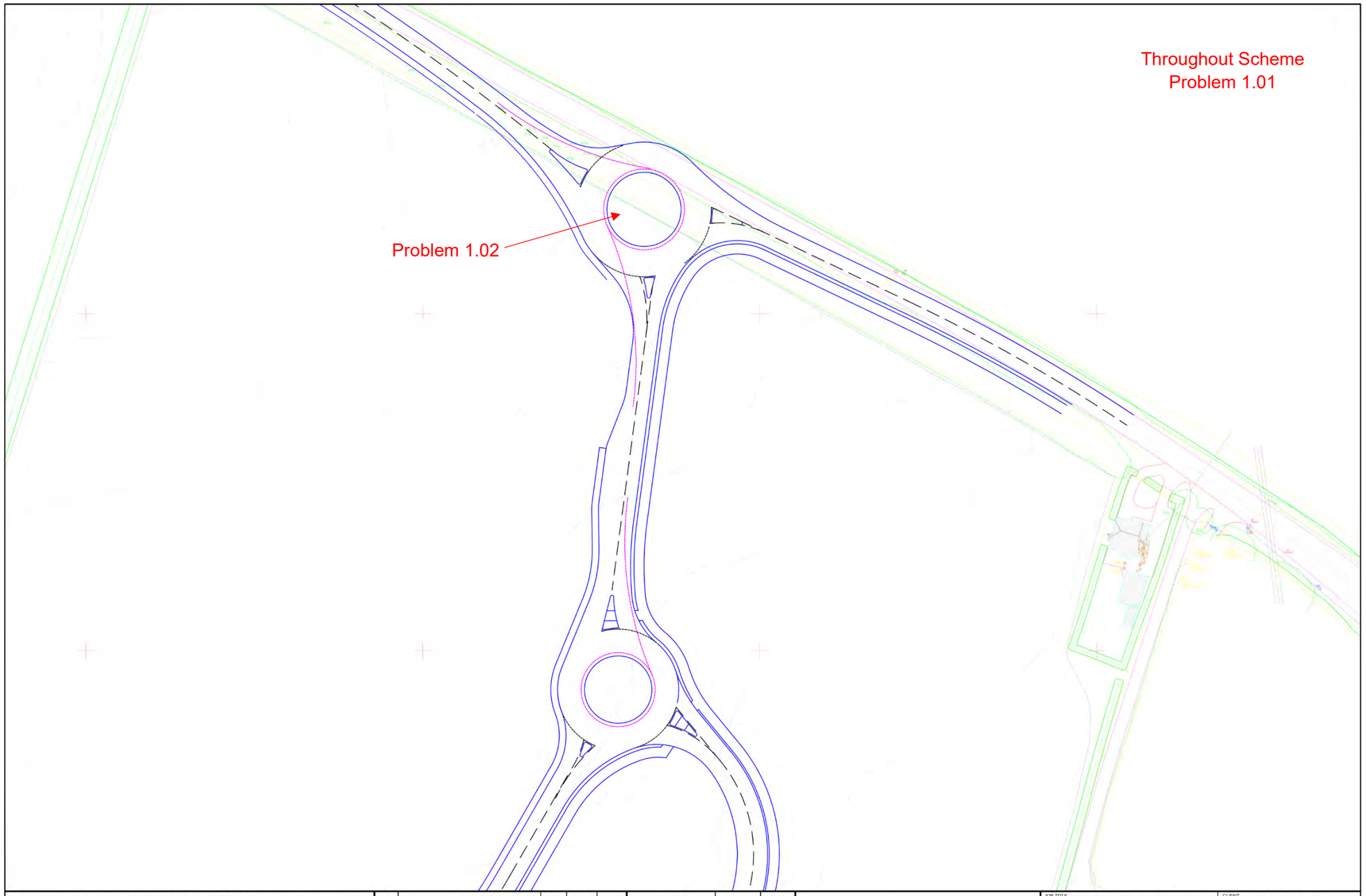
Source: David Tucker Associates

Table 3.2: Documents

Document Number	Revision	Document Title
17213-05	-	Road Safety Audit Brief
17213-02b	-	TA Scoping Report

Source: David Tucker Associates

B. Location Plan – Western Access



Based upon the ORDNANCE SURVEY MAPS with the permission of THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, © Crown Copyright AL 100030412

© David Tucker Associates

Not to Scale

REV	DESCRIPTION	DRAWN	INITIALS	DATE

DRAWING STATUS	CHECKED BY	DATE

david tucker associates
transport planning consultants

Forester House, Doctors Lane
Henley-in-Arden
Warwickshire B95 5AW
Tel: +44(0)1564 793598
Fax: +44(0)1564 793983
www.dtatransportation.co.uk

JOB TITLE	CLIENT
LAND AT M40 JUNCTION 10	ALBION LAND

DRAWING TITLE
100KPH DESIGN SPEED MAINLINE VERSION
WEST SITE ACCESS – GENERAL ARRANGMENT

SCALE	DRAWN BY	DATE	DRAWING No	REVISION
1:500@A1	RM	03/08/21	17213–09–GA	B

APPENDIX N

Personal Injury Collision Data (STATS19)

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Wednesday 31/01/2018 Time 0816 Slight at A43 NBOUND SBOUND APPROX 100M N OF RBT J/W B4100 AT BAYNARDS GREEN STOKE LYNE
E: 454948 N: 229248 Junction Detail: 0 Control
Fine without high winds Road surface Wet/Damp Daylight
Vehicle Reference 1 Car Moving from NE to S Going ahead other
Vehicle Reference 2 Car Moving from NE to S Going ahead other
Casualty Reference: 1 Age: 65 Male Driver/rider Severity: Slight Injured by vehicle: 2

Wednesday 07/02/2018 Time 1014 Serious at B4100 J/W BAINTON ROAD BUCKNELL
E: 457257 N: 226274 Junction Detail: 3 Control 4
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Car Moving from SE to N Going ahead other
Casualty Reference: 1 Age: 24 Male Driver/rider Severity: Serious Injured by vehicle: 1
Vehicle Reference 2 Car Moving from SE to NE Turning right

Friday 17/08/2018 Time 2005 Slight at B4100 AT BEND 140M NW OF J/W ROAD TO HARDWICK STOKE LYNE
E: 455551 N: 228708 Junction Detail: 0 Control
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Motorcycle over 500cc Moving from S to N Going ahead left bend
Casualty Reference: 1 Age: 56 Male Driver/rider Severity: Slight Injured by vehicle: 1
Vehicle Reference 2 Car Moving from S to N Going ahead other
Vehicle Reference 3 Car Moving from N to SE Going ahead other
Vehicle Reference 4 Car Moving from N to SE Going ahead other

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Saturday 18/08/2018 Time 0210 Serious at B4100 APPROX 20M N OF AT STOKE LYNE/STOKE WOOD XRDS J/W STRATTON AUDLEY RD STOK
E: 455855 N: 228137 Junction Detail: 0 Control
Fine without high winds Road surface Dry Darkness: no street lighting
Vehicle Reference 1 Car Moving from N to SE Going ahead other
Casualty Reference: 1 Age: 24 Female Driver/rider Severity: Serious Injured by vehicle: 1

Wednesday 22/08/2018 Time 0745 Slight at A43 RBT J/W B4100 STOKE LYNE
E: 454922 N: 229094 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Car Moving from SE to N Going ahead other
Vehicle Reference 2 Car Moving from N to S Going ahead other
Casualty Reference: 1 Age: 26 Female Driver/rider Severity: Slight Injured by vehicle: 2

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Sunday 02/12/2018 Time 1241 Slight at B4100 APPROX 100M SE OF J/W ACCESS TO SWIFTS HOUSE OUTSIDE STOKE LYNE WOOD STOKE LYNE
E: 456131 N: 227743 Junction Detail: 0 Control
Fine without high winds Road surface Wet/Damp Daylight

Vehicle Reference 1 Car Moving from SE to N Going ahead other
Casualty Reference: 1 Age: 67 Male Driver/rider Severity: Slight Injured by vehicle: 1
Casualty Reference: 2 Age: 63 Female Passenger Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Car Moving from N to SE Going ahead other
Casualty Reference: 3 Age: 63 Female Driver/rider Severity: Slight Injured by vehicle: 2

Vehicle Reference 3 Car Moving from SE to N Going ahead other
Casualty Reference: 4 Age: 46 Male Passenger Severity: Slight Injured by vehicle: 3

Thursday 13/12/2018 Time 1144 Slight at A43 RBT J/W B4100 AT EXIT TO A43 SBOUND STOKE LYNE
E: 454903 N: 229092 Junction Detail: 1 Control 4
Fine without high winds Road surface Wet/Damp Daylight

Vehicle Reference 1 Car Moving from N to N Turning right
Casualty Reference: 1 Age: 22 Female Driver/rider Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Car Moving from N to S Going ahead other

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Sunday 25/08/2019 Time 1827 Slight at A43 RBT J/W B4100 BAYNARDS GREEN
E: 454901 N: 229092 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Car Moving from NE to S Going ahead other
Vehicle Reference 2 Motorcycle over 500cc Moving from NE to S Going ahead other
Casualty Reference: 1 Age: 30 Male Driver/rider Severity: Slight Injured by vehicle: 2

Monday 16/12/2019 Time 1045 Slight at A43 BAYNARDS GREEN RBT J/W B4100 BICESTER
E: 454888 N: 229148 Junction Detail: 1 Control 4
Fine without high winds Road surface Wet/Damp Daylight
Vehicle Reference 1 Goods 3.5 tonnes mgw and under Moving from N to SE Going ahead other
Vehicle Reference 2 Car Moving from S to N Going ahead other
Casualty Reference: 1 Age: 26 Female Driver/rider Severity: Slight Injured by vehicle: 2

Tuesday 24/12/2019 Time 1230 Slight at B4100 APPROX 135M SE ORBT J/W A43 STOKE LYNE
E: 455047 N: 229015 Junction Detail: 0 Control
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Car Moving from SE to N Going ahead other
Vehicle Reference 2 Car Moving from SE to N Going ahead other
Casualty Reference: 1 Age: 26 Female Driver/rider Severity: Slight Injured by vehicle: 2

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Friday 10/01/2020 Time 0904 Slight at B4100 J/W UNCLASSIFIED ROAD TO BUCKNELL BUCKNELL
E: 457375 N: 226152 Junction Detail: 3 Control 4
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from N to SE Going ahead other

Vehicle Reference 2 Car Moving from N to SE Stopping

Casualty Reference: 1 Age: 28 Male Driver/rider Severity: Slight Injured by vehicle: 2

Casualty Reference: 2 Age: 14 Female Passenger Severity: Slight Injured by vehicle: 2

Vehicle Reference 3 Car Moving from N to S Waiting to turn right

Casualty Reference: 3 Age: 45 Female Driver/rider Severity: Slight Injured by vehicle: 3

Wednesday 15/01/2020 Time 0540 Fatal at B4100 APPROX 1.25KM SE OF SWIFTS FARM STOKE LYNE
E: 456537 N: 227090 Junction Detail: 0 Control
Fine without high winds Road surface Wet/Damp Darkness: no street lighting

Vehicle Reference 1 Car Moving from NE to S Going ahead other

Vehicle Reference 2 Pedal Cycle Moving from NE to S Going ahead other

Casualty Reference: 1 Age: 39 Male Driver/rider Severity: Fatal Injured by vehicle: 2

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Saturday 01/02/2020 Time 0826 Slight at B4100 150M N FROM RBT JCT WITH A43 BAYNARDS GREEN
E: 454761 N: 229236 Junction Detail: 0 Control
Fine with high winds Road surface Dry Daylight

Vehicle Reference 1 Car Moving from N to SE Going ahead other
Casualty Reference: 1 Age: 32 Male Driver/rider Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Car Moving from N to SE Going ahead but held up
Casualty Reference: 2 Age: 22 Female Driver/rider Severity: Slight Injured by vehicle: 2

Tuesday 10/11/2020 Time 0905 Slight at A43 NBOUND CWAY APPROX 75M S OF RBT J/W B4100 STOKE LYNE
E: 454862 N: 229022 Junction Detail: 0 Control
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Car Moving from S to N Going ahead other
Casualty Reference: 1 Age: 29 Female Driver/rider Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Goods 3.5 tonnes mgw and under Moving from S to N Going ahead but held up

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Wednesday 04/08/2021 Time 2206 Slight at A43 BAYNARDS GREEN 300M NORTH FROM B4100 STOKE LYNE
E: 454995 N: 229444 Junction Detail: 0 Control
Fine without high winds Road surface Dry Darkness: no street lighting

Vehicle Reference 1 Car Moving from S to NE Overtaking moving vehicle O/S
Casualty Reference: 1 Age: 26 Male Driver/rider Severity: Slight Injured by vehicle: 1
Casualty Reference: 2 Age: 18 Male Passenger Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Car Moving from S to NE Changing lane to left
Casualty Reference: 3 Age: 22 Male Driver/rider Severity: Slight Injured by vehicle: 2
Casualty Reference: 4 Age: 19 Male Passenger Severity: Slight Injured by vehicle: 2

Friday 27/08/2021 Time 0240 Slight at B4100 J/W A43 BATNARDS GREEN RDT STOKE LYNE
E: 454891 N: 229143 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Darkness: street lights present and lit

Vehicle Reference 1 Car Moving from N to SE Going ahead other
Casualty Reference: 1 Age: 4 Female Passenger Severity: Slight Injured by vehicle: 1

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Friday 04/02/2022 Time 1922 Slight at A43 RBT J/W B4100 BAYNARDS GREEN STOKE LYNE
E: 454910 N: 229164 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Darkness: street lights present and lit

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from S to NE Going ahead left bend

Vehicle Reference 2 Car Moving from S to NE Going ahead left bend

Casualty Reference: 1 Age: 65 Male Driver/rider Severity: Slight Injured by vehicle: 2

Vehicle Reference 3 Car Moving from S to NE Going ahead left bend

Friday 25/03/2022 Time 1650 Serious at A43 BAYNARDS GREEN RBT J/W B4100 STOKE LYNE
E: 454939 N: 229115 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Car Moving from N to S Going ahead other

Vehicle Reference 2 Motorcycle over 500cc Moving from N to S Going ahead other

Casualty Reference: 1 Age: 38 Male Driver/rider Severity: Serious Injured by vehicle: 2

Wednesday 28/09/2022 Time 0736 Slight at A43 NBOUND APPROX 200M S OF RBT J/W B4100 STOKE LYNE
E: 454832 N: 228891 Junction Detail: 0 Control
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Car Moving from S to N Going ahead other

Casualty Reference: 1 Age: 48 Female Driver/rider Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Car Moving from S to N Going ahead but held up

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Monday 02/01/2023 Time 1706 Slight at B4100 APPROX 500M SE OF ARBT J/W A43 STOKE LYNE
E: 455362 N: 228792 Junction Detail: 0 Control
Fine without high winds Road surface Dry Darkness: street lights present and lit

Vehicle Reference 1 Car Moving from N to SE Overtaking moving vehicle O/S
Casualty Reference: 3 Age: 36 Male Driver/rider Severity: Slight Injured by vehicle: 1
Casualty Reference: 4 Age: 32 Female Passenger Severity: Slight Injured by vehicle: 1

Vehicle Reference 2 Goods 3.5 tonnes mgw and under Moving from SE to N Going ahead other
Casualty Reference: 1 Age: 47 Male Driver/rider Severity: Slight Injured by vehicle: 2
Casualty Reference: 2 Age: 11 Male Passenger Severity: Slight Injured by vehicle: 2

Saturday 15/04/2023 Time 1813 Slight at B4100 APPROX 800M NW OF J/W BAINTON STOKE LYNE
E: 456679 N: 226855 Junction Detail: 0 Control
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Car Moving from SE to N Going ahead other

Vehicle Reference 2 Car Moving from N to SE Going ahead other
Casualty Reference: 1 Age: 31 Male Driver/rider Severity: Slight Injured by vehicle: 2

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Sunday 28/05/2023 Time 1603 Slight at A43 NBOUND ENTRY TO RBT J/W B4100 AT BAYNARDS GREEEN STOKE LYNE
E: 454884 N: 229100 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Car Moving from S to N Going ahead other
Vehicle Reference 2 Car Moving from S to N Going ahead other

Casualty Reference:	1	Age:	66	Male	Driver/rider	Severity:	Slight	Injured by vehicle: 2
Casualty Reference:	2	Age:	66	Female	Passenger	Severity:	Slight	Injured by vehicle: 2
Casualty Reference:	3	Age:	66	Male	Passenger	Severity:	Slight	Injured by vehicle: 2

Thursday 15/06/2023 Time 1902 Slight at B4100 AT ENTRY TO A43 BAYNARDS GREEN RBT STOKE LYNE
E: 454939 N: 229094 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from SE to N Turning left
Vehicle Reference 2 Car Moving from SE to N Stopping

Casualty Reference:	1	Age:	36	Female	Driver/rider	Severity:	Slight	Injured by vehicle: 2
Casualty Reference:	2	Age:	36	Male	Passenger	Severity:	Slight	Injured by vehicle: 2

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Wednesday 05/07/2023 Time 1509 Slight at B4100 APPROX 125M SE OF HARDWICK TURN STOKE LYNE
E: 455717 N: 228513 Junction Detail: 0 Control
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Car Moving from SE to N Going ahead other
Casualty Reference: 1 Age: 30 Male Driver/rider Severity: Slight Injured by vehicle: 1
Vehicle Reference 2 Car Moving from SE to N Stopping

Sunday 23/07/2023 Time 1900 Slight at A43 RBT J/W B4100 FROM BICESTER STOKE LYNE
E: 454930 N: 229096 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight
Vehicle Reference 1 Car Moving from SE to N Going ahead other
Vehicle Reference 2 Car Moving from SE to N Stopping
Casualty Reference: 1 Age: 41 Male Driver/rider Severity: Slight Injured by vehicle: 2
Casualty Reference: 2 Age: 41 Female Passenger Severity: Slight Injured by vehicle: 2
Casualty Reference: 3 Age: 10 Male Passenger Severity: Slight Injured by vehicle: 2
Casualty Reference: 4 Age: 8 Female Passenger Severity: Slight Injured by vehicle: 2

Accidents between dates **01/01/2018** **and** **31/12/2023** (72) months

Selection:

Notes:
DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	2	19	21
2-wheeled motor vehicles	0	1	2	3
Pedal cycles	1	0	0	1
Horses & other	0	0	0	0
Total	1	3	21	25

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	23	25
Passenger	0	0	14	14
Motorcycle rider	0	1	2	3
Cyclist	1	0	0	1
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	1	3	39	43

Number of casualties meeting the criteria: **43**

APPENDIX O

Baynards Green General Arrangement

Forward visibility splay for 120kph (295m)

247m Forward visibility within Highway

Forward visibility splay for 100kph (215m)

Exit visibility splay for 1 step below 120kph

Forward visibility splay for 100kph

Exit visibility splay for 100kph

Forward visibility splay for 120kph

Exit visibility splay for 1 step below 120kph

Forward visibility splay 85kph

Exit visibility splay for 1 step below 100kph

Forward visibility splay 100kph

Key

- New channel
- Carriageway
- Footway Construction
- Verge
- New road markings
- New traffic signals
- Pedestrian guardrail / timber fencing
- Highway Extents
- Junction intervisibility zones & visibility splays
- Areas of applicants land that could be dedicated as Highway for visibility splays

REV.	DETAILS	DRAWN	CHECKED	DATE
A	Additional splay information	RB	JB	30.10.23
B	Post RSA1 Response Amends	RB	KD	18.03.24

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only. White lining is indicative only.
2. Do not scale.
3. Topographical survey provided by National Highways

Symmetry Park

A43 / B4100 Baynards Green Roundabout
Junction Improvement
General Arrangement

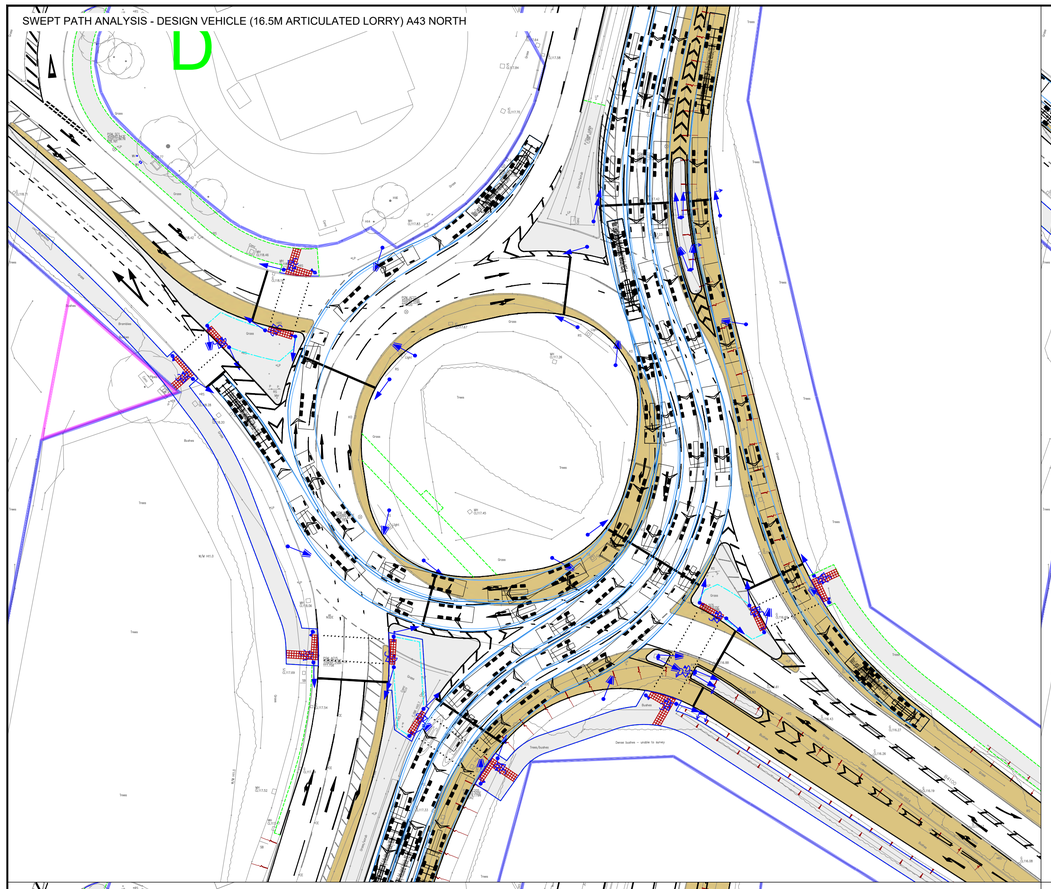
DRAWN:	CHECKED:	DATE:	SCALES:
RB	JB	15.05.23	1:500 @A1

Tritax Symmetry

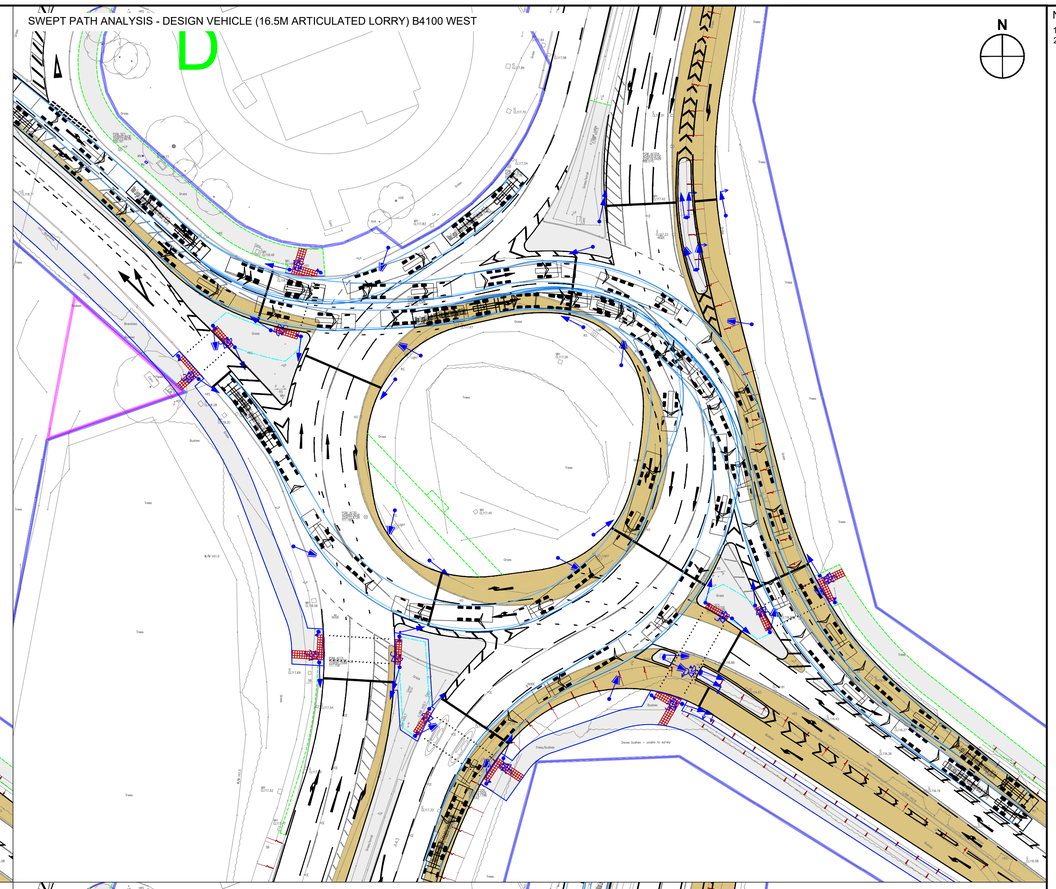
SLR

DRAWING NUMBER:	REVISION:
216285/A/14	B

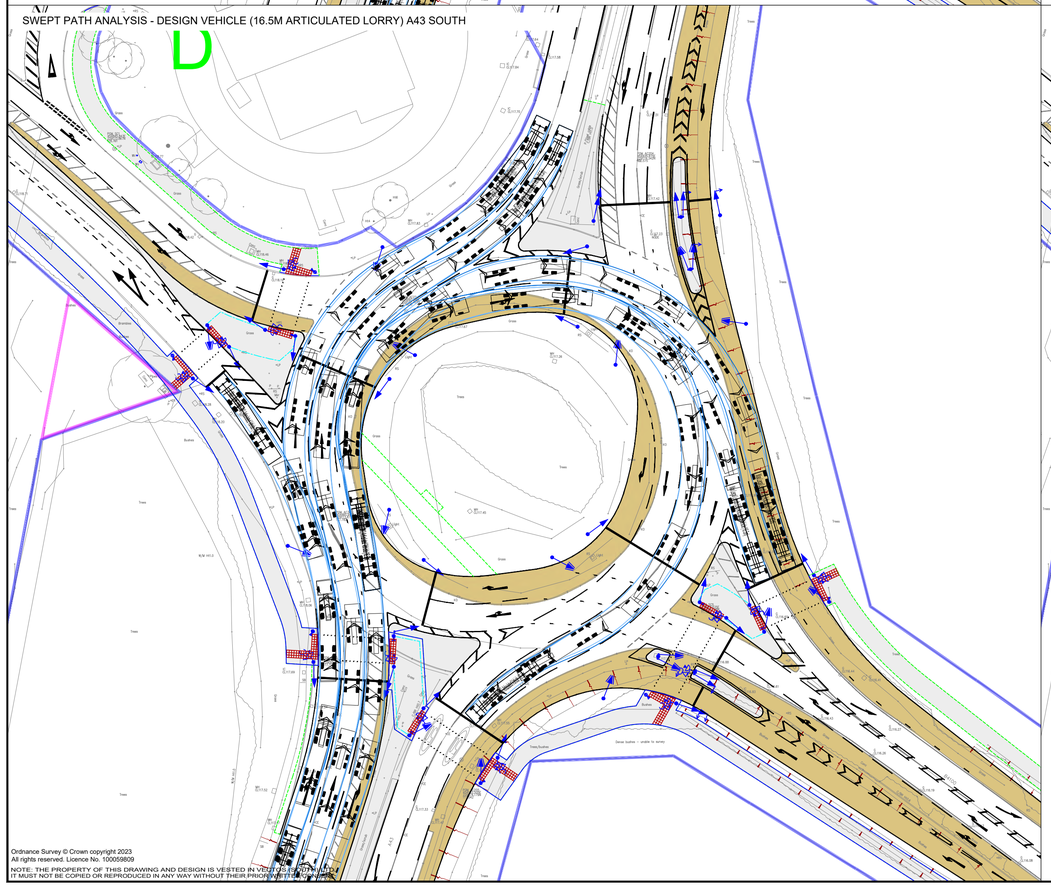
SWEPT PATH ANALYSIS - DESIGN VEHICLE (16.5M ARTICULATED LORRY) A43 NORTH



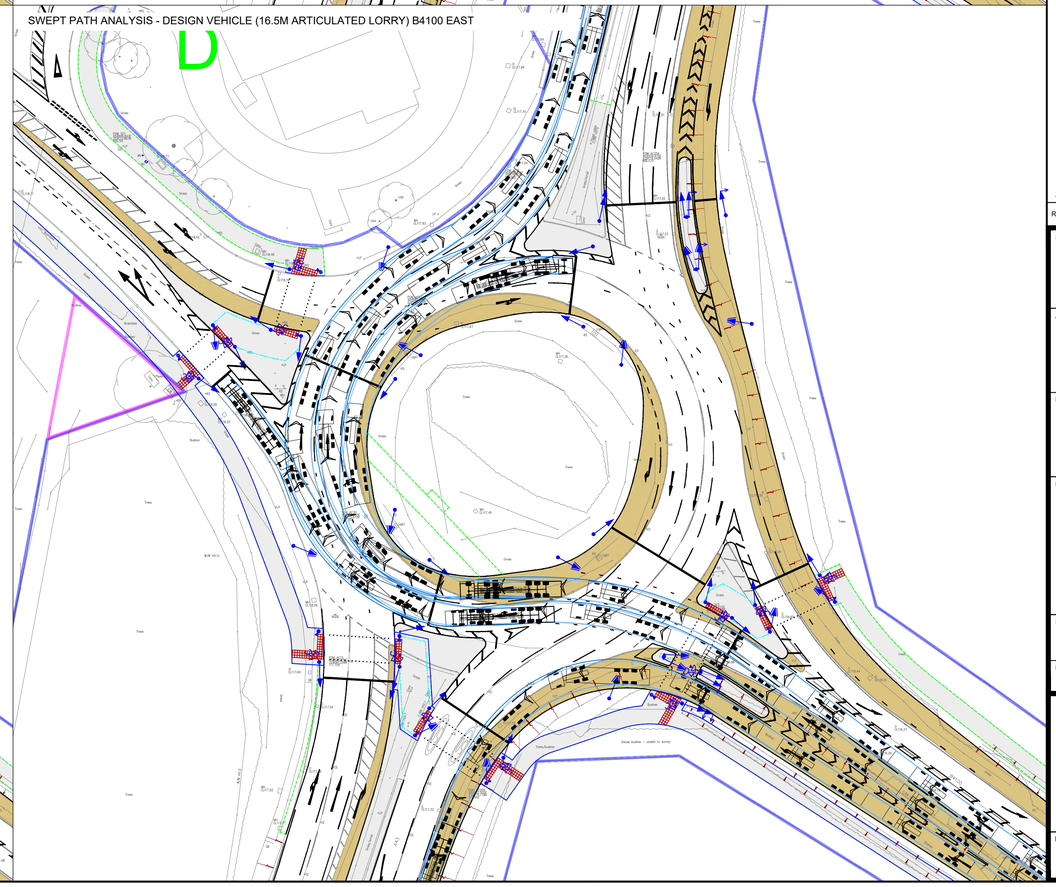
SWEPT PATH ANALYSIS - DESIGN VEHICLE (16.5M ARTICULATED LORRY) B4100 WEST



SWEPT PATH ANALYSIS - DESIGN VEHICLE (16.5M ARTICULATED LORRY) A43 SOUTH

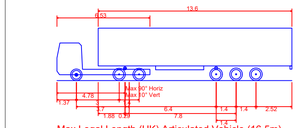


SWEPT PATH ANALYSIS - DESIGN VEHICLE (16.5M ARTICULATED LORRY) B4100 EAST



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

REV.	DETAILS	DRAWN	CHECKED	DATE
A	Northern crossing outline removed	RB	JB	07.11.23

STATUS:

INFORMATION ONLY

CLIENT:

Tritax Symmetry

PROJECT:

SYMMETRY PARK

DRAWING TITLE:

A43 / B4100 Baynards Green
Vehicle Swept Paths

SCALES:

1:500 at A1

DRAWN:	CHECKED:	DATE:
RB	TF	08.12.23

SLR

DRAWING NUMBER: 216285/SK12

REVISION: -

APPENDIX P

M40 Junction 10 and Baynards Green Modelling Report

Proposed Logistics Development at Baynards Green
M40 Junction 10 & Baynards Green – Technical Note

N02/216285/RB
August 2023

Introduction

1. Tritax Symmetry (TSL) has applied for planning permission for employment development on land at Baynards Green (LPA Reference: 22/01340/OUT). This application is supported by transport planning advice from Vectos SLR.

2. Albion Land (AL) has applied for planning permission for employment development on adjacent land at Baynards Green (LPA Reference: 21/03267/FUL, 21/03268/OUT & 21/03269/OUT). This application is supported by transport planning advice from David Tucker Associates (DTA).

3. Vectos SLR and DTA have prepared this technical note as a follow-up to the previous note N01/21285/RB issued in April 2023. This update covers:

   - Issue of VISSIM data.
   - Update to note N01.

4. The A43 Baynards Green roundabout currently experiences operational stress resulting in significant peak hour queuing. TSL and AL jointly propose improvement works here to support their proposed employment developments. This will fully signal control the roundabout and provide widening on the approaches and circulatory carriageway. A broadly equivalent scheme (the Growth Fund scheme) was promoted by the highway authorities to accommodate planned growth, but this has not progressed due to a lack of funding.

5. The proposed improvement works have been tested with VISSIM in the context of the wider M40 Junction 10 network to understand whether other works are required at other locations to address the development impact. However, compared to the reference case, i.e. no development or improvement at Baynards Green, the combined developments and junction improvement at Baynards Green will reduce net delay and queuing across the M40 Junction 10 network. The efficacy of the works to address the proposed developments is therefore not externally constrained and no other works are required.

6. The modelling demonstrates that the method of control and form of junction are appropriate, however, agreement in principle by the highway authorities to the proposed geometry parameters is sought. A detailed appraisal of the geometry against the requirements of the Design Manual for Roads and Bridges (DMRB) is set out in this report. No new departures from standard are required. There are, however, current features of the existing roundabout which are not compliant, e.g. entry path curvature, which are to be carried forward. Agreement is also sought on measures to reduce approach speeds, which are generally beneficial, but would also allow flexibility in visibility terms and benefit for active travel modes.

Design Flows

7. The design flows are based on the 2026 scenarios with the Bicester Traffic Model (BTM) which is maintained by Tetra Tech (TT) on behalf of Oxfordshire County Council (OCC). The reference case scenarios include existing traffic demand, traffic growth and traffic demand from planned development. The design case scenarios include the reference case demands plus the development demand from the proposed TSL and AL developments. In addition, the 2031 scenarios have also been run as a sensitivity test.

8. The appendices in note N01 contained incorrect reference case data. **Annex B** contains the correct BTM data. Analysis of the reference case was based upon the correct flows and all previous capacity analysis remains valid.

Baynards Green – Junction Improvement Scheme

9. National Highways (NH) kindly shared their topographical survey for the A43 and Baynards Green roundabout. The design that was shown on drg. 216285/A/07 has been updated to 216285/A/14 and included at **Annex C**.

10. An excerpt of drg. 216285/A/14 is shown below:

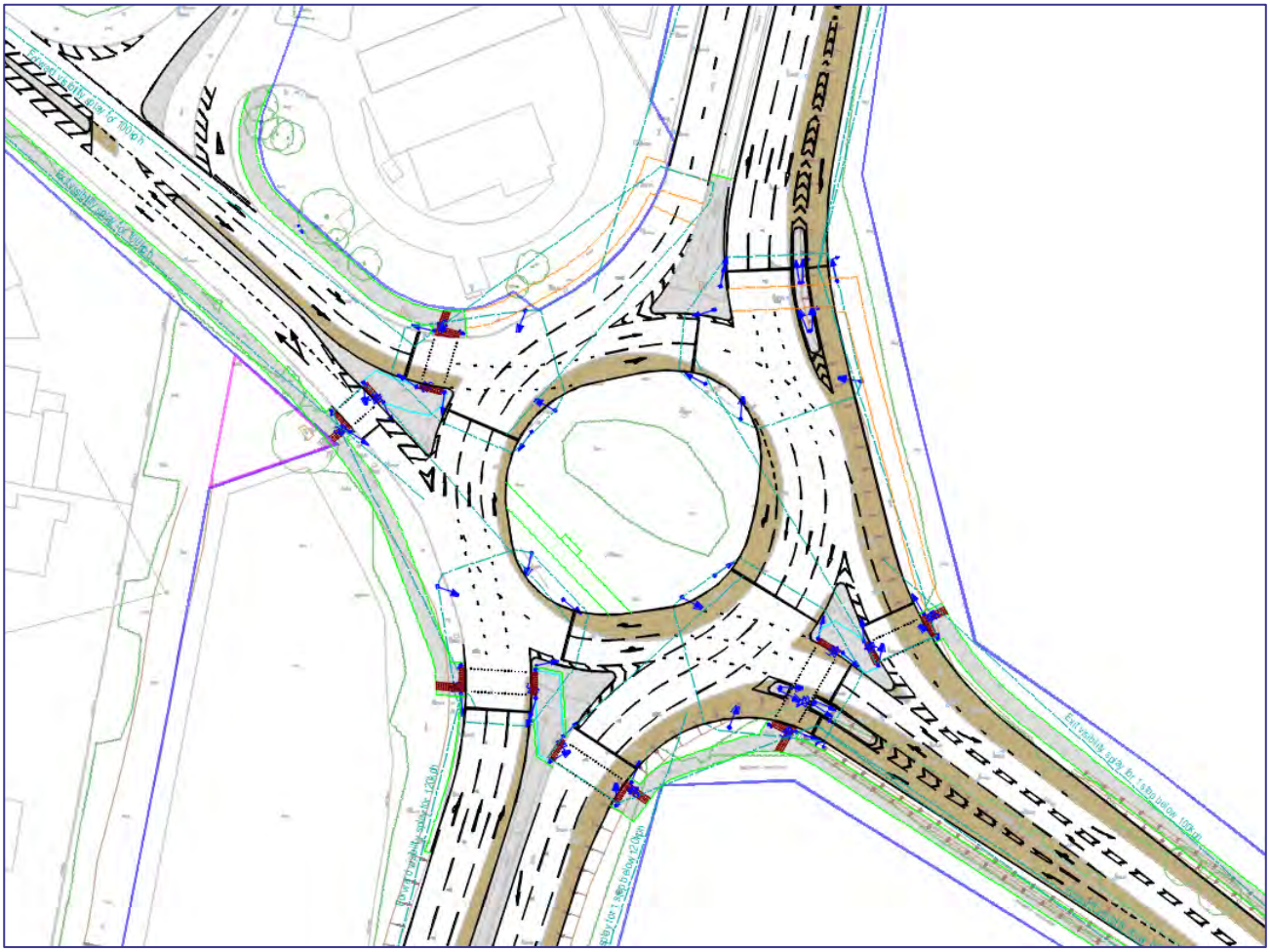


Figure 1 – A43 / B4100 Baynards Green improvement scheme

11. Vectos SLR and DTA met with National Highways following the initial submission of note N01. The meeting was to refine the Baynards Green improvement LINSIG model to ensure the scheme was represented appropriately in the VISSIM model. The main changes were to the A43 North and South right turn clearances.

12. It was agreed that the VISSIM modelling would test the implications of the developments and the suitability of the mitigation proposals. The ARCADY/LinSig junction analysis results for Baynards Green are updated below in **Table 1**. The timings used to forecast the development case reflect the changes agreed with National Highways and show the best potential results at Baynards Green using the flows agreed for use in the VISSIM development case assessment.

	Existing Layout / Ref Case		Improved Layout / Dev Case	
	Highest Ratio of Flow to Capacity	Longest Queue (pcu)	Highest RFC (PRC)	Longest Queue (pcu)
AM 2026	1.21	221	0.92 (-2.7%)	21
PM 2026	1.25	95	0.88 (+2.4%)	25
AM 2031	1.37	425	1.00 (-10.9%)	37
PM 2031	1.58	231	0.97 (-8.1%)	36

Table 1 – Baynards Green capacity assessment

13. The values referred to in **Table 1** are Ratio of Flow to Capacity and Practical Reserve Capacity. The RFC is the highest proportion of flow to capacity for a priority-controlled roundabout. RFCs are not usually used to express performance for signal junctions, but they are presented here to allow a like-for-like comparison. For information, the RFC calculation is very similar to Degree of Saturation (DoS) although they are presented differently, e.g. 50% DoS equates to 0.5 RFC. For traffic signals, the highest DoS determines PRC, expressed as a percentage, with 90% DoS considered the highest practical value. Positive PRC values indicate a junction has spare capacity whereas a negative value indicates a deficit.

14. From the table above it can be seen that the improvement at Baynards Green roundabout is forecast to provide significant benefits when compared to the reference case. This is supported by the VISSIM modelling results.

15. The updated LinSig analysis is included at **Annex E**.

VISSIM – Modelling Summary

16. The VISSIM report is included at **Annex A.** The data to accompany this has been issued separately. The key structural changes between the reference and development case models are the Baynards Green scheme and the introduction of the AL and TSL development access junctions. The VISSIM model confirms that the throughput of the M40 Junction network is significantly increased, and benefits of the improvement scheme are not affected by the wider network. The summarised findings of the VSSIM modelling, ordered by year and peak, are:

2026 AM

- There is an overall reduction in delay for the whole network of at least 26s per vehicle. The actual reduced delay will be greater because the number of unreleased vehicles (traffic that cannot enter the network due to blocking) reduced from 1000 to 0.
- The A43 south-bound queue to Barnards Green roundabout was reduced by around 700m in the AM peak. The actual reduction in queue is greater because of unreleased vehicles (latent demand which cannot enter the network). Overall, the latent demand is reduced from 1000 vehicles to 0 vehicles equivalent to a queue of circa 3km across two lanes.
- The improvement at Baynards Green roundabout proposal allowed more traffic South in the AM peak. The model reported some additional south-bound queues (displaced downstream) at the Padbury and Cherwell MSA junctions, however, these queues were contained within links.
- The additional south-bound flow increased M40 northbound off-slip queues in the AM peak to circa 340m. However, these queues were wholly contained within the slip, i.e., not beyond the back of the nose, some 460m from the ICD.

2026 PM

- There was an overall reduction in delay for the whole network of at least 15s per vehicle. The B4100 East entry queue reduced by an average of nearly 400m, while the number of unreleased vehicles in the reduced from 50 (reference case) to 0 (development case).
- The Northbound queue to Barnards Green roundabout was reduced by an average of c300m.
- The model reported south-bound queues (displaced from Baynards Green) to the Padbury and Cherwell MSA junctions, however, these queues were contained within links.

AM 2031

- The 2031 tests are not required as set out in DfT Circular 01/2022. However, the results are included as a sensitivity test.
- There was an overall reduction in delay for the whole network of at least 4s per vehicle. The south-bound approach to Barnards Green roundabout had around 900 fewer unreleased vehicles. While these vehicles did not contribute to the overall delay statistics and queue length statistics, this level of reduction is clearly a significant improvement.
- Queues on the B4100 West reduced by nearly 400m while those on the B4100 East reduced by around 200m.

- The model reported south-bound queues (traffic displaced downstream from Baynards Green) to the Padbury and Cherwell MSA junctions, however, these queues were contained within links.

- The additional south-bound flow did increase M40 north-bound off-slip queues in the AM peak. However, these queues were wholly contained within the slip, i.e. not beyond the back of the nose.

2031 PM

- There was an overall reduction in delay of 33s per vehicle.

- The North-bound queue to Barnards Green roundabout was reduced by an average of circa 550m. This was an improvement when compared with the reference case where queues stretched to Padbury roundabout, which could have safety implications for the M40 south-bound off-slip.

- The B4100 East entry queue reduced by an average of nearly 450m, reducing the number of unreleased vehicles by around 300, to zero. The B4100 West queues were circa 250m shorter than the reference case.

VISSIM – Queue Lengths and Journey Times

17. The VISSIM assessment shows that the Baynards Green roundabout improvement is forecast to provide significant benefits. Management of the local network is achieved in the AM peak by balancing the reduced A43 south-bound queue to Baynards Green while maintaining acceptable conditions downstream at the Cherwell MSA and Ardley junctions. In the PM peak, the capacity increase provided at Baynards Green largely resolves the queue for A43 north-bound traffic.

Route	2026 Journey Time Change		2031 Journey Time Change	
	AM	PM	AM	PM
A43 North to M40 South	-331s	+39s	-87s	+37s
A43 North to B430 South (via Ardley)	-359s	+30s	-136s	+23s
M40 South to A43 North	+97s	-92s	+107s	-159s

Table 2 – A43 / M40 Journey Time Changes

18. In **Table 2** above, a negative figure means an improvement in journey time. The table shows the change in journey time for the A43 north and south-bound, i.e. the through-route on the SRN.

19. The reference case had congestion south-bound towards Baynards Green in the AM and north-bound in the PM peak. The proposed scheme is forecast to improve journey times considerably for these approaches in their respective congested peak periods, i.e. >5 minutes faster south bound in the AM peak and at least 1.5 minutes better for the north-bound in the PM peak.

20. The Baynards Green signalisation allows delay to be balanced over all the entries. This means a slight worsening for those approaches that are not currently (or in the reference case) congested, i.e. the north-bound in the AM and the south-bound in the PM. The increase in delay is partly due to traffic waiting at a red signal which would not be the case for an existing uncongested priority entry. The net position, however, is one of significant benefit.

21. The queues along with the available link lengths are reported in **Table 3** and **Table 4**.

Route	Available Queuing Capacity (m)	2026 Ref Case Queue (m)		2026 Dev Case Queue (m)		2031 Ref Case Queue (m)		2031 Dev Case Queue (m)	
		AM	PM	AM	PM	AM	PM	AM	PM
A43 SB to Baynards (QC1)	-	769*	132	203	122	769*	182	767	144
A43 SB from Baynards to Padbury (QC7)	600	59	60	280	161	67	71	178	163
A43 SB from Padbury to Cherwell MSA (QC9)	310	124	96	286	125	150	103	261	144
A43 SB from Cherwell MSA to Ardley Rbt (QC16)	245	189	67	127	55	250	99	111	55

*reported queues only include vehicles within the model and do not reflect significant latent demand of up to 1000 vehicles on this approach in the AM peak periods.

Table 3 – Queue length changes – A43 South-bound

Route	Available Queuing Capacity (m)	2026 Ref Case Queue (m)		2026 Dev Case Queue (m)		2031 Ref Case Queue (m)		2031 Dev Case Queue (m)	
		AM	PM	AM	PM	AM	PM	AM	PM
M40 NB Off-slip (QC17)	455	102	82	339	96	176	105	383	158
A43 NB from Ardley to Cherwell MSA (QC15)	245	57	100	84	101	109	232	134	148
A43 NB from Padbury to Baynards (QC5)	620	106	599	187	201	214	944	253	233

Table 4 – Queue length changes – A43 North-bound

22. A summary of **Table 3** and **Table 4** is given below:

- The only exceedances on available stacking were in the 2031 reference case, shown in red. The 944m queue in the 2031 reference case represents an interaction between junctions and a resilience concern for the M40 south-bound off-slip to Padbury roundabout. The Baynards Green scheme resolves these exceedances.

- The Baynards improvement is forecast to reduce the AM 2026 south-bound queue to Baynards by over 0.5km in 2026 within the modelled network. The latent demand, those that cannot gain access to the network due to queuing, i.e. sitting outside the modelled network, reduced by circa 1000 vehicles. Modest reductions in queue are forecast for the PM peak. In 2031 the south-bound queue is reported as the same, but the latent demand is considerably lower.

- Queues between Baynards and Padbury roundabouts increased slightly but were easily contained within the link.

- Queues between Padbury roundabout and the Cherwell MSA junction increased but did not exceed available stacking capacity.

- Queues on the M40 north-bound off-slip increased, particularly in the AM peak. These increases were almost entirely due the success of the Baynards Green improvement which allowed more traffic south towards Ardley roundabout. The forecast slip queue lengths did not exceed the available stacking to the back of the nose.

- The PM north-bound queue lengths to Baynards Green roundabout are improved considerably by the introduction of the proposed scheme.

DMRB Geometric Compliance

23. The N01 report included an initial DMRB compliance review of the proposal for Baynards Green. An updated plan is included at **Annex D**.

24. Discussion is sought on the following points. It is envisaged that these will be recorded in a Safety Risk Assessment in line with the requirements of GG104.

- A43 Entry path radius of the existing and proposed layouts.

- The design speeds for the roundabout approaches have initially been determined as 120kph for the A43 and 100 kph for the B4100. Discussions on the nature of the approaches (rural or urban) and the potential for reducing design speed for the mainline and B4100 are sought.

Conclusion

25. AL and TSL propose an improvement at A43 Baynards Green roundabout.

26. The VISSIM assessment supports the LINSIG appraisal which shows that the Baynards Green scheme with the AL and TSL developments operates much more efficiently when compared to the existing layout in the reference case. It also provides formal facilities for active travel on the A43 and B4100 arms.

27. The VISSIM assessment shows that the combined development and scheme is compelling when considered in the context of the wider M40 Junction 10 network. No further works are needed, including at the Cherwell MSA or Ardley roundabouts, to accommodate the traffic generated by the AL and TSL developments.

28. The modelling demonstrates that the method of control and form of junction are appropriate. Agreement is principle for the geometric parameters is sought from the highway authorities to allow further design development. A detailed appraisal of the geometry against the mandatory requirements of the DMRB is included in the report which is now based on NH land survey. No new departures from standard are required. There are, however, features of the existing roundabout which are not compliant, e.g. entry path curvature, which are to be carried forward. Agreement is also sought on measures to reduce approach speeds, which are generally beneficial, but would also allow flexibility in visibility terms and deliver benefits for active travel modes.

Annexes

Annex A	VISSIM Modelling – M40 J10 TSL and AL Development Testing
Annex B	BTM Design Flows
Annex C	Drawing 216285/A/14 – Baynards Green Junction Improvement GA
Annex D	Drawing 216285/SK/11 – Baynards Green Junction Improvement DMRB Compliance Plan
Annex E	LinSig analysis for Baynards Green roundabout.

Annex A

VISSIM Modelling – M40 J10 TSL and AL Development Testing

M40 J10 Tritax and Albion Land Development Testing

VM210412.TN004
July 2023

Introduction

1. Vectos Microsim, part of SLR Consulting (VM) has been commissioned to provide microsimulation modelling expertise in support of two proposed logistics developments near to M40 J10 in Cherwell District, Oxfordshire.

2. Symmetry Park Ardley is a proposed 3.2m sq ft development located to the east of Baynards Green Roundabout on the A43 corridor, with land on the northern and southern side of the B4100 to be accessed via a new 4-arm roundabout on B4100 east. The development is led by Tritax Symmetry (Tritax) with highway support provided by SLR Consulting's transport planning division, previously known as Vectos.

3. Axis J10 is a proposed 3m sq ft development located on two plots east and west of Baynards Green Roundabout on the A43 corridor. The western site is proposed to be accessed via a new 3-arm roundabout on the B4100 west, while the eastern site is proposed to be accessed via a 3-arm signalised junction. The development is led by Albion Land with highway support provided by David Tucker Associates (DTA).

4. This Note sets out the methodology for the microsimulation testing of these two proposed sites, and an overview of the results of the tests.

Background

5. VM compiled a Matrix Development Methodology Note, issued to NH on 23rd February 2023, along with a spreadsheet which used the outputs from the Bicester Transport Model (as provided by TetraTech) and calculated the demand matrices for input into VISSIM for the updated Reference Case and With Development modelling. The Note is provided in Appendix A.

6. Whilst the Methodology Note was accepted, NH initially identified some discrepancies in the spreadsheet that accompanied submission of the Note. Through discussions between VM, NH and AECOM, the vehicle demands to be used for testing the development scenarios were agreed on 18th May 2023. The agreed demands are those as contained within spreadsheet *VM210412.Sp014 Post Audit Demands_v7*.

7. Demands have been provided for a total of 4 development scenarios, for future years 2026 and 2031:

   i. Dev Sc1: Tritax Symmetry Development Only

   ii. Dev Sc2: Tritax Symmetry Development and Albion Land Development East

   iii. Dev Sc3: Tritax Symmetry Development and Albion Land Development West

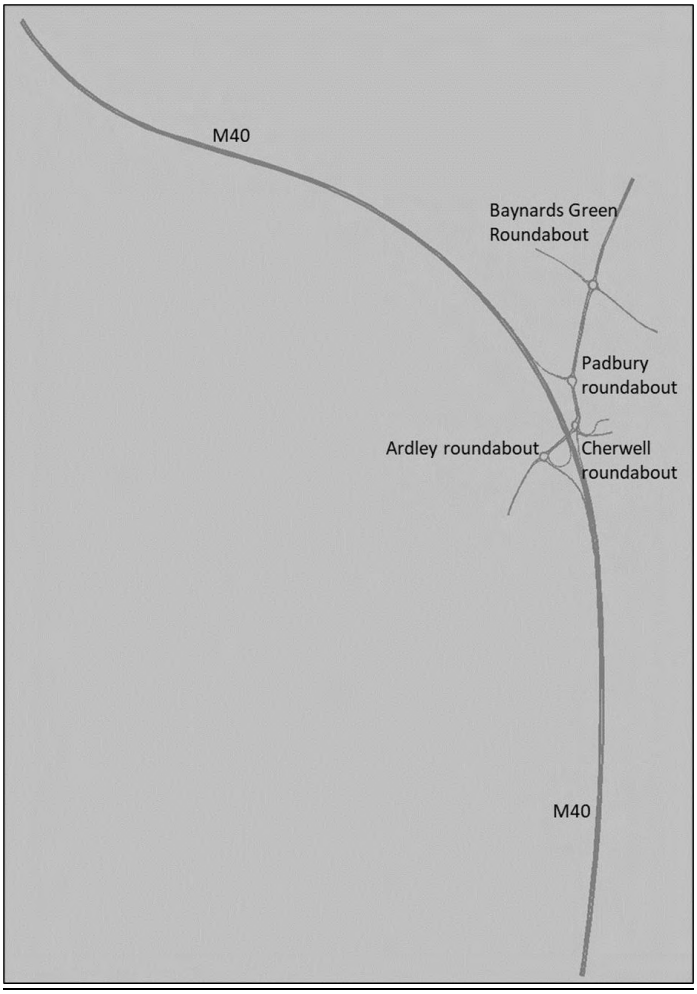
   iv. Dev Sc4: Tritax Symmetry Development and Albion Land Developments East and West

8. Development Scenario 4 has been tested in VISSIM; this Note sets out the build and results of this test on the basis that it represents the position whereby both development sites come forward.

Reference Case VISSIM Modelling

9. The development testing built upon the 2026 and 2031 Reference Case models, which were issued for agreement with NH on 23rd March 2023. The VISSIM network is provided below:

Figure 1: Reference Case Model VISSIM Network



10. The Reference Case models remain unchanged from the March submission and are re-reported in the results spreadsheet which accompanies this submission[1] for comparison against the Development 4 scenario.

Do-Something VISSIM Modelling

11. Both the 2026 and 2031 Do-Something scenarios test full build out of the Tritax and Albion Land development sites. This includes three site accesses which have been coded into the VISSIM network:

    i. Albion Land West Access: 3-arm priority-controlled roundabout on B4100 to the west of Baynards Green Roundabout

    ii. Albion Land East Access: Signalised 3-arm junction on B4100 to the east of Baynards Green Roundabout

    iii. Tritax Access: 4-arm priority-controlled roundabout to the east of the Albion Lane East Access

12. In addition to the three site accesses, a scheme at Baynards Green has been introduced to help mitigate the impacts of the development. The scheme aims to improve the traffic flow on Baynards Green through the following highway upgrades:

    i. Increasing the capacity on the roundabout with additional lanes on the circulatory

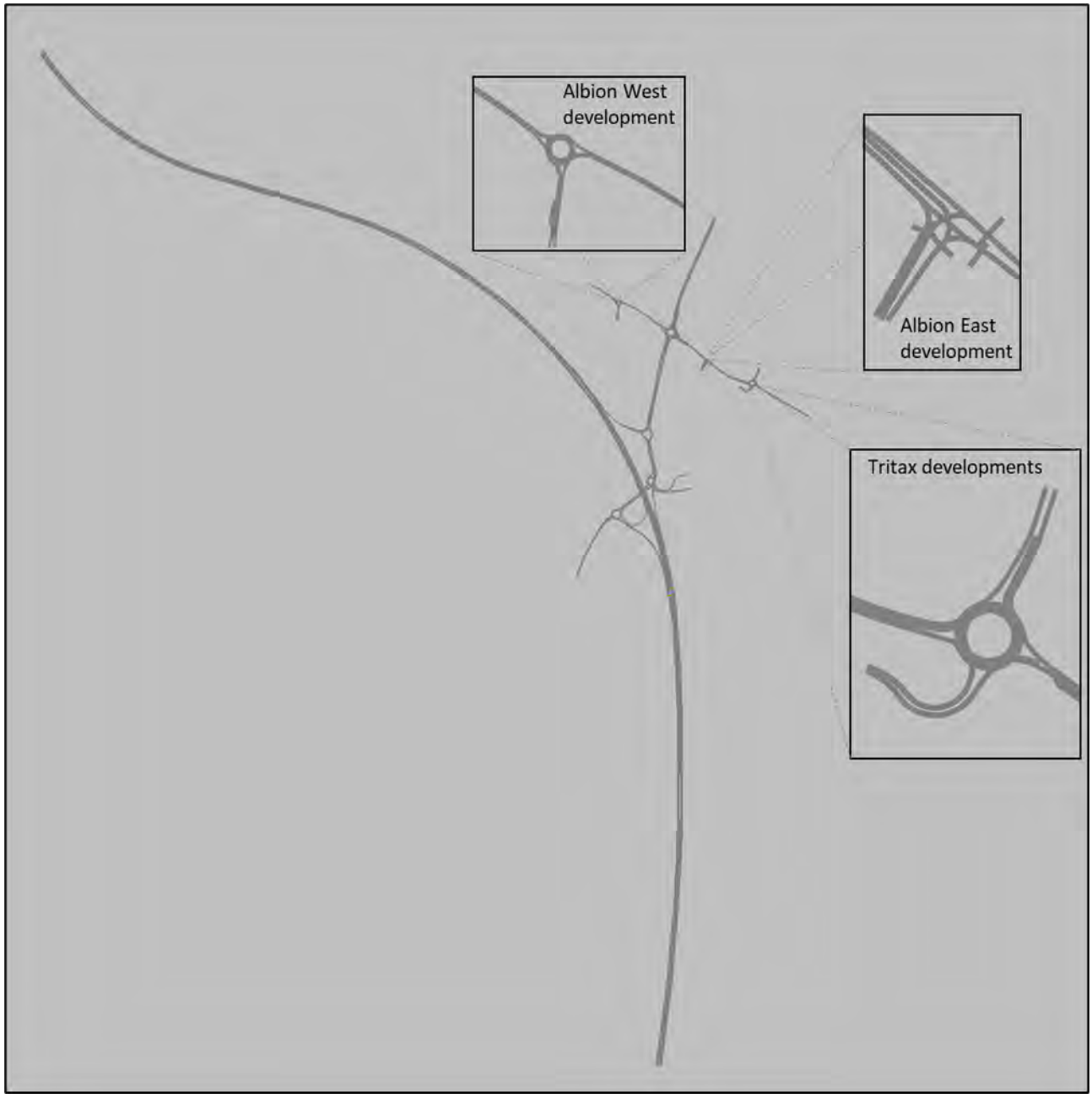
    ii. Adding extra flare lanes on the northbound, southbound, and westbound approaches

    iii. Full signalisation of the roundabout

13. The Baynards Green scheme and three site access arrangements are shown in the drawing in Appendix B. The 2026/2031 DS VISSIM network encompasses the Baynards Green scheme and all three accesses, and is illustrated in **Figure 2** overleaf:

[1] VM210412.Sp014 Result Spreadsheet Dev Sc4.xls

Figure 2: 2026/2031 Development Scenario 4 VISSIM Network



Network Revisions

14. Following initial tests of the development scenario, model observations demonstrated that with the inclusion of additional demand the model was exhibiting unusual behaviour that undermined the reliability of the testing.

15. A small number of network changes were therefore applied to the Do-Something models to rectify these issues. These are included in both the 2026 and 2031 Do-Something Scenarios and are listed below, followed by an image to illustrate the locations of the network elements referred to.

Lookback Distance Changes Adjustments:

i. Link 10059, changed from 200m to 250m

ii. Link 10060, changed from 200m to 250m

iii. Link 10050, changed from 250m to 500m

iv. Link 10051, changed from 250m to 500m

Emergency Stop Distance Changes Adjustments:

i. Link 10050, changed from 100m to 15m

ii. Link 10051, changed from 160m to 15m

Priority Rule Changes Adjustments:

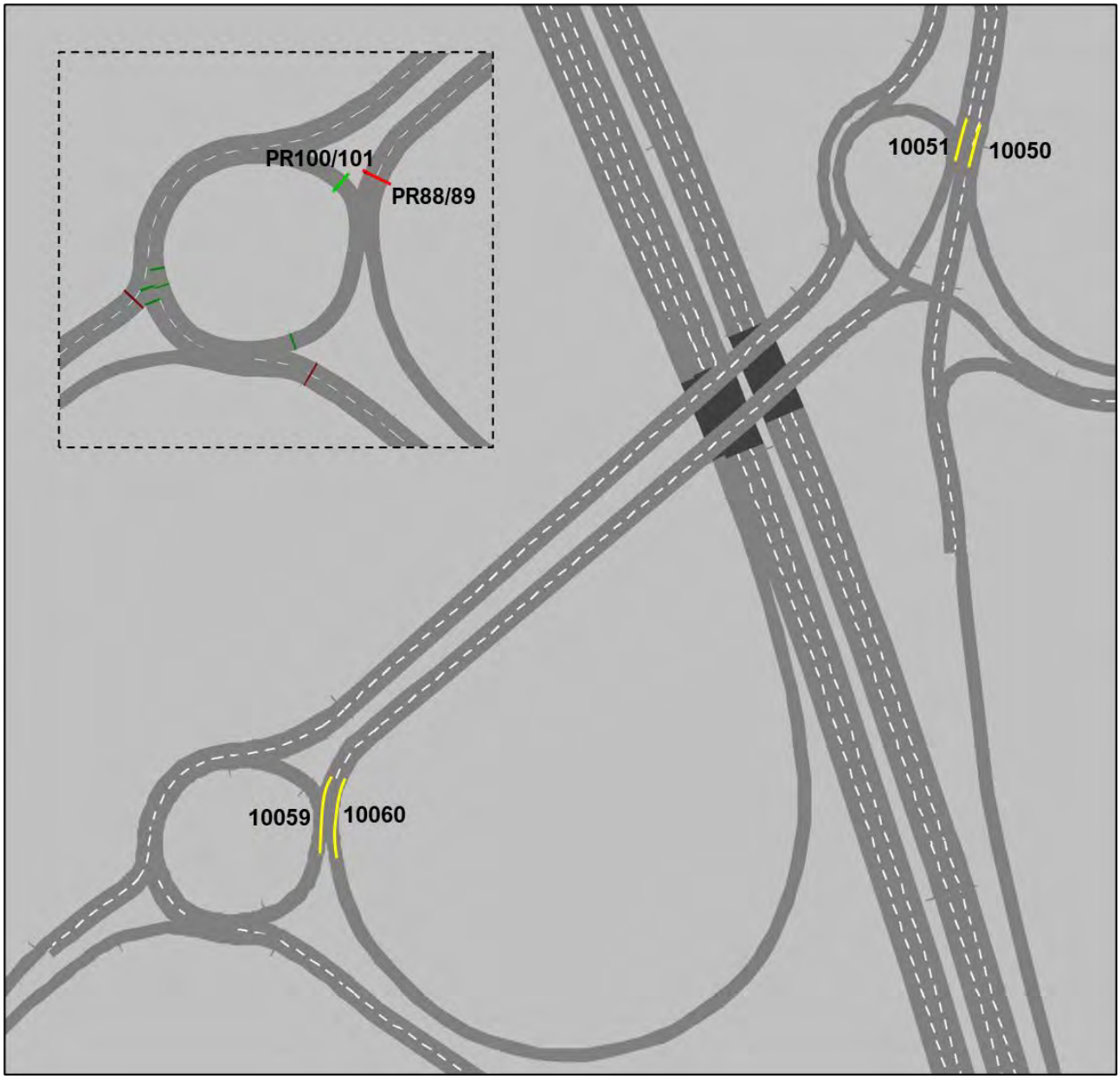
i. Priority Rule 88 (Lights), Min.Gap time changed from 4s to 2.4s

ii. Priority Rule 89 (Heavies), Min.Gap time changed from 4.5s to 2.8s

iii. Priority Rule 100 (Heavies), Min.Gap time changed from 4.5s to 2.8s

iv. Priority Rule 101 (Lights), Min.Gap time changed from 4s to 2.4s

Figure 3: Link and Priority Rule Locations for Network Changes



16. Regarding connectors 10050 and 10051, the lookback distance was increased to encourage earlier lane change to prevent unrealistic lane changing on the section between Padbury and Cherwell. The emergency stop distances were reduced to prevent vehicles in Lane 2 of Link 2 stopping to change lane into Lane 1 (due to original emergency stop distance on connector 10051); originally this behaviour caused bottlenecks on Link 2 and prevented vehicles from accessing Lanes 2 and 3 of Link 36.

17. **Figures 4** and **5** below show vehicles approaching Cherwell in the incorrect lane, and bottlenecks occurring due to the original emergency stop distances:

Figure 4: Original A43 Lane Change Behaviour between Padbury and Cherwell

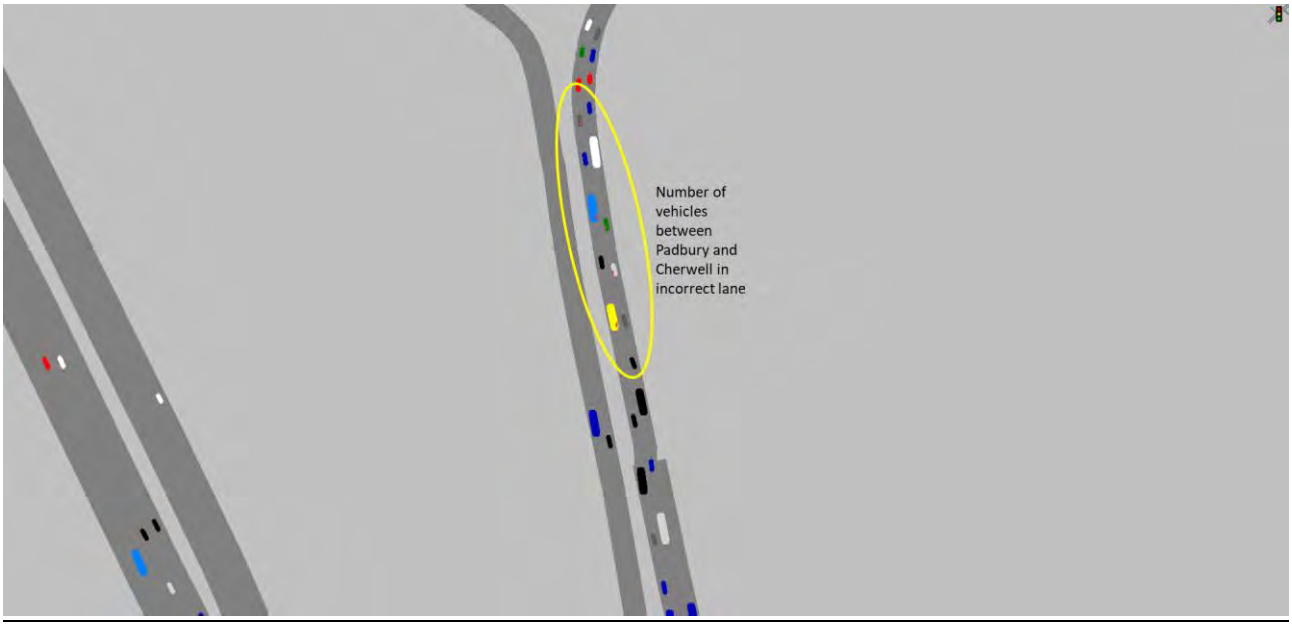
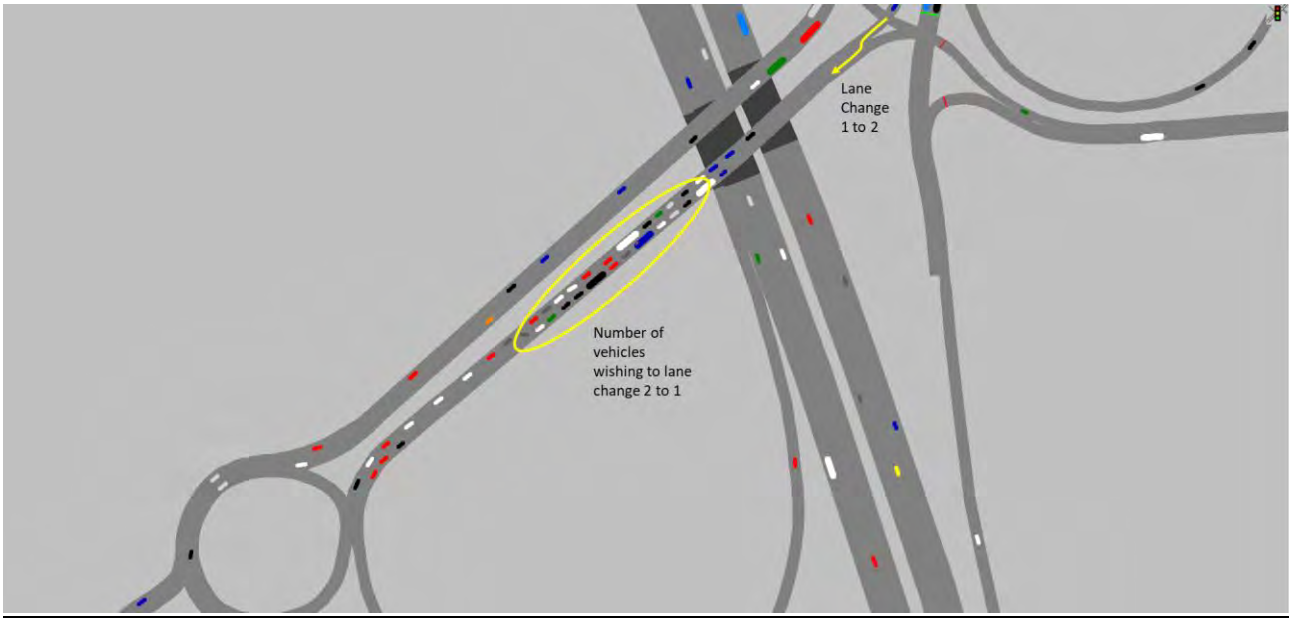


Figure 5: Bottleneck on Approach to Cherwell from Padbury Roundabout

18. The look back distance on connectors 10059 and 10060 was revised to prevent unrealistic lane change behaviour on the A43 bridge over the M40. The distance between these connectors and connector 10053 (the single lane connector which routes vehicles from the A43 north of Cherwell Services junction to the A43 bridge) is approximately 240m, while the original look back distance was

200m. This resulted in a number of trips joining the bridge in lane 1, changing to lane 2 and then immediately looking to change back to lane 1. This is observed in the screenshot below:

Figure 4: Original A43 Lane Change Behaviour between Cherwell and Ardley



19. Priority rules 88, 89, 100 and 101 were revised to reduce observed behaviour whereby vehicles on the A43 westbound approach to Ardley Roundabout were giving way to circulating trips exiting the roundabout at the A43 eastbound exit. This behaviour resulted in unrealistic queues on the A43 bridge, while correcting this behaviour results in a higher number of conflicting trips for the M40 northbound off-slip.

Demand Matrices

20. Demand matrices for VISSIM are derived from outputs from the Bicester Transport Model (BTM); details on the conversion from BTM output to VISSIM input are detailed in Appendix A.

21. The total peak hour demands are given in **Table 1** and **Table 2** below:

Table 1: AM Peak Hour Demands

AM Peak (07:45-08:45)			
Scenario	**Lights**	**Heavies**	**Total**
2016 Base	8955	1377	10332
2026 Ref	10564	948	11512
2026 Dev Sc4	11096	1238	12334
2026 Dev – Ref	**532**	**290**	**821**
2031 Ref	11786	1056	12842
2031 Dev Sc4	12227	1347	13573
2031 Dev – Ref	**440**	**291**	**732**

Table 2: PM Peak Hour Demands

PM Peak (16:30-17:30)			
Scenario	**Lights**	**Heavies**	**Total**
2016 Base	10527	1084	11611
2026 Ref	11532	907	12439
2026 Dev Sc4	11913	1133	13046
2026 Dev – Ref	**381**	**226**	**607**
2031 Ref	12731	959	13690
2031 Dev Sc4	13075	1182	14257
2031 Dev – Ref	**344**	**223**	**567**

VISSIM Modelling Results Summary

2026 AM

22. The introduction of the Development trips, along with the associated site accesses and Baynards Green mitigation scheme, results in average delay per vehicle decreasing by 26s in 2026 for the AM peak compared to the Reference Case.

23. While VISSIM average queue results show a reduction of ~700m in the 2026 AM DS scenario compared with the Reference Case on the A43 southbound approach to Baynards Green, the queue reduction in reality would be far higher due to the presence of latent/unreleased demand in the Reference Case, which stands at over 1000 vehicles. Following introduction of the proposed mitigation scheme, this reduces to zero.

24. The mitigation at the roundabout introduces an additional ahead lane on the southbound approach and a separate left-turn filter, which, combined with the signals creating more gaps, means throughput improves and queues decrease.

25. As a result of the improved throughput from the north, some minor queue increases are forecast on the southbound approaches to Padbury Roundabout and Cherwell, however these are contained within the road sections between the junctions and do not reach back to upstream junctions. Queue increases are also forecast on M40 northbound off-slip due to the additional number of vehicles able to traverse the network following the unlocking of Baynards Green Roundabout, which conflict against the northbound slip give-way. These queues however reach a maximum of ~340m which is well within the road-space available on the slip road.

2026 PM

26. Compared to the 2026 PM Reference Case, average delay per vehicle decreases by 15s in the 2026 Development Scenario.

27. Queues decrease by an average of nearly 400m on B4100 East at Baynards Green Roundabout, as well as releasing the ~50 vehicles of latent demand that are present within the Reference Case. Large average queue reductions of ~300m are also observed on the A43 South (northbound) approach to Baynards Green as a result of the proposed mitigation scheme.

28. As observed in the AM, improvements at Baynards Green result in minor queue increases on the southbound approaches to Padbury and Cherwell, however maximum queue lengths on these approaches are maintained within the available space between the upstream junction.

2031 AM

29. In the AM 2031 testing, average delay per vehicle decreases by 4s in the AM DS Scenario in comparison to the 2031 Reference Case.

30. Although the average delay statistics do not indicate a major betterment on the Reference Case, the total latent demand value has decreased by ~900 vehicles indicating significant delay savings outside of the model network. The 2031 AM Development Scenario removes the small amount of latent demand from B4100 West, and significantly reduces the latent demand from A43 North. These improvements are attributable to the Baynards Green scheme improving throughput at the roundabout and mean average queue lengths on B4100 West decrease by nearly 400m compared to the 2031 Ref. Reported queues on A43 North remain similar to the Reference values due to the queues often reaching the edge of the model, however it is clear this approach to the roundabout has improved due to the significant reduction in latent demand. Queues on B4100 East approach to Baynards Green are also reduced by an average of ~200m.

31. As per the 2026 scenario, southbound approaches to Padbury and Cherwell exhibit minor queue increases but are maintained within the available road-space. Similarly, queue lengths are forecast to increase on the M40 northbound off-slip, however these are well within the available length of the slip road.

2031 PM

32. Compared to the 2031 PM Reference Case, average delay per vehicle decreases by 33s in the DS Scenario.

33. Where the 2031 Reference Case model exhibits latent demand of over 300 vehicles from B4100 East, inclusion of the proposed mitigation scheme removes this entirely. Average queue lengths are ~450m shorter on this approach.

34. In a similar pattern to 2026, average queues decrease by ~550m on the A43 South (northbound) approach to Baynards Green, meaning that where these queues reach back to Padbury Roundabout in the Reference Case, thereby posing a risk to the southbound off-slip, delivery of the proposed mitigation scheme at Baynards Green removes this risk.

35. Average queue length reductions of ~250m are also observed on the western arm of the junction.

Summary & Conclusion

36. Vectos Microsim, part of SLR Consulting (VM) has been commissioned to provide microsimulation modelling expertise in support of two proposed logistics developments near to M40 J10 in Cherwell District, Oxfordshire. The developments are promoted by Tritax Symmetry and Albion Land, with highways support provided by SLR Consulting and David Tucker Associates respectively.

37. VM has previously engaged with National Highways on the development of a VISSIM Reference Case, and on the development of a set of demand matrices to be used within the VISSIM modelling informed by turn count outputs from the Bicester Transport Model (BTM). Both the Reference Case and the With Development demand matrices have been agreed and signed off by National Highways.

38. This Note sets out how the VISSIM assessment has been carried out, and presents a proposed mitigation strategy at Baynard's Green Roundabout to facilitate delivery of the two proposed development sites.

39. Results of the VISSIM modelling demonstrate that the proposed mitigation results in significant improvements at the junction. In the AM period, existing queuing on the A43 southbound is significantly reduced, along with improvements on the B4100 east and west arms, particularly in 2031. In the PM period, forecast queues on the A43 northbound to Baynard's Green are significantly reduced. In 2031, where queues are forecast to extend back to the southbound off-slip at Padbury, the proposed mitigation is highly successful at mitigating this impact.

40. Overall the results show that the mitigation scheme put forward is more than commensurate with the forecast impact of the combined developments, resulting in a network-wide performance that far exceeds that of the respective Reference Case models in both AM and PM peak periods.

Appendix A: Matrix Development Methodology Note

vectos microsim.
— PART OF SLR

REPORT

M40 J10 VISSIM

Matrix Development Methodology

February 2023

Vectos South

Contents

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2 Background 4

3 Reference Case Demands 5

4 Next Steps 7

1 Introduction

1.1 Vectos Microsim (VM) has been commissioned by Vectos South on behalf of Tritax, to provide VISSIM microsimulation modelling support regarding an on-going planning application for a proposed logistics development on land to the east and west of the A43, adjacent to M40 J10 in Cherwell District, Oxfordshire.

1.2 AECOM, in their capacity as Highway Consultant for National Highways (NH), undertook proposed scheme testing around M40 J10 in March 2020. VM acquired the models from AECOM via email on 5th May 2022, along with the results of those tests. These were also accompanied by a Technical Note[1] outlining the contents of each tested scenario. VM has utilised these models to develop new Reference Case models to become the basis for the Tritax testing.

2 Background

2.1 In addition to the models received on 5th May 2022, AECOM provided further commentary outlining that the DS3 scheme was selected as the preferred option and taken forward for delivery through the Growth Fund, but that the schemes had been updated since completion of the initial testing. As a result, VM proceeded to update the model in line with the latest drawings, as well as presenting results for scenarios that preceded the update.

2.2 Throughout testing however, the funds allocated for the improvements at Baynards Green roundabout were re-allocated elsewhere, resulting in this scheme no longer being considered. Following correspondence with NH, the scheme will now only comprise of the Padbury junction element, corresponding to the DS2 model provided by AECOM which VM has therefore taken as the new starting point for testing. This Note sets out the methodology for developing the Reference Case and Do-Something matrices for use within the testing.

2.3 This Note follows a previous Note[2] that was submitted to NH on 5th January 2022. The Note included a proposed methodology for the Reference Case demands, details regarding amendments required to the model network following errors noted in the models received (i.e. the DS2 scenario that has become the 'Reference Case' network for the purposes of this testing), and results of the new Reference Case tests.

2.4 The proposed methodology involved taking turn count outputs and converting to network matrices by a process of proportional calculations, taking trips through the network based on turning proportions calculated from the turn counts. The method in principle is accurate, however the original calculations failed to exclude the M40 southbound off-slip to Padbury to Cherwell to M40 southbound on-slip movement which distorted the matrix once these trips were removed and replaced with mainline counts.

2.5 NH provided comments on 5th January 2023 highlighting the issue and proposing an amendment to the methodology for calculating the Reference Case demands:

> *"We therefore recommend that you calculate a growth factor using the BTM flows by comparing the Base BTM flows and Reference Case BTM flows and applying these percentages on top of the base VISSIM matrices in order to develop the future year matrices. […] Should you have an alternative approach to propose please let us know. We recommend that a matrix methodology note be provided to us for our review prior to undertaking any further assessment."*

[1] M40 J10 TN11_submitted.pdf
[2] VM210412.TN002 VISSIM Methodology Note

2.6 Having considered this approach we do not consider this to be suitable in this instance. Applying a growth percentage to the baseline matrices removes any re-routing that is forecast within the BTM following the application of growth and/or proposed highway schemes. In addition, various development scenarios are being tested within the BTM and turn counts are being extracted for each individually. We cannot use this 'growth percentage' methodology for the development scenarios because not only will background re-routing and trip pattern changes be unaccounted for, but the development itself will also be unaccounted for (as the specific development values will become lost within the overall growth percentage).

2.7 The alternative could be to develop the Reference Case as per the methodology proposed by NH, and then add development trips directly onto that Reference Case (through a development-specific trip generation and distribution – a 'development-only matrix'). However this maintains the Reference Case demands as they are, again discounting the possibility of background re-routing following inclusion of development and any associated mitigation thereby removing the very purpose of the BTM testing.

2.8 As a result, VM has revisited the original methodology and recalculated the demand matrices, but this time excluding, amongst others, the M40 southbound off-slip to M40 southbound on-slip as a possible movement. Details are provided in the section to follow.

3 Reference Case Demands

3.1 Base model turn counts were supplied by TetraTech on 6th February 2023, which supplemented the 2026 and 2031 Reference Case turn counts already received. The turn counts have been compiled into a single spreadsheet and this, alongside all BTM outputs, are contained within the package of data that accompanies this Note.

3.2 The broad methodology remains unchanged from the original; the number of trips entering from a particular zone are proportioned through the network based on turning proportions at downstream junctions. However, some rules are observed that prevent certain movements from being included in the calculations:

i) As per paragraph 2.8 above, the movement from zone 6 (M40 North) to zone 4 (M40 South) is assumed to be zero. To be clear, this refers only to movements that would take this movement via Padbury and Cherwell. Mainline counts are included separately later on (to be discussed)

ii) Movements from zone 6 to zone 6, and from zone 4 to zone 4 (M40 U-turns in either direction), are also assumed to be zero

3.3 In fixing these values, the methodology of proportioning in-bound trips through downstream junctions is insufficient in some cases, as the totals travelling to/from particular zones becomes distorted by these fixed values that are not subjected to the proportional method. Therefore calculations for some movements are revised and bespoke to that particular movement.

3.4 One example is as follows. As we assume the M40 South to M40 South demand movement to be zero, that means we assume all movements from the A43 bridge to M40 South to be originated from B430 west. This is highly likely to be the case in reality. This fixed value must be taken into consideration when proportioning all other trips from B430 west to the north of the network.

3.5 Similarly, of all trips leaving the M40 at the southbound off-slip and travelling south towards Cherwell, none of these are assumed to re-join the mainline. This therefore changes the values used to proportion every other trip through Cherwell from the north of the model.

3.6 As a final step, any minor negative values resulting from the calculations are removed.

3.7 The calculations are provided within the spreadsheets and are therefore available for a full review. As a check that the demands are an accurate reflection of the turning movements output from the BTM, the total inbound and outbound zone totals in the calculated matrices are compared with the total turning movements at that appropriate zone location, and the majority show a close correlation. The exception is in the 2031 PM Lights calculations, where the matrix total for trips travelling to A43 north of Baynards Green and B4100 east of Baynards Green is 93 trips and 15 trips lower than the totals from the respective turn count totals. The reason this discrepancy exists is that the turn counts do not correlate between Padbury Roundabout and Baynards Green Roundabout. The recorded turn count total travelling northbound away from Padbury Roundabout (Cars + LGV) is equal to 2007 trips. The recorded turn count total travelling northbound towards Baynards Green is 2117 trips. This is the source of the difference as the total amount of traffic feeding the Baynards Green exits is lower than the recorded turn movements.

3.8 Having requested clarification from TetraTech, suppliers of the BTM outputs, the response was as follows:

> *The reason for these differences is that the turning movements for Padbury, Cherwell and Ardley are calculated by Select Link Analysis (SLA). The SLA process effectively runs one extra iteration of traffic assignment and hence the results are likely to be slightly different from the original model assignment.*
>
> *This SLA process is described in detail in SATURN manual Chapter 11. Section 11.8.1.2 states:*
>
> *"the routes which are reconstructed in order to carry out a select link analysis do not necessarily correspond exactly to those used within the actual assignment……..any output data at this level of disaggregation should always be taken with a large pinch of salt. We therefore recommend treating SLA outputs as representative rather than precise estimates."*

3.9 While this presents a level of uncertainty insofar as it is impossible for us to reconcile all matrix totals with the BTM turn count outputs, we still maintain this methodology is superior to the % growth method for the reasons outlined earlier.

3.10 Regarding the mainline movements that do not interact with Padbury/Ardley/Cherwell, no BTM output is available. As a result, as per the NH suggestion a growth factor is calculated by comparing total demands in the Base with the total demands in the 2026 and 2031 outputs. The total traffic in each case is calculated as the total amount of traffic from the strategic model outputs that correspond to counts that would enter the VISSIM model network.

3.11 The resulting growth factors are provided in **Table 1** below:

Table 1: 2026 and 2031 Growth Factors

	2026		2031	
	Lights	Heavies	Lights	Heavies
AM	116.0%	78.0%	129.4%	86.0%
PM	110.6%	89.8%	122.1%	94.9%

3.12 These growth totals are applied to the zone totals present within the Base VISSIM models, thereby providing the necessary mainline growth.

3.13 <u>The final proposed hourly demands for 2026 AM and PM Lights and Heavies matrices are contained within the "BTM 2026 Turning Movements" tab, cells AA32:AU54. It is proposed that these are entered into VISSIM as a single hourly matrix. Warm up and cool-down matrices will be calculated by applying the proportion present within the Base.</u>

3.14 <u>Corresponding 2031 demands are contained within the same location of the "BTM 2031 Turning Movements" tab.</u>

4 Next Steps

4.1 Following review of this proposed methodology, VM seek agreement from National Highways that it is considered appropriate for development of a 2026 and 2031 VISSIM Reference Case. Once agreed VM will run and report the Reference Cases whilst also reviewing the approach to the development demands, which assuming the above is agreeable will follow the exact same methodology to ensure consistency through the testing.

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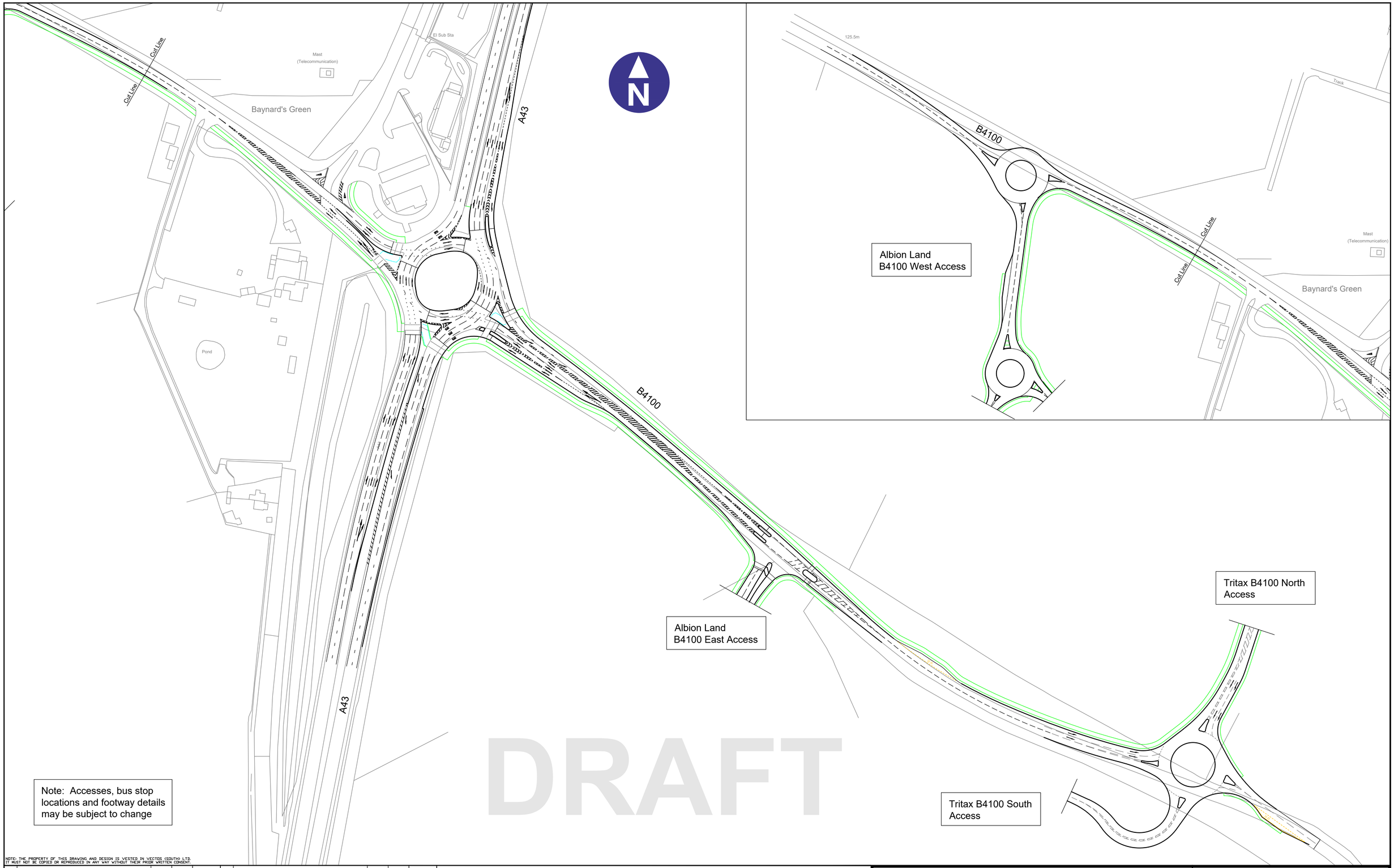
Appendix B: Development Site Accesses and Baynards Green Scheme



Note: Accesses, bus stop locations and footway details may be subject to change

REV.	DETAILS	DRAWN	CHECKED	DATE	REV.	DETAILS	DRAWN	CHECKED	DATE
A	West Albion access included.	RB	JB	25.04.23					

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

PROJECT:
Symmetry Park Ardley

CLIENT:
Tritax Group

DRAWING TITLE:
Baynards Green & B4100 Accesses
General Arrangement

DRAWN:	CHECKED:	DATE:	SCALES:	DRAWING NUMBER:	REVISION:
HC	RB	21.04.23	1:1250 at A1	216285/SK/06	A

Annex B

BTM Design Flows

Junction Reference	Junction Description	From Arm	To Arm	AM Peak							Inter Peak							PM Peak						
				Car	LGV	HGV (PCU)	HGV (Veh)	Bus (Veh)	Total Veh	Total PCUs	Car	LGV	HGV (PCU)	HGV (Veh)	Bus (Veh)	Total Veh	Total PCUs	Car	LGV	HGV (PCU)	HGV (Veh)	Bus (Veh)	Total Veh	Total PCUs
1	M40 J10 (Ardley roundabout)	A43 (E)	M40 NB On Slip	157	27	75	42	0	226	259	129	21	47	26	0	176	197	223	62	64	36	0	321	349
		A43 (E)	B430	774	137	23	13	0	923	934	256	15	22	12	0	283	293	353	25	0	0	0	379	379
		A43 (E)	A43 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		M40 NB Off Slip	B430	3	0	0	0	0	3	3	10	0	10	6	0	16	20	9	0	0	0	0	9	9
		M40 NB Off Slip	A43 (E)	908	154	96	53	0	1115	1157	608	145	212	118	0	872	965	1143	253	174	98	0	1494	1570
		M40 NB Off Slip	M40 NB Off Slip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		B430	A43 (E)	132	5	26	15	0	151	163	153	6	4	2	0	162	164	273	7	0	0	0	280	280
		B430	M40 NB On Slip	209	39	0	0	0	248	248	98	22	84	47	0	167	204	231	15	53	30	0	276	299
		B430	B430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
2	M40 J10 (Cherwell signal junction)	A43 (N)	Services	127	52	103	57	0	237	282	114	32	66	37	0	182	212	201	39	89	50	0	290	329
		A43 (N)	M40 SB On Slip	857	165	189	105	0	1128	1212	496	110	218	122	0	728	824	770	168	109	61	0	999	1047
		A43 (N)	A43 (W)	807	112	23	13	0	933	943	300	23	22	12	0	336	345	455	73	0	0	0	528	528
		A43 (N)	A43 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Services	M40 SB On Slip	124	23	94	52	0	199	240	109	29	54	30	0	168	191	189	18	79	45	0	252	287
		Services	A43 (W)	123	51	75	42	0	216	250	85	13	47	26	0	124	145	122	15	64	36	0	172	200
		Services	A43 (N)	44	6	21	12	0	61	70	38	5	15	8	0	51	57	65	7	22	12	0	85	94
		Services	Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A43 (W)	A43 (N)	851	139	95	53	0	1043	1085	646	139	174	97	0	882	959	1266	243	99	55	0	1564	1608
		A43 (W)	Services	184	19	27	15	0	219	231	115	13	42	23	0	151	169	148	17	75	42	0	208	241
		A43 (W)	M40 SB On Slip	5	0	0	0	0	5	5	0	0	0	0	0	0	0	1	0	0	0	0	1	1
		A43 (W)	A43 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	M40 J10 (Padbury signal junction)	M40 SB Off Slip	A43 (N)	205	49	42	23	0	278	296	108	15	82	46	0	169	206	217	43	0	0	0	260	260
		M40 SB Off Slip	A43 (S)	306	37	122	68	0	411	465	183	30	85	47	0	261	298	250	43	87	49	0	342	380
		A43 (N)	A43 (S)	1486	292	193	107	0	1886	1971	726	136	221	123	0	985	1083	1176	236	112	63	0	1475	1524
		A43 (S)	A43 (N)	894	145	116	64	0	1104	1155	684	144	189	105	0	933	1017	1332	250	121	68	0	1649	1702
		A43 (S)	A43 (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	A43 / B4100 (Baynards Green) junction	A43 (N)	B4100 (E)	316	40	0	0	0	356	356	168	22	10	6	0	195	200	220	22	16	9	0	251	258
		A43 (N)	A43 (S)	1301	275	193	107	0	1683	1769	588	128	219	122	0	838	935	982	185	112	63	0	1230	1279
		A43 (N)	B4100 (W)	25	8	0	0	0	33	33	27	1	0	0	0	28	28	53	0	0	0	0	53	53
		A43 (N)	A43 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (E)	A43 (S)	78	18	0	0	0	95	95	72	8	2	1	0	82	82	118	51	0	0	0	168	168
		B4100 (E)	B4100 (W)	188	49	44	24	0	262	281	150	19	37	21	0	189	206	285	14	2	1	0	300	301
		B4100 (E)	A43 (N)	206	17	27	15	0	238	250	190	15	8	5	0	210	213	324	24	0	0	0	348	348
		B4100 (E)	B4100 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A43 (S)	B4100 (W)	61	0	0	0	0	61	61	64	0	0	0	0	64	64	16	0	0	0	0	16	16
		A43 (S)	A43 (N)	854	144	115	64	0	1062	1114	620	144	185	103	0	867	949	1313	248	120	67	0	1628	1680
		A43 (S)	B4100 (E)	185	50	42	23	0	258	277	108	15	86	48	0	171	209	222	43	0	0	0	265	265
		A43 (S)	A43 (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (W)	A43 (N)	55	0	0	0	0	55	55	23	0	0	0	0	24	24	26	1	0	0	0	27	27
		B4100 (W)	B4100 (E)	308	43	12	7	0	357	362	173	13	0	0	0	186	186	198	11	8	5	0	214	217
		B4100 (W)	A43 (S)	115	0	0	0	0	115	115	66	0	0	0	0	66	66	77	0	0	0	0	77	77
		B4100 (W)	B4100 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	B4100 / Unnamed Road priority junction	B4100 (N)	Unnamed Road (E)	6	0	0	0	0	6	6	8	0	0	0	0	8	8	7	0	0	0	0	7	7
		B4100 (N)	B4100 (S)	803	133	54	30	0	965	989	441	50	96	54	0	545	588	633	77	24	14	0	723	734
		Unnamed Road (E)	B4100 (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Unnamed Road (E)	B4100 (N)	7	0	0	0	0	7	7	12	0	0	0	0	12	12	6	0	0	0	0	6	6
		B4100 (S)	B4100 (N)	464	84	70	39	0	588	619	400	42	48	27	0	468	489	720	89	2	1	0	810	811
		B4100 (S)	Unnamed Road (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	B4100 / The Green priority junction	B4100 (N)	The Green (E)	105	5	0	0	0	110	110	103	11	4	2	0	115	117	136	8	0	0	0	144	144
		B4100 (N)	B4100 (S)	698	127	54	30	0	855	879	339	39	93	52	0	429	471	497	69	24	14	0	579	590
		The Green (E)	B4100 (S)	19	7	0	0	0	25	25	6	0	0	0	0	6	6	27	15	0	0	0	42	42
		The Green (E)	B4100 (N)	67	22	0	0	0	89	89	83	6	2	1	0	90	91	117	28	0	0	0	145	145
		B4100 (S)	B4100 (N)	397	62	70	39	0	498	530	317	36	45	25	0	378	398	603	61	2	1	0	665	666
		B4100 (S)	The Green (E)	18	11	0	0	0	29	29	10	0	0	0	0	10	10	31	12	0	0	0	43	43
7	B4100 / Unnamed Road priority junction	B4100 (N)	Unnamed Road (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (N)	B4100 (S)	716	134	54	30	0	880	904	345	39	93	52	0	436	477	524	84	24	14	0	622	632
		Unnamed Road (E)	B4100 (S)	36	7	0	0	0	43	43	10	7	0	0	0	17	17	44	0	0	0	0	44	44
		Unnamed Road (E)	B4100 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (S)	B4100 (N)	415	73	70	39	0	528	559	326	36	45	25	0	388	408	634	73	2	1	0	708	709
		B4100 (S)	Unnamed Road (E)	9	0	0	0	0	9	9	9	11	0	0	0	20	20	38	6	0	0	0	44	44
8	B4100 / Bainton Road priority junction	B4100 (N)	B4100 (S)	729	136	54	30	2	897	923	353	44	93	52	2	451	494	563	84	24	14	2	662	675
		B4100 (N)	Bainton Road	23	5	0	0	0	28	28	2	2	0	0	0	4	4	6	0	0	0	0	6	6
		B4100 (S)	Bainton Road	19	2	0	0	0	21	21	5	0	0	0	0	5	5	7	1	0	0	0	8	8
		B4100 (S)	B4100 (N)	419	73	70	39	2	534	567	334	45	45	25	2	406	429	654	77	2	1	2	733	736
		Bainton Road	B4100 (N)	5	0	0	0	0	5	5	2	2	0	0	0	4	4	18	3	0	0	0	21	21
		Bainton Road	B4100 (S)	3	2	0	0	0	5	5	6	0	0	0	0	6	6	11	1	0	0	0	12	12
9	B4100 / Braeburn Avenue priority junction	B4100 (N)	B4100 (S)	729	138	54	30	2	899	925	351	44	93	52	2	449	492	555	84	24	14	2	655	668
		B4100 (N)	Braeburn Avenue	3	0	0	0	0	3	3	8	0	0	0	0	8	8	19	0	0	0	0	19	19
		B4100 (S)	Braeburn Avenue	8	0	0	0	0	8	8	24	0	0	0	0	24	24	41	0	0	0	0	41	41
		B4100 (S)	B4100 (N)	428	75	70	39	2	545	578	331	45	45	25	2	404	426	650	78	2	1	2	731	734
		Braeburn Avenue	B4100 (N)	11	0	0	0	0	11	11	8	0	0	0	0	8	8	10	0	0	0	0	10	10
		Braeburn Avenue	B4100 (S)	43	0	0	0	0	43	43	24	0	0	0	0	24	24	27	0	0	0	0	27	27
10	B4100 / Aunt Ems Lane priority junction	B4100 (N)	Aunt Elms Lane (E)	50	0	0	0	0	50	50	28	0	0	0	0	28	28	35	0	0	0	0	35	35
		B4100 (N)	B4100 (S)	753	150	54	30	2	935	961	349	44	85	47	2	443	482	575	84	24	14	2	675	687
		Aunt Elms Lane (E)	B4100 (S)	91	1	0	0	0	92	92	1	0	0	0	0	1	1	23	0	0	0	0	23	23
		Aunt Elms Lane (E)	B4100 (N)	20	2	0	0	0	21	21	19	0	0	0	0	19	19	28	0	0	0	0	28	28
		B4100 (S)	B4100 (N)	422	73	70	39	2	536	570	340	54	34	19	2	414	431	691	84	2	1	2	778	781
		B4100 (S)	Aunt Elms Lane (E)	1	0	0	0	0	1	1	3	0	0	0	0	3	3	5	0	0	0	0	5	5
11	B4100 / Charlotte Avenue priority junction	B4100 (N)	B4100 (S)	759	152	54	30	2	942	968	342	44	85	47	2	436	476	590	84	24	14	2	689	702
		B4100 (N)	Charlotte Avenue	85	0	0	0	0	85	85	7	0	0	0	0	7	7	8	0	0	0	0	8	8
		B4100 (S)	Charlotte Avenue	331	0	0	0	0	331	331	36	0	0	0	0	36	36	45	0	0	0	0	45	45
		B4100 (S)	B4100 (N)	415	73	70	39	2	530	563	312	54	34	19	2	387	404	670	84	2	1	2	757	760
		Charlotte Avenue	B4100 (N)	8	0	0	0	0	8	8	30	0	0	0	0	30	30	26	0	0	0	0	26	26
		Charlotte Avenue	B4100 (S)	68	0	0	0	0	68	68	88	0	0	0	0	88	88	66	0	0	0	0	66	66
12	A4095 / B4100 / Banbury Road roundabout	B4100 (N)	A4095 (E)	389	96	54	30	0	514	538	177	27	80	45	0	249	285	334	50	24	14	0	398	408
		B4100 (N)	Banbury Road (S)	300	43	0	0	2	346	348	144	15	5	3	2	164	168	142	33	0	0	2	177	179
		B4100 (N)	A4095 (W)	137	13	0	0	0	150	150	109	2	0	0	0	111	111	180	0	0	0	0	180	180
		B4100 (N)	B4100 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Banbury Road (S)	72	0	0	0	0	72	72	44	2	0	0	0	46	46	66	0	0	0	0	66	66
		A4095 (E)	A4095 (W)	354	54	160	89	0	498	569	371	89	177	98	0	558	636	596	76	105	59	0	731	777
		A4095 (E)	B4100 (N)	380	56	70	39	0	475	506	153	34	26	15	0	202	214	427	60	2	1	0	488	489
		A4095 (E)	A4095 (E)	1	0	0	0	0	1	1	1	0	0	0	0	1	1	2	0	0	0	0	2	2
		Banbury Road (S)	A4095 (W)	42	0	0	0	0	42	42	23	0	3	2	0	24	26	40	0	0	0	0	40	40
		Banbury Road (S)	B4100 (N)	158	17	0	0	2	177	179	117	20	7	4	2	142	148	193	15	0	0	2	210	212
		Banbury Road (S)	A4095 (E)	69	0	9	5	0	74	78	53	3	0	0	0	56	56	127	4	0	0	0	131	131
		Banbury Road (S)	Banbury Road (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (W)	B4100 (N)	209	0	0	0	0	209	209	78	0	0	0	0	78	78	95	9	0	0	0	104	104
		A4095 (W)	A4095 (E)	505	51	177	99	0	654	733	414	58	158	88	0	559	629	634	64	118	66	0	764	816
		A4095 (W)	Banbury Road (S)	15	0	0	0	0	15	15	21	0	3	2	0	23	24	47	0	0	0	0	47	47
		A4095 (W)	A4095 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	A4095 / Germander Way priority junction	A4095 (W)	A4095 (E)	693	50	177	99	0	842	920	497	54	161	90	0	641	712	759	73	118	66	0	898	950
		A4095 (W)	Germander Way	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Germander Way	18	0	0	0	0	18	18	18	3	0	0	0	20	20	53	1	0	0	0	53	53
		A4095 (E)	A4095 (W)	515	67	160	89	0	672	743	485	88	180	100	0	673	753	762	76	105	59	0	897	943
		Germander Way	A4095 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Germander Way	A4095 (E)	36	1	0	0	0	37	37	16	3	0	0	0	19	19	17	0	0	0	0	17	17
14	A4095 / Lucerne Avenue priority junction	A4095 (W)	A4095 (E)	615	50	177	99	0	764	842	460	54	161	90	0	604	675	721	58	118	66	0	845	897
		A4095 (W)	Lucerne Avenue	115	7	0	0	0	122	122	64	4	0	0	0	68	68	100	0	0	0	0	101	101
		A4095 (E)	Lucerne Avenue	46	10	0	0	0	56	56	42	1	0	0	0	43	43	94	0	0	0	0	94	94
		A4095 (E)	A4095 (W)	470	57	160	89	0	616	687	443	87	180	100	0	630	710	668	76	105	59	0	803	849
		Lucerne Avenue	A4095 (W)	81	13	0	0	0	94	94	106	9	0	0	0	115	115	90	7	0	0	0	97	97
		Lucerne Avenue	A4095 (E)	78	0	0	0	0	78	78	37	0	0	0	0	37	37	38	14	0	0	0	53	53
15	A4095 / Purslane Drive priority junction	A4095 (W)	A4095 (E)	688	57	177	99	0	843	922	507	58	161	90	0	655	726	801	59	118	66	0	926	977
		A4095 (W)	Purslane Drive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Purslane Drive	13	0	0	0	0	13	13	15	0	0	0	0	15	15	42	0	0	0	0	42	42
		A4095 (E)	A4095 (W)	537	70	160	89	0	697	768	535	95	180	100	0	730	810	716	83	105	59	0	858	904
		Purslane Drive	A4095 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
		Purslane Drive	A4095 (E)	43	0	0	0	0	43	43	17	0	0	0	0	17	17	20	0	0	0	0	20	20
16	A4095 / Trefoil Drive priority junction	A4095 (W)	A4095 (E)	687	57	177	99	0	843	922	506	58	161	90	0	654	726	800	59	118	66	0	926	977
		A4095 (W)	Trefoil Drive	18	0	0	0	0	18	18	36	0	0	0	0	36	36	80	10	0	0	0	89	89
		A4095 (E)	Trefoil Drive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
		A4095 (E)	A4095 (W)	537	70	160	89	0	697	768	535	95	180	100	0	730	810	716	83	105	59	0	858	904
		Trefoil Drive	A4095 (W)	64	14	0	0	0	78	78	32	0	0	0	0	32	32	41	0	0	0	0	41	41
		Trefoil Drive	A4095 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
17	A4095 / Bucknell Road roundabout	Bucknell Road (N)	A4095 (E)	130	8	39	22	0	160	177	57	5	31	17	0	79	93	80	11	25	14	0	105	116
		Bucknell Road (N)	Bucknell Road (S)	28	19	23	13	0	60	70	25	12	20	11	0	48	57	43	17	7	4	0	63	66
		Bucknell Road (N)	Bucknell Road (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Bucknell Road (S)	489	60	160	89	0	638	709	560	94	115	64	0	718	768	708	78	57	32	0	817	842
		A4095 (E)	Bucknell Road (N)	113	24	0	0	0	137	137	6	2	65	36	0	44	73	49	5	49	27	0	81	102
		A4095 (E)	A4095 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Bucknell Road (S)	Bucknell Road (N)	79	33	26	14	0	126	138	30	17	22	12	0	59	69	72	15	6	3	0	90	93
		Bucknell Road (S)	A4095 (E)	575	49	139	77	0	702	763	486	54	130	72	0	612	669	800	58	92	52	0	910	950
		Bucknell Road (S)	Bucknell Road (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Bucknell Road / Howes Lane priority junction	Bucknell Road (N)	Bucknell Road (S)	135	19	0	0	0	154	154	134	20	0	0	0	154	154	253	19	0	0	0	272	272
		Bucknell Road (N)	Howes Lane (W)	426	60	183	102	0	588	669	451	86	134	75	0	612	672	497	75	63	36	0	608	636
		Bucknell Road (S)	Howes Lane (W)	205	96	12	7	0	308	313	45	0	10	6	0	51	56	170	36	10	6	0	211	216
		Bucknell Road (S)	Bucknell Road (N)	280	32	2	1	0	313	314	131	14	2	1	0	146	147	259	19	2	1	0	279	280
		Howes Lane (W)	Bucknell Road (N)	375	49	162	90	0	514	586	385	56	150	83	0	525	591	613	54	96	54	0	721	764
		Howes Lane (W)	Bucknell Road (S)	12	1	0	0	0	14	14	18	1	0	0	0	19	19	6	0	3	2	0	7	9

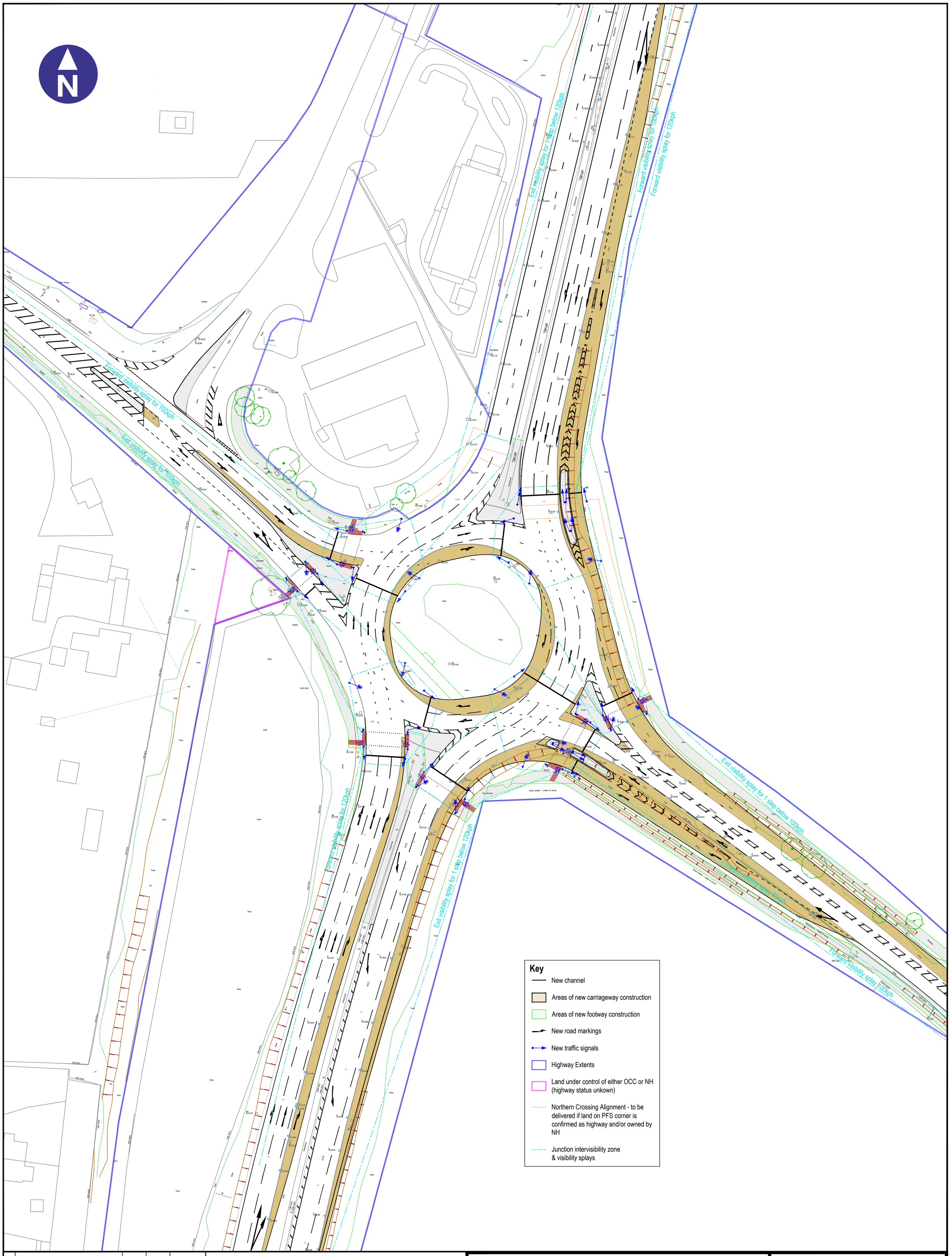
Bicester Transport Model Junction Turning Movements (2026 Reference Case Scenario)

Junction Reference	Junction Description	From Arm	To Arm	AM Peak							Inter Peak							PM Peak						
				Car	LGV	HGV (PCU)	HGV (Veh)	Bus (Veh)	Total Veh	Total PCUs	Car	LGV	HGV (PCU)	HGV (Veh)	Bus (Veh)	Total Veh	Total PCUs	Car	LGV	HGV (PCU)	HGV (Veh)	Bus (Veh)	Total Veh	Total PCUs
1	M40 J10 (Ardley roundabout)	A43 (E)	M40 NB On Slip	201	53	80	44	0	299	334	134	34	49	27	0	194	216	318	73	66	37	0	428	457
		A43 (E)	B430	829	126	24	14	0	969	980	268	16	7	4	0	289	291	402	85	0	0	0	488	488
		A43 (E)	A43 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		M40 NB Off Slip	B430	3	4	0	0	0	8	8	10	0	11	6	0	16	21	9	0	0	0	0	9	9
		M40 NB Off Slip	A43 (E)	1017	185	103	57	0	1259	1305	797	165	218	122	0	1083	1180	1216	296	191	108	0	1619	1702
		M40 NB Off Slip	M40 NB Off Slip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
		B430	A43 (E)	254	9	0	0	0	263	263	249	19	4	2	0	270	272	334	4	0	0	0	339	339
		B430	M40 NB On Slip	186	17	0	0	0	203	203	96	15	77	43	0	155	189	232	9	55	31	0	272	296
		B430	B430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
2	M40 J10 (Cherwell signal junction)	A43 (N)	Services	139	57	110	61	0	257	305	120	34	68	38	0	192	222	212	41	92	52	0	306	346
		A43 (N)	M40 SB On Slip	917	180	253	141	0	1238	1350	684	122	225	125	0	931	1031	819	147	113	63	0	1030	1079
		A43 (N)	A43 (W)	903	125	25	14	0	1042	1052	312	37	7	4	0	353	356	573	136	0	0	0	709	709
		A43 (N)	A43 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Services	M40 SB On Slip	131	24	96	54	0	209	251	115	30	55	31	0	176	201	181	13	82	46	0	239	275
		Services	A43 (W)	130	54	77	43	0	227	262	90	13	49	27	0	130	152	147	22	66	37	0	207	235
		Services	A43 (N)	46	6	22	12	0	64	74	40	5	15	8	0	53	60	69	7	23	13	0	89	99
		Services	Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A43 (W)	A43 (N)	1058	171	73	41	0	1270	1303	921	171	179	100	0	1191	1270	1386	279	108	61	0	1726	1773
		A43 (W)	Services	199	21	29	16	0	236	249	121	13	43	24	0	158	178	164	19	82	46	0	229	265
		A43 (W)	M40 SB On Slip	11	0	0	0	0	11	11	3	0	0	0	0	3	3	1	0	0	0	0	1	1
		A43 (W)	A43 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	M40 J10 (Padbury signal junction)	M40 SB Off Slip	A43 (N)	251	53	43	24	0	328	347	130	21	93	52	0	202	244	210	56	0	0	0	266	266
		M40 SB Off Slip	A43 (S)	338	39	126	70	0	447	502	171	27	71	40	0	238	270	288	46	89	50	0	383	422
		A43 (N)	A43 (S)	1623	324	259	144	0	2090	2205	945	165	228	127	0	1237	1338	1318	279	115	65	0	1661	1712
		A43 (S)	A43 (N)	1104	177	95	53	0	1334	1377	961	175	194	108	0	1244	1330	1455	286	131	74	0	1815	1872
		A43 (S)	A43 (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	A43 / B4100 (Baynards Green) junction	A43 (N)	B4100 (E)	335	43	0	0	0	378	378	152	23	11	6	0	181	186	246	23	17	9	0	279	286
		A43 (N)	A43 (S)	1414	269	249	138	0	1822	1932	787	145	226	126	0	1057	1157	1074	218	115	65	0	1356	1406
		A43 (N)	B4100 (W)	31	8	0	0	0	40	40	29	1	0	0	0	30	30	61	0	0	0	0	61	61
		A43 (N)	A43 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (E)	A43 (S)	117	42	0	0	0	159	159	72	20	2	1	0	94	95	209	60	0	0	0	269	269
		B4100 (E)	B4100 (W)	203	67	45	25	0	295	315	155	18	47	26	0	199	220	278	15	2	1	0	294	295
		B4100 (E)	A43 (N)	207	18	54	30	0	256	280	191	16	9	5	0	211	215	377	25	0	0	0	402	402
		B4100 (E)	B4100 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A43 (S)	B4100 (W)	60	0	0	0	0	60	60	63	0	0	0	0	63	63	12	0	0	0	0	12	12
		A43 (S)	A43 (N)	1060	172	92	51	0	1282	1323	894	175	191	106	0	1176	1260	1538	272	123	69	0	1880	1933
		A43 (S)	B4100 (E)	242	54	43	24	0	320	339	134	20	96	54	0	208	251	238	56	0	0	0	294	294
		A43 (S)	A43 (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (W)	A43 (N)	77	0	0	0	0	77	77	30	0	0	0	0	31	31	50	6	0	0	0	56	56
		B4100 (W)	B4100 (E)	342	60	13	7	0	410	416	167	22	0	0	0	188	188	230	14	14	8	0	251	257
		B4100 (W)	A43 (S)	111	0	0	0	0	111	111	87	0	0	0	0	87	87	36	0	0	0	0	36	36
		B4100 (W)	B4100 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	B4100 / Unnamed Road priority junction	B4100 (N)	Unnamed Road (E)	8	0	0	0	0	8	8	8	0	0	0	0	8	8	8	0	0	0	0	8	8
		B4100 (N)	B4100 (S)	912	156	56	31	0	1099	1124	445	65	107	60	0	569	617	706	94	30	17	0	816	829
		Unnamed Road (E)	B4100 (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Unnamed Road (E)	B4100 (N)	9	0	0	0	0	9	9	10	0	0	0	0	10	10	7	24	0	0	0	31	31
		B4100 (S)	B4100 (N)	518	128	99	55	0	701	745	407	55	58	32	0	494	519	858	77	2	1	0	936	937
		B4100 (S)	Unnamed Road (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	B4100 / The Green priority junction	B4100 (N)	The Green (E)	115	6	0	0	0	120	120	109	18	4	2	0	129	131	125	18	0	0	0	143	143
		B4100 (N)	B4100 (S)	797	151	56	31	0	979	1004	336	47	104	58	0	440	486	581	76	30	17	0	673	687
		The Green (E)	B4100 (S)	12	0	0	0	0	12	12	6	0	0	0	0	6	6	27	16	0	0	0	43	43
		The Green (E)	B4100 (N)	70	23	0	0	0	94	94	89	5	2	1	0	96	97	120	6	0	0	0	126	126
		B4100 (S)	B4100 (N)	447	104	99	55	0	607	651	318	49	56	31	0	398	423	737	71	2	1	0	810	810
		B4100 (S)	The Green (E)	16	8	0	0	0	24	24	10	0	0	0	0	10	10	32	12	0	0	0	45	45
7	B4100 / Unnamed Road priority junction	B4100 (N)	Unnamed Road (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (N)	B4100 (S)	809	151	56	31	0	991	1016	342	47	104	58	0	447	493	608	92	30	17	0	717	730
		Unnamed Road (E)	B4100 (S)	48	14	0	0	0	62	62	9	3	0	0	0	12	12	39	0	0	0	0	39	39
		Unnamed Road (E)	B4100 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		B4100 (S)	B4100 (N)	463	112	99	55	0	631	675	327	49	56	31	0	408	432	770	84	2	1	0	855	855
		B4100 (S)	Unnamed Road (E)	28	1	0	0	0	28	28	10	11	0	0	0	22	22	242	7	0	0	0	249	249
8	B4100 / Bainton Road priority junction	B4100 (N)	B4100 (S)	825	160	56	31	2	1019	1046	346	47	104	58	2	453	501	637	92	30	17	2	747	763
		B4100 (N)	Bainton Road	31	5	0	0	0	37	37	5	2	0	0	0	7	7	10	0	0	0	0	10	10
		B4100 (S)	Bainton Road	37	14	0	0	0	51	51	13	0	0	0	0	13	13	16	1	0	0	0	17	17
		B4100 (S)	B4100 (N)	466	112	99	55	2	635	681	334	59	56	31	2	426	453	766	88	2	1	2	857	860
		Bainton Road	B4100 (N)	25	1	0	0	0	26	26	3	2	0	0	0	5	5	245	3	0	0	0	248	248
		Bainton Road	B4100 (S)	19	7	0	0	0	26	26	21	0	0	0	0	21	21	25	6	0	0	0	31	31
9	B4100 / Braeburn Avenue priority junction	B4100 (N)	B4100 (S)	841	167	56	31	2	1041	1068	358	47	104	58	2	465	513	642	98	30	17	2	758	773
		B4100 (N)	Braeburn Avenue	4	0	0	0	0	4	4	9	0	0	0	0	9	9	20	0	0	0	0	20	20
		B4100 (S)	Braeburn Avenue	7	0	0	0	0	7	7	23	0	0	0	0	23	23	40	0	0	0	0	40	40
		B4100 (S)	B4100 (N)	489	127	99	55	2	672	718	339	59	56	31	2	431	458	771	89	2	1	2	863	865
		Braeburn Avenue	B4100 (N)	14	0	0	0	0	14	14	8	0	0	0	0	8	8	12	0	0	0	0	12	12
		Braeburn Avenue	B4100 (S)	40	0	0	0	0	40	40	24	0	0	0	0	24	24	25	0	0	0	0	25	25
10	B4100 / Aunt Ems Lane priority junction	B4100 (N)	Aunt Elms Lane (E)	76	0	0	0	0	76	76	35	0	0	0	0	35	35	39	0	0	0	0	39	39
		B4100 (N)	B4100 (S)	829	168	56	31	2	1030	1057	347	47	96	53	2	449	494	652	92	30	17	2	762	777
		Aunt Elms Lane (E)	B4100 (S)	125	1	0	0	0	127	127	1	0	0	0	0	1	1	30	0	0	0	0	30	30
		Aunt Elms Lane (E)	B4100 (N)	29	2	0	0	0	31	31	30	0	0	0	0	30	30	41	0	0	0	0	41	41
		B4100 (S)	B4100 (N)	465	112	99	55	2	635	681	334	68	44	24	2	429	450	794	90	2	1	2	888	890
		B4100 (S)	Aunt Elms Lane (E)	2	0	0	0	0	2	2	4	0	0	0	0	4	4	4	0	0	0	0	4	4
11	B4100 / Charlotte Avenue priority junction	B4100 (N)	B4100 (S)	823	169	56	31	2	1026	1053	333	47	96	53	2	436	480	654	92	30	17	2	765	780
		B4100 (N)	Charlotte Avenue	131	0	0	0	0	131	131	15	0	0	0	0	15	15	27	0	0	0	0	27	27
		B4100 (S)	Charlotte Avenue	339	21	0	0	0	360	360	52	1	67	37	0	91	121	100	5	51	28	0	133	155
		B4100 (S)	B4100 (N)	456	112	99	55	2	625	671	291	68	44	24	2	386	407	757	90	2	1	2	850	853
		Charlotte Avenue	B4100 (N)	11	0	0	0	0	11	11	47	0	0	0	0	47	47	42	0	0	0	0	42	42
		Charlotte Avenue	B4100 (S)	113	0	39	22	6	140	164	117	5	32	18	6	146	166	106	7	26	15	6	133	151
12	A4095 / B4100 / Banbury Road roundabout	B4100 (N)	A4095 (E)	429	115	95	53	0	597	639	232	29	122	68	0	329	383	433	60	56	32	0	524	549
		B4100 (N)	Banbury Road (S)	377	53	0	0	2	432	434	150	19	5	3	2	174	178	165	38	0	0	2	205	207
		B4100 (N)	A4095 (W)	130	1	0	0	6	137	143	68	5	0	0	6	80	86	163	0	0	0	6	169	175
		B4100 (N)	B4100 (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Banbury Road (S)	72	0	0	0	0	72	72	64	2	0	0	0	67	67	76	0	0	0	0	76	76
		A4095 (E)	A4095 (W)	334	47	115	64	0	446	496	182	28	109	61	0	270	318	410	25	50	28	0	463	485
		A4095 (E)	B4100 (N)	520	85	72	40	0	645	677	191	39	103	57	0	287	333	572	70	53	30	0	672	695
		A4095 (E)	A4095 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
		Banbury Road (S)	A4095 (W)	49	0	0	0	0	49	49	20	0	3	2	0	22	24	47	0	0	0	0	47	47
		Banbury Road (S)	B4100 (N)	224	48	0	0	2	274	276	103	31	7	4	2	140	145	222	25	0	0	2	248	250
		Banbury Road (S)	A4095 (E)	105	0	10	5	0	111	115	82	20	0	0	0	102	102	149	4	0	0	0	153	153
		Banbury Road (S)	Banbury Road (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (W)	B4100 (N)	51	0	27	15	0	66	78	49	0	0	0	0	49	49	62	0	0	0	0	62	62
		A4095 (W)	A4095 (E)	291	20	130	72	0	383	441	147	14	111	62	0	223	272	386	56	70	39	0	481	512
		A4095 (W)	Banbury Road (S)	18	0	0	0	0	18	18	19	0	3	2	0	21	22	49	0	0	0	0	49	49
		A4095 (W)	A4095 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	A4095 / Germander Way priority junction	A4095 (W)	A4095 (E)	286	19	156	87	0	392	461	171	10	115	64	0	246	296	451	56	70	39	0	547	577
		A4095 (W)	Germander Way	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Germander Way	18	0	0	0	0	18	18	17	3	0	0	0	20	20	48	1	0	0	0	48	48
		A4095 (E)	A4095 (W)	486	49	115	64	6	605	661	230	30	112	62	6	329	384	527	25	50	28	6	586	614
		Germander Way	A4095 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Germander Way	A4095 (E)	34	1	0	0	0	35	35	16	4	0	0	0	20	20	18	0	0	0	0	18	18
14	A4095 / Lucerne Avenue priority junction	A4095 (W)	A4095 (E)	242	19	156	87	0	348	417	148	10	115	64	0	222	273	440	41	70	39	0	520	550
		A4095 (W)	Lucerne Avenue	60	1	0	0	0	62	62	35	1	0	0	0	36	36	87	0	0	0	0	88	88
		A4095 (E)	Lucerne Avenue	47	11	0	0	0	58	58	45	1	0	0	0	46	46	99	0	0	0	0	99	99
		A4095 (E)	A4095 (W)	484	38	115	64	6	591	648	204	29	112	62	6	301	357	450	25	50	28	6	509	537
		Lucerne Avenue	A4095 (W)	113	1	0	0	0	115	115	49	3	0	0	0	52	52	79	3	0	0	0	82	82
		Lucerne Avenue	A4095 (E)	72	0	0	0	0	72	72	38	0	0	0	0	38	38	38	15	0	0	0	53	53
15	A4095 / Purslane Drive priority junction	A4095 (W)	A4095 (E)	150	10	2	1	0	161	162	100	0	2	1	0	101	102	186	2	2	1	0	190	191
		A4095 (W)	Purslane Drive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		A4095 (E)	Purslane Drive	16	0	0	0	0	16	16	18	0	0	0	0	18	18	48	0	0	0	0	48	48
		A4095 (E)	A4095 (W)	177	0	0	0	0	177	177	117	16	0	0	0	132	132	244	13	0	0	0	257	257
		Purslane Drive	A4095 (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Purslane Drive	A4095 (E)	36	0	0	0	0	36	36	16	0	0	0	0	16	16	18	0	0	0	0	18	18
16	A4095 / Trefoil Drive priority junction	A4095 (W)	A4095 (E)	150	10	2	1	0	161	162	100	0	2	1	0	101	102	186	2	2	1	0	190	191
		A4095 (W)	Trefoil Drive	11	0	0	0	0	11	11	28	0	0	0	0	28	28	67	10	0	0	0	77	77
		A4095 (E)	Trefoil Drive	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	1	1
		A4095 (E)	A4095 (W)	177	0	0	0	0	177	177	116	16	0	0	0	132	132	244	13	0	0	0	257	257
		Trefoil Drive	A4095 (W)	79	14	0	0	0	93	93	34	0	0	0	0	34	34	43	0	0	0	0	43	43
		Trefoil Drive	A4095 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	A4095 / Bucknell Road priority junction	Bucknell Road (N)	A4095 (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Bucknell Road (N)	Bucknell Road (S)	0	0	0	0	12	12	24	0	0	0	0	12	12	24	0	0	0	0	12	12	24
		A4095 (E)	Bucknell Road (S)	256	15	0	0	0	270	270	150	16	0	0	0	166	166	287	13	0	0	0	300	300
		A4095 (E)	Bucknell Road (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Bucknell Road (S)	Bucknell Road (N)	0	0	0	0	12	12	24	0	0	0	0	12	12	24	0	0	0	0	12	12	24
		Bucknell Road (S)	A4095 (E)	162	10	2	1	0	173	174	128	0	2	1	0	129	130	253	13	2	1	0	267	268
18	Bucknell Road / Howes Lane priority junction	Bucknell Road (N)	Bucknell Road (S)	73	0	0	0	12	85	97	37	5	0	0	12	55	67	95	0	0	0	12	107	119
		Bucknell Road (N)	Howes Lane (W)	183	14	0	0	0	197	197	113	10	0	0	0	123	123	192	13	0	0	0	205	205
		Bucknell Road (S)	Howes Lane (W)	6	0	13	7	0	13	19	20	0	11	6	0	26	31	38	0	11	6	0	44	48
		Bucknell Road (S)	Bucknell Road (N)	55	1	2	1	12	69	82	25	0	2	1	12	38	51	46	2	2	1	12	61	74
		Howes Lane (W)	Bucknell Road (N)	106	9	0	0	0	115	115	103	0	0	0	0	103	103	208	10	0	0	0	218	218
		Howes Lane (W)	Bucknell Road (S)	16	0	0	0	0	16	16	21	0	0	0	0	21	21	40	0	3	2	0	42	43
19	SLR / A4095 signal junction	SLR	A4095 (E)	127	11	154	86	0	223	292	70	11	112	63	0	143	193	327	41	67	38	0	406	436
		SLR	A4095 (W)	3	0	0	0	0	3	3	1	0	0	0	0	1	1	2	0	0	0	0	2	2
		A4095 (E)	A4095 (W)	190	0	0	0	0	190	190	134	16	0	0	0	149	149	291	13	0	0	0	304	304
		A4095 (E)	SLR	407	39	115	64	6	516	573	119	16	112	62	6	204	260	238	15	50	28	6	287	315
		A4095 (W)	SLR	11	1	0	0	0	11	11	2	0	0	0	0	2	2	4	2	0	0	0	7	7
		A4095 (W)	A4095 (E)	176	9	2	1	0	186	187	114	0	2	1	0	115	116	200	0	2	1	0	201	202
20	SLR / Bucknell Road / NWB Access signal junction	NWB Access Road	SLR (E)	34	1	0	0	0	36	36	18	0	0	0	0	18	18	20	0	0	0	0	20	20
		NWB Access Road	Bucknell Road (S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		NWB Access Road	SLR (W)	46	15	24	13	0	74	84	41	1	0	0	0	42	42	45	7	0	0	0	52	52
		SLR (E)	Bucknell Road (S)	0	0	0	0	6	6	12	0	0	0	0	6	6	12	0	0	0	0	6	6	12
		SLR (E)	SLR (W)	381	39	115	64	0	484	535	106	16	112	62	0	185	234	213	12	50	28	0	253	275
		SLR (E)	NWB Access Road	37	1	0	0	0	37	37	15	0	0	0	0	15	15	29	6	0	0	0	35	35
		Bucknell Road (S)	SLR (W)	0	0	0	0	6	6	12	0	0	0	0	6	6	12	0	0	0	0	6	6	12
		Bucknell Road (S)	NWB Access Road	0	0	0	0	6	6	12	0	0	0	0	6	6	12	0	0	0	0	6	6	12
		Bucknell Road (S)	SLR (E)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		SLR (W)	NWB Access Road	99	10	0	0	0	109	109	23	6	14	8	0	36	42	48	6	6	4	0	58	61
		SLR (W)	SLR (E)	95	10	154	86	0	190	259	53	11	112	63	0	126	176	308	41	67	38	0	388	417
		SLR (W)	Bucknell Road (S)	0	0	0	0	6	6	12	0	0	0	0	6	6	12	0	0	0	0	6	6	12

Bicester Transport Model Junction Turning Movements (2031 Reference Case Scenario)

Annex C

Drawing 216285/A/14 – Baynards Green Junction Improvement GA



REV.	DETAILS	DRAWN	CHECKED	DATE
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Notes:

1. This is not a construction drawing and is intended for illustrative purposes only. White lining is indicative only.
2. Do not scale.
3. Topographical survey provided by National Highways

Symmetry Park

A43 / B4100 Baynards Green Roundabout Junction Improvement General Arrangement

DRAWN:	CHECKED:	DATE:	SCALES:
RB	JB	15.05.23	1:500 @A1

Tritax Symmetry

SLR

DRAWING NUMBER:	REVISION:
216285/A/14	-

Annex D

Drawing 216285/A/16 – Baynards Green Junction Improvement DMRB Compliance Plan