

MIRA Technology Park
South Site

Transport Assessment
Addendum prepared on behalf
of ERI MTP Limited

September 2023

MIRA Technology Park South Site

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1. Introduction

- 1.1 This Transport Assessment Addendum (TAA) has been prepared by Milestone Transport Planning (MTP) on behalf of ERI MTP Limited (*'the applicant'*) in support of a planning application (Ref. PAP/2022/0423) for *"Outline planning permission for Extension of MIRA Technology Park to comprise employment use (Class B2); associated office and service uses (Class Eg); storage (Class B8); new spine road; car parking, landscaping and enabling works - All matters reserved"* on land located to the south of the A5 Watling Street (the *"Site"*), also referred to as the MIRA Technology Park South Site.
- 1.2 The above-mentioned planning application was validated by the Local Planning Authority, North Warwickshire Borough Council (NWBC), on 15th September 2022. The planning application was supported by a Transport Assessment (TA) and Framework Travel Plan (TP) prepared by MTP.
- 1.3 Following submission of the planning application comments were received from Statutory Consultees including National Highways (NH), Warwickshire County Council (WCC), Leicestershire County Council (LCC), local Parish Councils, residents, and business owners.
- 1.4 NH, as the Highway Authority for the Strategic Road Network (SRN), provided a formal consultation response on 12th October 2022. A copy of the consultation response is attached at Appendix 1.
- 1.5 *NH "...recommended that this application (Ref: 5/2023/0983) should not be approved for a period of 56 days (until 25 August 2023) from the date of this recommendation to allow further assessment to be undertaken and to enable us to provide the Local Planning Authority with fully informed advice".*
- 1.6 LCC, as the Highway Authority for routes extending north and east from the MIRA Technology Park South Site development, provided a formal consultation response on 21st September 2022. A copy of the consultation response is attached at Appendix 2.
- 1.7 Within the consultation response, LCC stated their principal concern was that within the submitted TA *"...the methodology undertaken would predominantly disregard the potential highway impact in Leicestershire"*.
- 1.8 Whilst comments from WCC, as the leading Highway Authority, were raised during virtual Teams meeting on 24th October 2022 and 4th November 2022, respectively.
- 1.9 In order to further understand the Consultee comments, as well as discuss how to progress the application, a virtual meeting was held on 13th December 2022 between MTP, NH, WCC, and LCC. This was the first of several virtual meetings post submission and in preparation of this TAA.
- 1.10 The purpose of this TAA is to provide a summary of the productive discussions within the virtual meetings, as well as address any outstanding comments from the Consultees. These comments can be grouped into general key topic headings which form the structure of the remaining sections of the TAA as follows:
- Traffic Modelling;
 - Layout / Junction Design; and
 - Sustainable Transport Infrastructure.

2. Traffic Modelling

- 2.1 Within the submitted TA, the impact of the development proposals on the operation of the wider highway network was assessed through the use of WCC's Nuneaton and Bedworth Wide Area (NBWA) Paramics model.
- 2.2 Analysis was undertaken of the maximum queue length information for the individual junctions under the 2031 NBWA '*Reference Case*' and '*Reference Case + Development*' scenarios. The analysis revealed 11 junctions where the potential impact of the development-related traffic flows resulted in an increase in queuing, on at least one of the arms, by >20 vehicles.
- 2.3 Following the identification of the 11 junctions, Vectos Microsim (VM) provided detailed turning count information for the individual junctions from the NBWA paramics model. This represented demand flows, which were used as inputs for junction capacity assessments in Section 8 of the submitted TA.
- 2.4 The following section of the TAA addresses comments received from the Statutory Consultees regarding Traffic Modelling. Consultee comments are considered in turn below and reproduced in italics at the beginning of each section for reference.

Leicestershire's Pan Regional Transport Model (PRTM)

- 2.5 During the virtual meeting on 13th December 2022, it was agreed with LCC that AECOM would be commissioned to undertake strategic modelling to assess the potential traffic impacts of the development proposals using Leicestershire's Pan-Regional Transport Model (PRTM).
- 2.6 The PRTM modelling has based on the planning data and network assumptions agreed with Consultees during various virtual meetings.
- 2.7 The full PRTM forecasting report prepared by AECOM is attached at Appendix 3.
- 2.8 As stated within the report, in addition to the calibrated 2019 base year model, the following forecast model scenarios have been produced:
- 2031 '*Without Development*'; and
 - 2031 '*With Development*'.
- 2.9 Of note, the '*With Development*' scenario includes the Site accesses, A5-A444 link road, and associated infrastructure upgrades detailed within the submitted TA.
- 2.10 The forecasting report states "*An Area of Influence for the proposed development has been defined by identifying links which are forecast to change by more than $\pm 5\%$ and ± 30 PCUs between the 'With Development' and 'Without Development' scenarios for 2031 in either the AM Peak or PM Peak hours.*".
- 2.11 Following the identification of this area, AECOM extracted individual turning flows for the following 9 junctions in the vicinity of the development proposals:
- A5 / B4111 / B4116 Mancetter Island*;
 - A5 Watling Street / Drayton Lane*;

- A5 Watling Street / Woodford Lane*;
- A5 / A444 Redgate Island*;
- A444 Atherstone Road / Old Forge Road;
- A5 / MIRA Roundabout*;
- A5 Watling Street / Higham Lane*;
- A5 / A47 The Long Shoot; and
- A5 / A47 / B4666 Dodwells Roundabout.

**Also assessed with NBWA flows as per paragraph 2.3.*

- 2.12 PRTM traffic flow diagrams for the above junctions are attached at Appendix 4.
- 2.13 As per the submitted TA, and the NBWA outputs, the detailed turning flows have been used as inputs for individual junction capacity assessments, these are analysed in the following section of the TAA.
- 2.14 Of note, within NH consultation response, fully dimensioned plans were requested so that the model inputs could be verified. As such, these are provided within the following section of the TAA.
- 2.15 Overall, despite the difference in inputted flows, the conclusions of the junction capacity analysis within the submitted TA remain broadly unchanged or improved upon. Nonetheless, the revised junction capacity analysis is detailed below.

A5 / B4111 / B4116 Mancetter Island

- 2.16 As per the submitted TA, to solely focus on the interaction between Watling Street and the A5, the operation of the junction has been modelling using PICADY based on the weekday AM and PM peak hourly periods under 2031 'Without Development' and 'With Development' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK07 Rev A), is included as Appendix 5 and summarised in Tables 2.1a and 2.1b.
- 2.17 For comparative purposes the results from the 2031 'Reference Case' and 'Reference Case + Development + DS' NBWA scenarios, which are detailed in the submitted TA, are also included in Tables 2.1 and 2.1b.
- 2.18 Tables 2.1a and 2.1b demonstrate that the junction will continue to operate within capacity during the AM and PM peak periods inclusive of the impact of the development proposals. As such, no mitigation is proposed at this junction.
- 2.19 Of note, the results between the NBWA and PRTM scenarios are comparable, both demonstrating the development proposals will have negligible impact on the operation of the junction.

Table 2.1a A5 / B4116 Watling Street – AM Peak Period (08:00 – 09:00)

Arm*	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
2031 'Without Development'						
Stream B – AC	0.32	0.5	0.34	0.5	+0.02	-
Stream C – AB	0.00	0.0	0.00	0.0	-	-
JUNCTION DELAY (S)	0.82		1.18		+0.36	
2031 'With Development'						
Stream B – AC	0.50	1.0	0.39	0.6	-0.11	-0.4
Stream C – AB	0.00	0.0	0.00	0.0	-	-
JUNCTION DELAY (S)	1.64		1.42		-0.22	
*A = A5 South-East, B = B4116 Watling Street, and C = A5 North-West						

Table 2.1b A5 / B4116 Watling Street – PM Peak Period (17:00 – 18:00)

Arm*	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
2031 'Without Development'						
Stream B – AC	0.31	0.4	0.34	0.5	+0.03	+0.1
Stream C – AB	0.00	0.0	0.00	0.0	-	-
JUNCTION DELAY (S)	0.90		1.23		+0.33	
2031 'With Development'						
Stream B – AC	0.33	0.5	0.51	1.0	+0.18	+0.5
Stream C – AB	0.00	0.0	0.00	0.0	-	-
JUNCTION DELAY (S)	1.00		2.23		+1.23	
*A = A5 South-East, B = B4116 Watling Street, and C = A5 North-West						

A5 Watling Street / Drayton Lane

- 2.20 The operation of the A5 Watling Street / Drayton Lane junction has been modelled using PICADY based on the weekday AM and PM peak hourly periods under 2031 'Without Development' and 'With Development' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK06 Rev A), is included as Appendix 6 and summarised in Table 2.2.
- 2.21 For comparative purposes the results from the 2031 'Reference Case' and 'Reference Case + Development + DS' NBWA scenarios, which are detailed in the submitted TA, are also included in Table 2.2.
- 2.22 As per the submitted TA and the NBWA scenarios, Table 2.2 reveals that Drayton Lane operates significantly over capacity during both the AM and PM periods. This is likely due to insufficient gaps along the A5 Watling Street to allow traffic to egress Drayton Lane.
- 2.23 In a comparable way to the NBWA scenarios, it is thought that traffic is rat running along Drayton Lane to avoid the capacity constraints along the A5 / A444 within the PRTM model.
- 2.24 As such, mitigation is required at the junction as detailed under the 'Drayton Lane / Woodford Lane Mitigation' heading of the TAA.

Table 2.2 A5 Watling Street / Drayton Lane – 2031 'Without Development'

Arm*	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
AM Peak Period (08:00 – 09:00)						
Stream B – C	16.21	86.7	5.5	49.6	-10.71	-37.1
Stream B – A	15.71	37.9	5.55	61.1	-10.16	+23.2
Stream C – AB	0.32	0.5	0.39	0.6	+0.07	+0.1
JUNCTION DELAY (S)	1613.80		469.69		-1144.11	
PM Peak Period (17:00 – 18:00)						
Stream B – C	>100.00	76.4	7.91	82.2	>-92.09	+5.8
Stream B – A	>100.00	36.3	7.93	83.8	>-92.07	+47.5
Stream C – AB	0.51	1.0	0.38	0.6	-0.13	-0.4
JUNCTION DELAY (S)	113.26		519.81		+406.55	
*A = A5 Watling Street (North-West), B = Drayton Lane, and C = A5 Watling Street (South-East)						

A5 Watling Street / Woodford Lane

- 2.25 The operation of the A5 Watling Street / Woodford Lane junction has been modelled using PICADY based on the weekday AM and PM peak hourly periods under 2031 'Without Development' and 'With Development' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK05 Rev A), is included as Appendix 7 and summarised in Table 2.3.
- 2.26 For comparative purposes the results from the 2031 'Reference Case' and 'Reference Case + Development + DS' NBWA scenarios, which are detailed in the submitted TA, are also included in Table 2.3.
- 2.27 As per the submitted TA and the NBWA scenarios, Table 2.3 reveals that Woodford Lane operates significantly over capacity during both the AM and PM periods. This is likely due to insufficient gaps along the A5 Watling Street to allow traffic to egress Woodford Lane.
- 2.28 In a comparable way to the NBWA scenarios, it is thought that traffic is rat running along Woodford Lane to avoid the capacity constraints along the A5 / A444 within the PRTM model.
- 2.29 As such, mitigation is required at the junction as detailed under the 'Drayton Lane / Woodford Lane Mitigation' heading of the TAA.

Table 2.3 A5 Watling Street / Woodford Lane– 2031 'Without Development'

Arm*	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
AM Peak Period (08:00 – 09:00)						
Stream B – C	>100.00	6.1	5.54	91.2	> -94.46	+85.1
Stream B – A	>100.00	19.7	5.58	147.0	> -94.42	+127.3
Stream C – AB	0.44	0.8	0.33	0.5	-0.11	-0.3
JUNCTION DELAY (S)	30.24		515.05		+484.84	
PM Peak Period (17:00 – 18:00)						
Stream B – C	7.23	23.0	16.80	127.5	+9.57	+104.5
Stream B – A	7.07	33.4	16.81	169.9	+9.74	+136.5
Stream C – AB	0.08	0.1	0.45	0.8	+0.37	+0.7
JUNCTION DELAY (S)	395.60		1799.01		+1403.41	
*A = A5 Watling Street (South-East), B = Woodford Lane, and C = A5 Watling Street (North-West)						

A5 / A444 Redgate Island (Mitigation)

- 2.30 As detailed in Section 9 of the submitted TA, mitigation measures have been identified at the A5 / A444 Redgate Island, these have been included within the 2031 'With Development' PRTM scenario. The proposed geometries are shown on Drawing No. 17059/GEO/SK13 Rev A included as Appendix 8.
- 2.31 The operation of the proposed A5 / A444 Redgate Island roundabout has been modelled using ARCADY based on the weekday AM and PM peak hourly periods under 2031 'Without Development' and 'With Development' PRTM scenarios. The full output is included as Appendix 8 and summarised in Table 2.4.
- 2.32 Table 2.4 reveals that all arms of the proposed roundabout operate within capacity during the AM and PM peak periods inclusive of the impact of the development proposals under the PRTM scenarios.

Table 2.4 A5 / A444 Redgate Island Roundabout (Mitigation) – 2031 'With Development'

Arm	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
AM Peak Period (08:00 – 09:00)						
A5 (East)	0.69	2.2	0.57	1.3	-0.12	-0.9
A444 Weddington Lane	0.44	0.8	0.00	0.0	-0.44	-0.8
A5 (West)	0.74	2.8	0.58	1.4	-0.16	-1.4
A444 Atherstone Road	0.48	0.9	0.74	2.8	+0.26	+1.9
JUNCTION DELAY (S)	6.68		6.56		-0.12	
PM Peak Period (17:00 – 18:00)						
A5 (East)	0.80	3.9	0.82	4.5	+0.02	+0.6
A444 Weddington Lane	0.40	0.7	0.00	0.0	-0.40	-0.7
A5 (West)	0.73	2.7	0.51	1.1	-0.22	-1.6
A444 Atherstone Road	0.39	0.6	0.52	1.1	+0.13	+0.5
JUNCTION DELAY (S)	7.68		7.28		-0.40	

A444 Atherstone Road / Old Forge Road

- 2.33 The operation of the A444 Atherstone Road / Old Forge Road junction has been modelled using PICADY based on the weekday AM and PM peak hourly periods under 2031 'Without Development' and 'With Development' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK16), is included as Appendix 9 and summarised in Tables 2.5a and 2.5b.
- 2.34 Table 2.5a reveals that during the AM peak period under the 2031 'Without Development' PRTM scenario, the A444 Atherstone (S) and Old Forge Road arms operate close to capacity with respective RFCs of 0.96 and 0.99 RFC of 0.92.
- 2.35 As per Drayton Lane model, it is thought that traffic is running along Drayton Lane, and subsequently Old Forge Road, to avoid the capacity constraints along the A5 / A444 within the PRTM model.

Table 2.5a A444 Atherstone Road / Old Forge Road – 2031 'Without Development'

Arm*	AM Peak Period (08:00 – 09:00)		PM Peak Period (17:00 – 18:00)	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Stream B-ACD	0.65	1.8	0.78	3.3
Stream AB-CD	0.70	3.7	0.86	8.1
Stream D-ABC	0.99	7.2	0.54	1.1
Stream CD-AB	0.96	14.4	0.85	8.3
JUNCTION DELAY (S)	21.71		15.36	
A = A444 Atherstone Road (N), B = Fenn Lanes, C = A444 Atherstone (S), D = Old Forge Road				

- 2.36 However, under the 2031 'With Development' PRTM scenario, Table 2.5b reveals that all arms of the A444 Atherstone Road / Old Forge Road junction operate within capacity during both AM and PM peak periods and that any impact arising from development proposals can be accommodated. As such, no mitigation is required.
- 2.37 The improvement in capacity, under the 2031 'With Development' PRTM scenario, is a result of traffic rerouting within the PRTM model following the mitigation proposals at the Woodford Lane, Drayton Lane, and Redgate Island junctions.

Table 2.5b A444 Atherstone Road / Old Forge Road – 2031 'With Development'

Arm*	AM Peak Period (08:00 – 09:00)		PM Peak Period (17:00 – 18:00)	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Stream B-ACD	0.66	1.8	0.50	1.0
Stream AB-CD	0.00	0.0	0.00	0.0
Stream D-ABC	0.31	0.4	0.28	0.4
Stream CD-AB	0.54	1.7	0.51	1.6
JUNCTION DELAY (S)	4.23		3.08	

A = A444 Atherstone Road (N), B = Fenn Lanes, C = A444 Atherstone (S), D = Old Forge Road

A5 / MIRA Roundabout

- 2.38 As detailed in Section 5 of the submitted TA, the Site access proposals included modifications to the existing A5 / MIRA roundabout, these have been included within the 2031 'With Development' PRTM scenario. The proposed geometries are shown on Drawing No. 17059/GEO/SK01 Rev A included as Appendix 10.
- 2.39 Table 2.6 reveals that all arms of the modified A5 / MIRA roundabout operate within capacity during the AM and PM peak periods inclusive of the impact of the development proposals under the PRTM scenarios.

Table 2.6 A5 / MIRA Roundabout – 2031 'With Development'

Arm	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
AM Peak Period (08:00 – 09:00)						
MIRA Drive	0.09	0.1	0.14	0.2	+0.05	+0.1
A5 (East)	0.87	6.4	0.47	0.9	-0.40	-5.5
Site Access	0.53	1.1	0.64	1.8	+0.11	+0.7
A5 (West)	0.94	11.9	0.88	6.9	-0.06	-5.0
JUNCTION DELAY (S)	18.98		10.49		-8.49	

Table 2.6 cont. A5 / MIRA Roundabout – 2031 'With Development'

Arm	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
PM Peak Period (17:00 – 18:00)						
MIRA Drive	0.83	4.5	0.69	2.2	-0.14	-2.3
A5 (East)	0.60	1.5	0.54	1.2	-0.06	-0.3
Site Access	0.44	0.8	0.64	1.7	+0.20	+0.9
A5 (West)	0.73	2.7	0.58	1.4	-0.15	-1.3
JUNCTION DELAY (S)	8.86		6.21		-2.65	

A5 Watling Street / Higham Lane

- 2.40 The operation of the A5 Watling Street / Higham Lane roundabout has been modelled using ARCADY based on the weekday AM and PM peak hourly periods under 2031 'Without Development' and 'With Development' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK03 Rev A), is included as Appendix 11 and summarised in Tables 2.7 and 2.8.
- 2.41 Tables 2.7 and 2.8 reveal that all arms of the A5 Watling Street / Higham Lane roundabout operate within capacity during the AM and PM peak periods inclusive of the impact of the development proposals under the PRTM scenarios. As such, no mitigation is proposed at this junction.
- 2.42 Table 2.7 also reveals that during the AM peak period, the PRTM model results in slightly higher junction delay in both the 2031 'Without Development' and 'With Development' scenarios than that of the NBWA model. However, the PRTM scenarios result in significantly lower queueing on the A5 (East) arm. Whilst the remaining arms are comparable between the NBWA and PRTM models.

Table 2.7 A5 Watling Street / Higham Lane Roundabout – AM Peak Period (08:00 – 09:00)

Arm*	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
2031 'Without Development'						
Nuneaton Lane	0.42	0.7	0.60	1.5	+0.18	+0.8
A5 (East)	0.91	9.1	0.64	1.8	-0.27	-7.3
Higham Lane	0.68	2.1	0.62	1.6	-0.06	-0.5
A5 (West)	0.74	2.8	0.64	1.8	-0.10	-1.0
JUNCTION DELAY (S)	15.55		7.37		+4.57	
2031 'With Development'						
Nuneaton Lane	0.44	0.8	0.54	1.2	+0.10	+0.4
A5 (East)	0.99	23.6	0.57	1.3	-0.42	-22.3
Higham Lane	0.76	3.0	0.67	2.0	-0.09	-1.0
A5 (West)	0.78	3.5	0.84	4.9	+0.06	+1.4
JUNCTION DELAY (S)	30.05		10.74		+7.24	

- 2.43 Table 2.8 reveals that during the PM peak period, the PRTM model results in lower junction delay in both the 2031 'Without Development' and 'With Development' scenarios than that of the NBWA model. Additionally, the PRTM scenarios result in significantly lower queueing on the A5 (West) arm. Whilst the remaining arms are comparable between the NBWA and PRTM models.

Table 2.8 A5 Watling Street / Higham Lane Roundabout – PM Peak Period (17:00 – 18:00)

Arm*	NBWA Turning Flows (as per submitted TA)		PRTM Turning Flows		Difference in Outputs (PRTM Results Minus NBWA Results)	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
2031 'Without Development'						
Nuneaton Lane	0.24	0.3	0.60	1.5	+0.36	+1.2
A5 (East)	0.77	3.2	0.61	1.5	-0.16	-1.7
Higham Lane	0.45	0.8	0.62	1.6	+0.17	+0.8
A5 (West)	1.03	46.0	0.75	2.9	-0.28	-43.1
JUNCTION DELAY (S)	47.72		8.44		-37.56	
2031 'With Development'						
Nuneaton Lane	0.24	0.3	0.64	1.7	+0.4	+1.4
A5 (East)	0.78	3.4	0.57	1.3	-0.21	-2.1
Higham Lane	0.45	0.8	0.70	2.3	+0.25	1.5
A5 (West)	1.10	94.8	0.74	2.8	-0.36	-92.0
JUNCTION DELAY (S)	86.63		8.86		-85.94	

A5 / A47 The Long Shoot

- 2.44 During the virtual meeting on 13th December 2022, it was agreed between the Consultees and MTP that the outputs from the PRTM model will be inputted into an existing VISSIM for the Longshoot / Dodwells junction. This results of this exercise are revealed under the 'Longshoot / Dodwells VISSIM' heading of the TAA.

A5 / A47 / B4666 Dodwells Roundabout

- 2.45 As per Paragraph 2.44.

Longshoot / Dodwells VISSIM

- 2.46 During a virtual meeting on 24th October 2022, WCC stated the impact of the development proposals on the Longshoot / Dodwells junctions will need to be assessed. During the meeting, MTP were made aware that an existing VISSIM for the junction is administered by Vectos Microsim (VM).
- 2.47 LCC also raised concerns over the Longshoot / Dodwells junctions. As previously mentioned, the PRTM forecasting report prepared by AECOM highlighted the 'A5 / A47 The Long Shoot' and 'A5 / A47 / B4666 Dodwells Roundabout' for further assessment.

- 2.48 Prior to commissioning the VISSIM, a series of virtual meetings between WCC, LCC, NH, and MTP were conducted to agree the model inputs and methodology.
- 2.49 During these meetings, MTP were made aware of a key committed development in vicinity to the Longshoot / Dodwells junctions known as Padge Hall Farm.
- 2.50 Padge Hall Farm comprises a hybrid planning application (LPA Ref. 21/01191/HYB) for the “..development of up to 136,350sqm (circa. 1,470,000sqft) of employment land-use, of which detailed planning permission is sought for 55,742sqm (600,000sqft) B8 use at Unit 1, with outline planning sought for the remaining floor area” on land south of the A5 Padge Hall Farm, Hinckley. This committed development was included in the VISSIM.
- 2.51 During the virtual meeting on 13th December 2022, it was agreed that the outputs from the PRTM model will be inputted into the VISSIM for the Longshoot / Dodwells junction.

VISSIM Initial Results

- 2.52 The following model scenarios, for the AM (07:15 – 08:15) and PM (16:00 – 17:00) peak periods, have been produced by VM:
- Scenario 1 – 2023 ‘Reference’
 - Scenario 2 – 2023 ‘Reference + Development Proposals’
 - Scenario 3 – 2023 ‘Reference + Padge Hall Farm Development’
 - Scenario 4 – 2023 ‘Reference + Development Proposals + Padge Hall Farm Development’
 - Scenario 5 – 2031 ‘Reference’
 - Scenario 6 – 2031 ‘Reference + Development Proposals’
 - Scenario 7 – 2031 ‘Reference + Padge Hall Farm Development’
 - Scenario 8 – 2031 ‘Reference + Development Proposals + Padge Hall Farm Development’
- 2.53 The results from the VISSIM for the above scenarios including network wide statistics, queues on all approaches, turning counts, and journey times are included as Appendix 12.
- 2.54 Analysis of the VISSIM results reveal, that during the AM peak period, when comparing the ‘Reference’ and ‘Reference + Development Proposals’ scenarios the addition of the development proposals results in an average delay per vehicle increase of circa 7 and 14 seconds for in 2023 and 2031, respectively.
- 2.55 Whilst when comparing the ‘Reference + Padge Hall Farm Development’ and ‘Reference + Development Proposals + Padge Hall Farm Development’ scenarios the addition of the development proposals results in an average delay per vehicle increase of circa 11 and 21 seconds for in 2023 and 2031, respectively.
- 2.56 During the AM peak period, queues on the A5 westbound approach to Longshoot increase in all scenarios. This is a result of circa 80 vehicle trips associated with the development proposals heading west on the A5. When comparing the ‘Reference’ and ‘Reference + Development Proposals’ scenarios the addition of the development proposals results in a maximum queue increase of circa 200 and 300-metres in 2023 and 2031, respectively.

- 2.57 Whilst when comparing the 'Reference + Padge Hall Farm Development' and 'Reference + Development Proposals + Padge Hall Farm Development' scenarios the addition of the development proposals results in a maximum queue increase of circa 100 and 200-metres in 2023 and 2031, respectively.
- 2.58 During the 2031 'Reference + Development Proposals + Padge Hall Farm Development', average queues increase by circa 160-metres on the A47 at Dodwells Roundabout when compared to the 2031 'Reference + Padge Hall Farm Development' scenario. The development proposals add 8 HGVs from here, which when combined the 2031 traffic and Padge Hall Farm flows, is enough to cause notable delay increases. VM stated that *"These could potentially be reduced by signal optimisation. However, for now we have not altered the signal times to maintain consistency between the scenarios."*
- 2.59 Finally, during the AM peak period, journey times show notable increases on all routes to the A5 eastbound, this is a result of the additional development trips adding to the delays on the eastbound exit of the model.
- 2.60 During the PM peak period, when comparing the 'Reference' and 'Reference + Development Proposals' scenarios the addition of the development proposals results in an average delay per vehicle increase of circa 4 and 5 seconds for in 2023 and 2031, respectively.
- 2.61 Whilst when comparing the 'Reference + Padge Hall Farm Development' and 'Reference + Development Proposals + Padge Hall Farm Development' scenarios the addition of the development proposals results in an average delay per vehicle increase of circa 3 and 6 seconds for in 2023 and 2031, respectively.
- 2.62 Delay increases are not as significant in the PM peak period, due to there being fewer development proposal trips added to the network and there being lower levels of delay already existing in the 'Reference' scenario.
- 2.63 The development proposals add circa 90 light vehicles and 30 HGVs in the AM peak period, whilst in the PM peak period
- 2.64 Journey times across the model extent increase by no more than 10 seconds across each route and average queues increase by no more than 20-metres demonstrating that the development proposals impact is negligible in the PM peak period.
- 2.65 Overall, the development proposals result in a negligible impact in either AM or PM peak period of the 2023 scenarios, and in the PM peak period of the 2031 scenarios. The only notable impact was observed in the 2031 AM peak period scenarios.

VISSIM Signal Optimisation

- 2.66 In light of the above, VM were instructed to re-run the VISSIM model to include signal optimisation.
- 2.67 The signal times at the A5 / A47 / B4666 Dodwells Roundabout were reviewed with an objective of improving coordination and minimising the impacts detailed above. This was achieved through minor revisions detailed below.

- 2.68 In the 2031 *'Reference + Development Proposals'* scenario the AM signal times were adjusted as follows:
- The A5 (North-west) approach (controller #6) by +2 seconds green time on the A5 approach and -2 seconds green time on the circulatory.
- 2.69 In the 2031 *'Reference + Development Proposals + Padge Hall Farm Development'* scenario the AM signal times were adjusted as follows:
- Dodwells Road approach (controller #3) by +1 second green time on the Dodwells Road approach and -1 second green time on the circulatory.
 - Coventry Road approach (controller #4) by -3 seconds green time on the Coventry Road approach, +3 seconds green time on the circulatory.
 - A5 (North-west) approach (controller #6) by -1 second green time on the A5 approach, +1 second green time on the circulatory.
- 2.70 Screenshots of the signal controller plans are attached at Appendix 13.
- 2.71 The signal times were not adjusted at the A5 / A47 The Long Shoot junction as they operate on MOVA and VM advised against altering the MOVA dataset.
- 2.72 Overall, the signal time changes are minimal. There were more changes within the Padge Hall Farm development scenario but given that the Padge Hall Farm development are introducing improvements at Dodwells Roundabout, signal times can / will change.

VISSIM Audit

- 2.73 The VISSIM models were provided by VM / MTP to AECOM, on behalf of NH, on 2nd August 2023 for review and comment.
- 2.74 AECOM responded with a *'VISSIM Model Audit'* spreadsheet on 17th August 2023. This commented on the models and requested additional information regarding the methodology used.
- 2.75 VM prepared a spreadsheet responding to AECOM's audit comments, this was circulated on 18th August 2023 and is attached at Appendix 14.
- 2.76 Of note, NH queried the methodology of deriving development traffic flows. As detailed in VM's spreadsheet, the development traffic flows were provided by AECOM as an output from LCC's PRTM model. This methodology was agreed with LCC. These traffic flows are attached at Appendix 15.
- 2.77 Regarding the preparation of the models, VM clarified that the starting point for the models were those submitted in support of the Padge Hall Farm Development, the forecasting within the models were also informed by PRTM at the time. The development traffic flows, detailed in Appendix 15, were then added on top of the base models. This methodology was discussed with AECOM and LCC during a virtual meeting on 16th June 2023.

VISSIM Summary

- 2.78 As detailed above, the development proposals result in a negligible impact in either AM or PM peak period of the 2023 scenarios, and in the PM peak period of the 2031 scenarios.
- 2.79 The only notable impact was observed in the 2031 AM peak period scenarios. This can be mitigated through minimal signal time changes, noting that the Padge Hall Farm development is introducing improvements at Dodwells Roundabout.
- 2.80 The VISSIM models have been audited by AECOM on behalf of NH.
- 2.81 As such, the development proposals impact on the Longshoot / Dodwells junctions have been fully assessed and therefore should satisfy the outstanding Consultee comments.

Drayton Lane / Woodford Lane Mitigation

- 2.82 Within the submitted TA, to address the capacity issues at both the A5 Watling Street / Woodford Lane and A5 Watling Street / Drayton Lane junctions, a signalised junction comprising two lane approaches on the A5 Watling Street was proposed.
- 2.83 During a virtual meeting between MTP and NH on 12th October 2022, NH raised concerns that the signalisation of these junctions could result in queuing interactions between the two junctions.
- 2.84 Further discussions between MTP, NH, and WCC resulted in the signalised junction being superseded by a left-in / left-out arrangement at both the A5 Watling Street / Woodford Lane and A5 Watling Street / Drayton Lane junctions. The revised mitigation proposed are detailed on Drawing No. 17059/GA/09 Rev B attached at Appendix 16.
- 2.85 The revised mitigation proposals were included within the 2031 '*With Mitigation*' PRTM scenario, the results of the junction capacity analysis are detailed below.

A5 Watling Street / Drayton Lane Mitigation

- 2.86 The operation of the proposed A5 Watling Street / Drayton Lane junction has been modelled using PICADY based on the weekday AM and PM peak hourly periods under 2031 '*With Development*' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK15), is included as Appendix 17 and summarised in Table 2.9.
- 2.87 Table 2.9 reveals that the proposed A5 Watling Street / Drayton Lane operates within capacity during both the AM and PM periods. This is a result of no traffic egressing Drayton Lane in the 2031 '*With Development*' PRTM scenario.

Table 2.9 A5 Watling Street / Drayton Lane Mitigation – 2031 'With Development'

Arm*	AM Peak Period (08:00 – 09:00)		PM Peak Period (17:00 – 18:00)	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Stream B – AC	0.00	0.0	0.00	0.0
Stream C – AB	0.00	0.0	0.00	0.0
JUNCTION DELAY (S)	0.00		0.00	

*A = A5 Watling Street (North-West), B = Drayton Lane, and C = A5 Watling Street (South-East)

A5 Watling Street / Woodford Lane Mitigation

- 2.88 The operation of the proposed A5 Watling Street / Woodford Lane junction has been modelled using PICADY based on the weekday AM and PM peak hourly periods under 2031 'With Development' PRTM scenarios. The full output, as well as the geometric inputs (Drawing No. 17059/GEO/SK14 Rev A), is included as Appendix 18 and summarised in Table 2.10.
- 2.89 Table 2.10 reveals that the proposed A5 Watling Street / Woodford Lane junction operates within capacity during both the AM and PM periods.

Table 2.10 A5 Watling Street / Woodford Lane Mitigation – 2031 'With Development'

Arm*	AM Peak Period (08:00 – 09:00)		PM Peak Period (17:00 – 18:00)	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Stream B – C	0.57	1.3	0.50	1.0
Stream B – A	0.00	0.0	0.00	0.0
Stream C – B	0.00	0.0	0.00	0.0
JUNCTION DELAY (S)	1.85		1.27	

*A = A5 Watling Street (South-East), B = Woodford Lane, and C = A5 Watling Street (North-West)

3. Layout / Junction Design

Development Access Strategy and Off-Site Mitigation

- 3.1 To support the development access strategy and off-site mitigation package, a package of drawings were appended to the submitted TA. These are summarised in Table 3.1.
- 3.2 Arising from the post submission discussions with the Statutory Consultees, there is no change to the general principles of the access strategy and off-site mitigation package, however, there have been a series of revisions to the details on each of the submitted drawings. Table 3.1 identifies the current revision of each drawing and a copy of these are included at Appendix 19.

Table 3.1 Summary of Amendments to Submitted Drawing Package

MTP Drawing No.	Drawing Title	Original Planning Application Submission Version	Current Transport Assessment Addendum Version
17059/GA/01	Proposed Mitigation Works Overall Layout	B	D
17059/GA/02	Proposed A5 – A444 Link Road and Off-Site Mitigation	B	C
17059/GA/03		B	B
17059/GA/04		C	C
17059/GA/05		C	E
17059/GA/06		C	D
17059/GA/07		B	C
17059/GA/08		C	E
17059/GA/09	A5 Watling Street / Drayton Lane and Woodford Lane Signals Mitigation	-	B

- 3.3 The following sections of the TAA provide a detailed summary of the revisions made to access strategy and off-site mitigation package drawings.

17059/GA/01 Rev D Proposed Mitigation Works Overall Layout

- 3.4 As with the previous revision of this drawing included in the submitted TA, Revision D illustrates the access strategy and off-site mitigation package in the context of the whole Site and surrounding area. Accordingly the works shown on drawings 17059/GA/01 Rev D to 09 Rev B are produced at a smaller scale on this drawing.
- 3.5 The following is a broad summary of the revisions agreed with the Statutory Consultees and made to the drawing since the submitted TA (April 2023):

- Section of the A444 Weddington Lane to be Stopped Up and designed as a Quiet Lane.
- Provision of a left-in access from the A5 Watling Street to Extra Room Self Storage.
- Provision of a left-out egress from the existing A444 Atherstone Road onto the A5 Watling Street.
- Revised mitigation proposals at the A5 Watling Street / Woodford Lane and A5 Watling Street / Drayton Lane junctions to provide a left-in / left-out arrangement at both junctions.

17059/GA/02 Rev C Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.6 No changes are proposed to the previous revision of this drawing included in the submitted TA save for the inclusion of a geometries .

17059/GA/03 Rev B Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.7 No changes are proposed to the previous revision of this drawing.

17059/GA/04 Rev C Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.8 No changes are proposed to the previous revision of this drawing.

17059/GA/05 Rev E Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.9 During a virtual meeting on 24th October 2022, WCC raised their concern that the retention of the A444 Weddington Lane as a through route, albeit traffic calmed, through Caldecote village was an issue for local residents.

- 3.10 As such, the changes made to this drawing from that included in the submitted TA principally relate to the point closure of the A444 Weddington Lane instead of traffic calming. The following is a summary of the revisions made to the drawing, as agreed with WCC:

- A circa 170-metre section of the A444 Weddington Lane is proposed to be Stopped Up and designed as a Quiet Lane with different surfacing and a reduction of speed limit to 20-mph.
- Provision of bollards preventing vehicular traffic utilising the A444 Weddington Lane as a potential through route.
- Existing footway to be broken and reinstated as grass verge.
- Inclusion of the proposed roundabout geometries on the drawing.

17059/GA/06 Rev D Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.11 As per above, the changes made to this drawing from that included in the submitted TA principally relate to the point closure of the A444 Weddington Lane instead of traffic calming. The following is a summary of the revisions made to the drawing, as agreed with WCC:

- Provision of bollards preventing vehicular traffic utilising the A444 Weddington Lane as a potential through route.
- Existing footway to be broken and reinstated as grass verge.

17059/GA/07 Rev C Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.12 The changes made to this drawing from that included in the submitted TA solely relate to the point closure of the A444 Weddington Lane instead of traffic calming. As such, the proposed speed cushions have been removed.

17059/GA/08 Rev E Proposed A5 – A444 Link Road and Off-Site Mitigation

- 3.13 As referenced within Section 9 of the submitted TA, the proposed development will deliver substantial upgrades to the A5 / A444 Redgate Junction through the construction of a new 4-arm 50-metre ICD roundabout that replaces the existing elongated roundabout junction.
- 3.14 As part of these works, it was proposed that the existing A444 Atherstone Road approach, adjacent to the Redgate PH, will be closed up and replaced with a new link road across land to the east of the public house to connect into the new 4-arm roundabout.
- 3.15 Within Witherly Parish Council's (WPC) consultation response, dated 13th October 2022, concern was raised over the lack of turning area at the end of the closed up section of the A444 Atherstone Road. Additionally, WPC stated that the closed up section of the A444 Atherstone Road would present an opportunity for unwanted fly tipping antisocial behaviour.
- 3.16 As such, WPC proposed the existing section of the A444 Atherstone Road be provided with an left-out egress onto the A5 Watling Street.
- 3.17 In light of the above, the following summaries the revisions made to the drawing since the submitted TA:
- Provision of a left-out egress from the existing A444 Atherstone Road (north of the Redgate Island Roundabout) onto the A5 Watling Street. This was proposed by WPC within their consultation response dated 13th October 2022.
 - Provision of a left-in access from the A5 Watling Street (west of the Redgate Island Roundabout) to maintain business access to Extra Room Self Storage, following comments from the business owner.

17059/GA/09 Rev B A5 Watling Street / Drayton Lane and Woodford Lane Signals Mitigation

- 3.18 As previously mentioned, within the submitted TA, to address the capacity issues at both the A5 Watling Street / Woodford Lane and A5 Watling Street / Drayton Lane junctions, a signalised junction comprising two lane approaches on the A5 Watling Street was proposed.
- 3.19 During a virtual meeting between MTP and NH on 12th October 2022, NH raised concerns that the signalisation of these junctions could result in queuing interactions between the two junctions.
- 3.20 Additionally, within WPC's consultation response, concern was raised that the proposed signalised junction would result in increased rat running traffic including HGVs, within Fenny Drayton village.

- 3.21 As such, the signalised junction has been superseded by a left-in / left-out arrangement at both the A5 Watling Street / Woodford Lane and A5 Watling Street / Drayton Lane junctions. This has been agreed with the various Statutory Consultees. It is envisaged that the restricted access will result in less rat running traffic through Fenny Drayton.

Construction Traffic Management

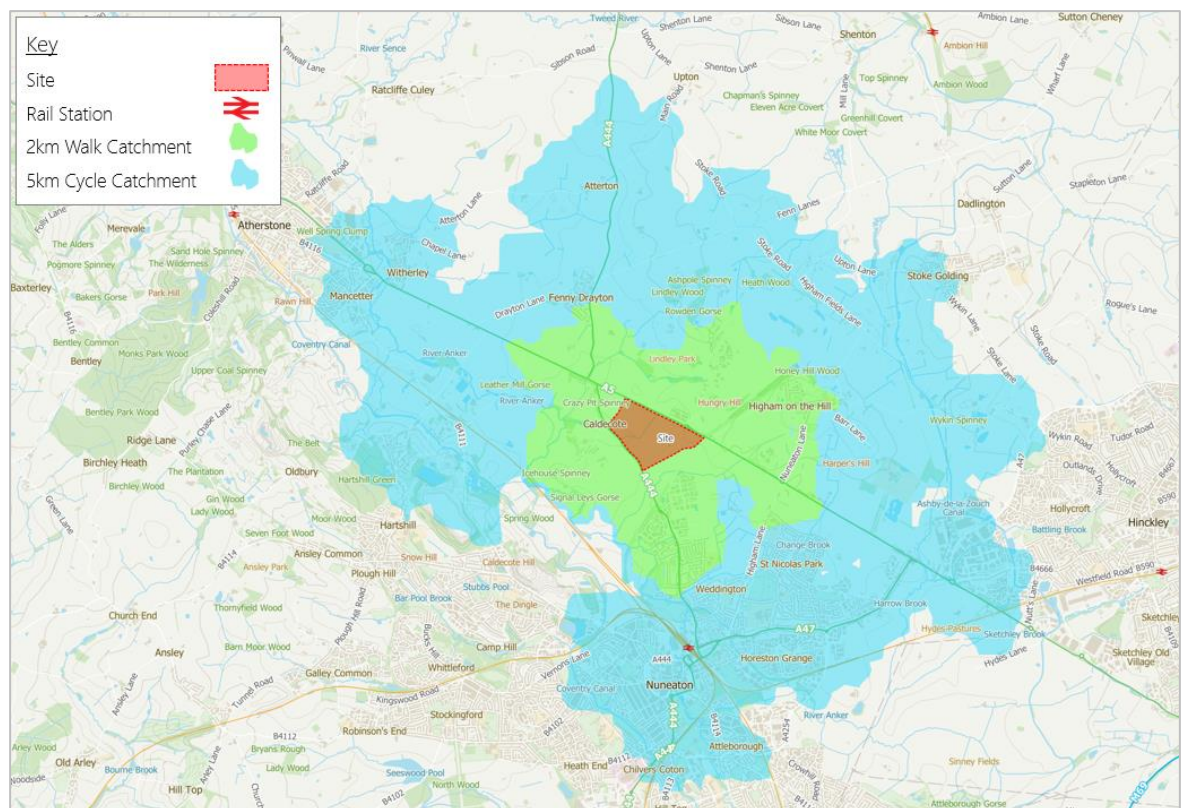
- 3.22 Within WPC's consultation response it was stated that *"There needs to be traffic mitigation for the villages of this parish during any roadworks and traffic redirection"*.
- 3.23 Drawing No.'s 17059/014/01 to 06, attached at Appendix 20, reveal that the construction of the proposed Redgate Island Roundabout will be phased as follows:
- Phase 1 – Construction of new A444 Atherstone Road alignment (offline) with no change to existing road network.
 - Phase 2 – Widening of A5 Watling Street (northern side) with work to existing A5 Watling Street (east) central reserve and creation of new footway link.
 - Phase 3 – Extension of new road to connect to A444 Atherstone Road and creation of a new splitter island on the A444 Weddington Road.
 - Phase 4 – Tie in works of new access to the A444 Atherstone Road with closure to through traffic onto the existing A444 Atherstone Road. Work to existing A5 Watling Street (west) central reserve. Widening to the A444 Weddington Road (western side) with access to Rookwood to be open and controlled by banksmen. Works to A5 Watling Street (east) to construct kerb realignment.
 - Phase 5 – Roundabout arm of the A444 Atherstone Road to be closed and diversion route provided. A5 Watling Street (west) reduced to 1 lane each way through works. New junction at northern end of the A444 Atherstone Road in full operation.
 - Phase 6 – Kerb realignment to the A5 Watling Street (west) on south side. Left turn only from the A444 Atherstone Road to A5 Watling Street in full operation.
- 3.24 The above phasing will ensure that there is minimal impact on the local highway network during the construction period of the proposed Redgate Island Roundabout.
- 3.25 Additionally, it is envisaged that post planning determination, a Construction Management Plan will be Conditioned which will provide prospective contractors with an informative / recommended strategy for the efficient movement / management of construction traffic associated with the delivery of the proposed development.

4. Sustainable Transport Infrastructure

Pedestrians & Cyclists

- 4.1 Within NH's consultation response, dated 12th October 2022, it was stated that *"it would be useful if walking and cycling isochrones could be provided showing the catchments within acceptable walking distances. This would then assist in determining the likely demand for these modes of travel"*.
- 4.2 The Chartered Institute of Highways and Transportation's (CIHT's) publication 'Providing for Journeys on Foot' (2000) states the average length of a walk journey is 1.0-kilometre. It further suggests a preferred maximum walking distance of 2.0-kilometres for commuting / school journeys and 1.2-kilometres for other journey destinations. Other national planning guidance / best practice publications have previously recommended a maximum distance of 5.0-kilometres for reasonably fit individuals to cycle to / from workplace destinations.
- 4.3 As such, Figure 1 illustrates the potential 2.0-kilometre walk and 5.0-kilometre cycle catchment areas of the Site which shows various areas within Caledcote and northern Nuneaton are accessible on foot. Whilst areas of Atherstone, Nuneaton, and westernmost Hinckley are accessible by cycle. This demonstrates the viability for staff working at the Site and residing in the local area, to travel to work by sustainable means.

Figure 1 Walk & Cycle Catchments



- 4.4 Regarding the existing 'active' travel infrastructure, within NH's consultation response it was stated that *"there is only one crossing of the A5, an existing underpass on the NCN, and this may then deter some users from accessing the footway on the north side of the A5, consideration should be given to providing an at-grade facility"*.
- 4.5 As detailed in the submitted TA, in addition to the on-site formal pedestrian / cycle infrastructure, the Site will also deliver a comprehensive improvement plan for the existing PROW network in proximity to the Site as well as the provision of additional recreational footpaths within the perimeter of the Site.
- 4.6 Beyond the development boundary, the focus is to provide direct, cohesive, attractive 'active' travel connections to key local origins and destinations and existing, established infrastructure.
- 4.7 As detailed in the submitted TA, the proposals include the provision of a lit shared footway / cycleway adjacent to the A444 Weddington Lane which will provide connection into Nuneaton. Additionally, the development proposals will provide improved pedestrian links towards Fenny Drayton from the A444 Weddington Lane and connect into the existing 'active' travel infrastructure on the north side of the A5.
- 4.8 The proposals purposely seek to avoid an 'at-grade' crossing of the A5 to avoid affecting strategic traffic flows and the associated hazard of this. Instead, an agreed package of improvement works to the Weddington Walk underpass (lighting, signage upgrades) have been agreed with WCC that will provide a better and safer active travel route between the North and South MIRA sites. These minor improvement works will be secured by S106 Contributions.

Bus Services

- 4.9 Within the submitted TA, the proposal was to collaborate with the bus operator, Arriva Midlands, and the WCC Passenger Transport Operation team to instigate the diversion of Service 65 via the new spine road within the development as part of its route between Tamworth and Nuneaton via Atherstone and MIRA Technology Park.
- 4.10 Within NH's consultation response it was stated that *"whilst the diversion of the existing bus route through the site is welcomed, further agreement and discussion will be required with the local authority and bus operators in order to provide certainty over its deliverability"*. Whilst LCC raised concerns that the proposed bus service improvements did not cover the Leicestershire portion of the local highway network.
- 4.11 In light of these comments, various virtual meetings were held with the various Statutory Consultees to further agree on the scale of bus service improvements.
- 4.12 During these discussions LCC stated that the employee pool for the MIRA Technology Park South Site development will likely extend past the three towns of Atherstone, Nuneaton, and Hinckley. As such, LCC suggested that the bus services should also serve each of the town's rail stations allowing passengers to easily interchange between those two modes of travel.
- 4.13 LCC also stated that additional consideration should be given to extending the Arriva 7 service to include MIRA. Arriva 7 currently links Burbage to Nuneaton via Hinckley rail and bus stations.

- 4.14 In terms of mechanism for securing such improvements, WCC circulated a '*Request for consideration of S106 contributions*' document on 30th November 2022. WCC seek the following contributions towards the cost of securing improvements to local bus services:

• Year 1 –	£259,840
• Year 2 –	£268,332
• Year 3 –	£274,774
• Year 4 –	£277,700
• Year 5 –	£274,828
• Total –	£1,355,474

- 4.15 WCC state that "*The request for developer contributions to enhance local bus service connectivity with the major employment based new development is entirely consistent with the policies established in the Warwickshire Local Transport Plan 2011-26, in respect to promoting public transport connectivity between new development and employment sites, services and amenities*".

- 4.16 Whilst within e-mail correspondence dated 14th August 2023, LCC state that they "...recognise that WCC may prefer to receive S106 contributions and procure the improvements themselves".

5. Summary & Conclusions

- 5.1 This TAA has been prepared by MTP on behalf of ERI MTP Limited in support of a planning application (Ref. PAP/2022/0423) for *"Outline planning permission for Extension of MIRA Technology Park to comprise employment use (Class B2); associated office and service uses (Class Eg); storage (Class B8); new spine road; car parking, landscaping and enabling works - All matters reserved"* on land located to the south of the A5 Watling Street (the *"Site"*), also referred to as the MIRA Technology Park South Site.
- 5.2 This TAA has addressed the comments received from the various Consultees and confirmed that the development proposals would result in no residual cumulative impacts in terms of highway safety, especially regarding the proposed access and off-site highways mitigation, and therefore the recommended holding objections should be removed.

Appendix 1



National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director)
Operations Directorate
Midlands Region
National Highways
PlanningM@nationalhighways.co.uk

To: North Warwickshire Borough Council FAO Jeff Brown

CC: transportplanning@dft.gov.uk
spatialplanning@nationalhighways.co.uk

Council's Reference: PAP/2022/0423

Location: Land to the south of, Watling Street, Caldecote, CV10 0TS (Grid Ref: Easting 435922.21, Northing 295043.17)

Proposal: Outline planning permission for Extension of MIRA Technology Park to comprise employment use (Class B2); associated office and service uses (Class Eg); storage (Class B8); new spine road; car parking, landscaping and enabling works - All matters reserved

National Highways Ref: 96231

Referring to the consultation on a planning application dated 21 September 2022 referenced above, in the vicinity of the A5 that forms part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

- ~~a) offer no objection (see reasons at Annex A);~~
- ~~b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – National Highways' recommended Planning Conditions & reasons);~~
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- ~~d) recommend that the application be refused (see reasons at Annex A)~~

Highways Act 1980 Section 175B is relevant to this application.¹

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the [Town and Country Planning \(Development Affecting Trunk Roads\) Direction 2018](#), via transportplanning@dft.gov.uk and may not determine the application until the consultation process is complete.

Signature:	Date: 12 October 2022
Name: Martin Seldon	Position: Assistant Spatial Planner
National Highways National Highways The Cube 199 Wharfside Street Birmingham B1 1RN	

¹ Where relevant, further information will be provided within Annex A.

Annex A **National Highway's assessment of the proposed development**

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

Recommended Non-Approval

It is recommended that the application should not be approved for a period of three months to allow the applicant to submit the requested information below.

The application is supported by a Transport Assessment (TA) prepared by Milestone Transport Planning (MTP). Although we carried out an initial review of the TA, the traffic impact has not been fully assessed as further details were required in terms of the PARAMICS model.

The PARAMICS model has now been supplied and we will continue to review the modelling. However, to enable us to do so, fully dimensioned drawings should be provided to verify the traffic models, as well as to allow a check to be made to ensure that they comply with the relevant DMRB standards.

In addition, the proposed highway works will need to be a subject to Stage 1 Road Safety Audit (RSA) in line with DMRB GG119. An RSA 1 Brief will need to be submitted to us for approval prior to undertaking the RSA.

Further, in line with paragraph 11 of DfT Circular 02/2013:

“Local authorities and developers will be required to ensure that their proposals comply in all respects with design standards. Where there would be physical changes to the network, schemes must be submitted to road safety, environmental, and non-motorised user audit [WCHAR] procedures, as well as any other assessment appropriate to the proposed development...”.

On this basis, the Applicant should undertake WCHAR in line with GG 142.

We would also request that vehicle swept paths are shown to ensure that the layout can safely accommodate all vehicle types.

We have provided a note on our review of the Transport Assessment to date to MTP: however, some of the key point can be summarised as follows:

- it would be useful if walking and cycling isochrones could be provided showing the catchments within acceptable walking distances. This would then assist in determining the likely demand for these modes of travel;
- there is only one crossing of the A5, an existing underpass on the NCN, and this may then deter some users from accessing the footway on the north side of the A5, consideration should be given to providing an at-grade facility;
- whilst the diversion of the existing bus route through the site is welcomed, further agreement and discussion will be required with the local authority and bus operators in order to provide certainty over its deliverability;
- whilst drawings have been provided showing the highway works, we would require these to be fully dimensioned so that we can verify that the traffic models accurately reflect the proposals;
- the traffic assessment has been determined using the NBWA PARAMICS model and further information has been requested, and now received, to allow us to undertake a full review,
- the site access roundabout onto the A5 shows an increase in queuing and RFC in the with development scenario;
- the A5 / Higham Lane roundabout again shows increases in queuing on the A5 as a result of the addition of the development traffic;
- the A5 / Woodford Lane / Drayton Lane junctions are proposed to be signalised, although the queue from Woodford Lane is predicted to reach the Drayton Lane junction. Consideration should be given to using a single traffic model so that the interactions can be better modelled.
- It should then be restated that the traffic impact is not yet accepted and will be subject to the ongoing review of the PARAMICS model and a review of the fully dimensioned drawings against the supplied traffic models.

Appendix 2

Substantive response of the Local Highway Authority to a planning consultation received under The Development Management Order.



Response provided under the delegated authority of the Director of Environment & Transport.

APPLICATION DETAILS:

Planning Application Number: PAP/2022/0423

Highway Reference Number: 2022/0423/14/H

Application Address: Land to the south of Watling Street,
Caldecote, CV10 0TS.

Application Type: Outline

Description of Application:

Outline planning permission for Extension of MIRA Technology Park to comprise employment use (Class B2); associated office and service uses (Class Eg); storage (Class B8); new spine road; car parking, landscaping and enabling works - All matters reserved

GENERAL DETAILS

Planning Case Officer: Jeff Brown

Applicant: ERI MTP Limited

County Councillor:

Parish: Higham on the Hill

Road Classification: Class A

Substantive Response provided in accordance with article 22(5) of The Town and Country Planning (Development Management Procedure) (England) Order 2015:

The Local Highway Authority does not consider that the application as submitted fully assesses the highway impact of the proposed development and further information is required as set out in this response. Without this information the Local Highway Authority is unable to provide final highway advice on this application.

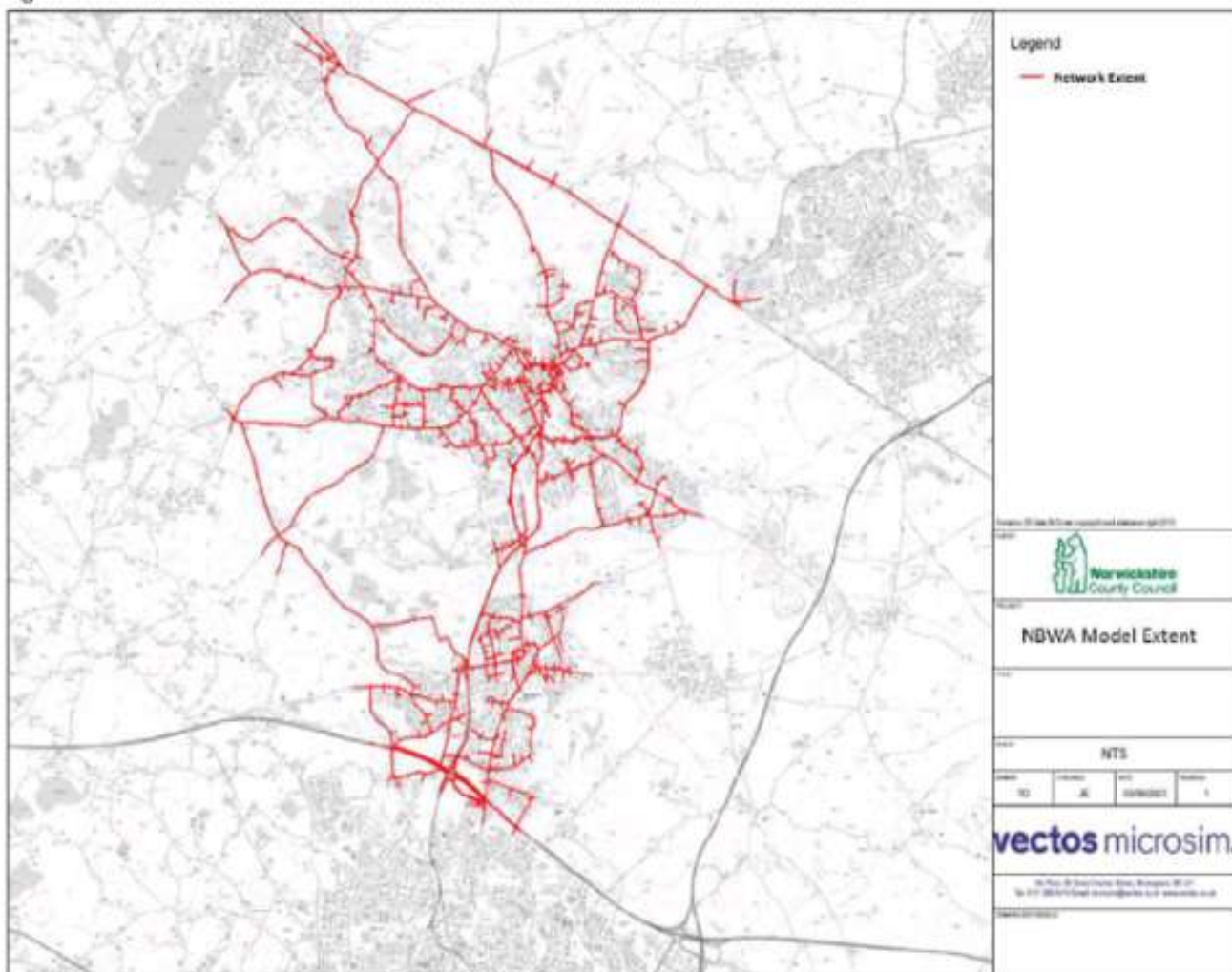
Advice to Local Planning Authority

The submitted transport assessment details that pre-application engagement was undertaken via virtual meetings conducted on the 16 December 2020, 7 May 2021 and 8 October 2021. The Local Highway Authority's (LHA) last contact from the applicant team was an email received on 10th January 2022 providing an updated technical note and revised masterplan. No request for comment was provided however the LHA provided the following response by email dated 18th February 2022 following concerns raised having reviewed the proposed transport assessment methodology:

"We note that your Technical Note describes the various transport models available and that we have discussed in the working groups previously. The note then immediately goes on to advise that "Vectos Microsim are now instructed and are progressing with the modelling exercise with a view to outputs being released by the end of January 2022." We were not aware that stakeholders had reached agreement to the sole use of the NBWA model nor do we recollect being presented the model validation report for review and comment prior to it being ran. Notwithstanding this figure 1 of the Technical Note below shows the extent of model coverage and which is understandably extremely light in its coverage of Leicestershire. This raises significant concerns about demonstrating impact on Leicestershire's highway network.

We are aware from other modelling exercises that the existing congestion and capacity constraints on the A5 leads to traffic diverting through less appropriate rural routes through Leicestershire and Warwickshire villages. The impact of this will not be accounted for in the modelling as proposed. As per the advice provided by Vectos in the last bullet point of paragraph 17 are you also proposing to model this development in PRTM for the purpose of establishing impacts outside of the areas encompassed by WCCs microsimulation models?"

Figure 1: Nuneaton and Bedworth Wide Area Paramics Model Extent

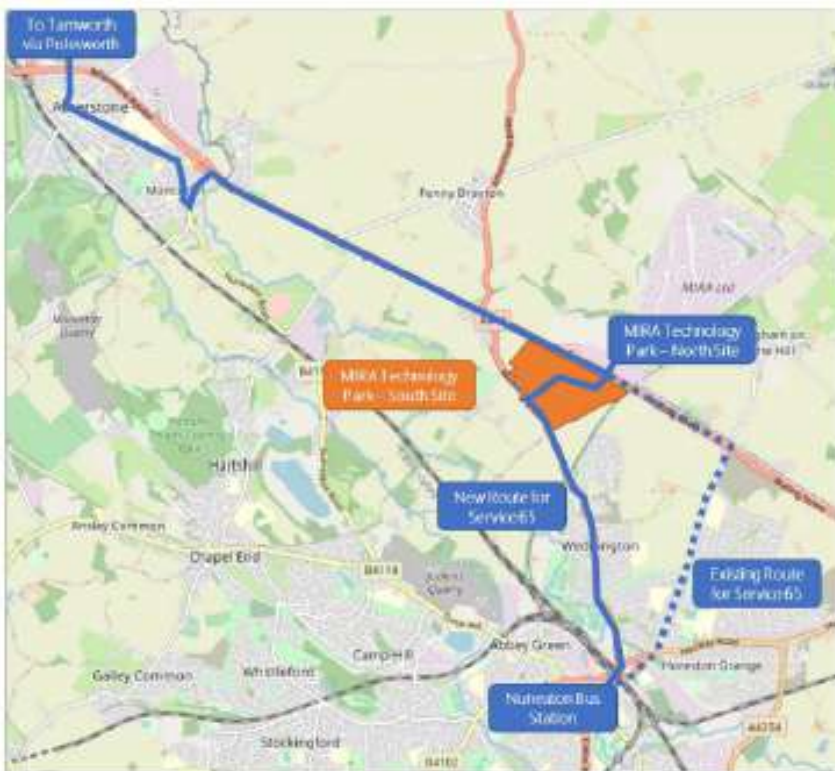


The LHA's principal concern therefore is that the methodology undertaken would predominantly disregard the potential highway impact in Leicestershire. Despite raising these concerns, no further correspondence was received from the applicant team to address the scope of assessment work required. This approach was disappointing and at odds with the LHA's invitation to engage in the pre-application process which identifies the applicant's assumption that the development could impact the Leicestershire network. Knowledge and understanding gained from other strategic assessment in the area identifies the existing congestion and network sensitivity to additional demand along the A5 corridor which is observed to negatively impact the LHA network. The LHA would therefore welcome an assessment methodology which considers and addresses this.

Furthermore, the metric selected for determining study area was where the modelling undertaken could increase queuing traffic by greater than 20 vehicles. This metric was not agreed by the LHA and therefore the proposed study area is not agreed. As identified above the Warwickshire NBWA model understandably focuses on the Warwickshire highway network and does not cover the Leicestershire network, a wider assessment is therefore required with inputs and assumptions agreed prior to commencement as per the pre-application discussions with stakeholders.

The LHA also note that the sustainable connectivity enhancements do not appear to cover Leicestershire and therefore there would be limited opportunity in the current proposals to offset traffic demand and impact brought about by vehicles travelling from or through Leicestershire to access the site. For example, the Public Transport strategy relies upon rerouting Service 65 which routes between Tamworth to Nuneaton along the A5 as shown below:

Figure 5.1 Current & Proposed Future Routing of Service 65



The LHA would therefore have no alternative than to advise that the current transport assessment undertaken is not sufficient to identify the full impact of development, nor appropriate to base the required mitigation strategy on. The LHA would also note that the application is in outline form with all matters reserved. On the basis that the principle of development relies on an access strategy that comprises a new spine road which realigns the existing A444 and associated necessary junction improvements to mitigate and incorporate said access strategy, the LHA would question if the principle of development could be fairly established without consideration of access as a detailed matter at this stage.

The LHA would politely request that planning permission not be granted until the outstanding transport assessment be undertaken and which includes consultation and engagement with necessary stakeholders such as Warwickshire CC and National Highways also to agree the necessary inputs, assumptions and scope of assessment work required.

Date Received
21 September 2022

Case Officer
Harry Horsley

Reviewer
Rebecca Henson

Date issued
27 October 2022

Appendix 3

PRTM 2019

Transport Modelling

MIRA Technology Park – South Site

Forecasting Report

Quality Information

Prepared by

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Approved by

Mark Dazeley

Regional Director

Revision History

Revision	Revision date	Details	Authorised	Name	Position
v1.0	2023-06-07	Draft for issue	Yes	Mark Dazeley	Regional Director
v2.0	2023-06-08	Formatting on back cover			

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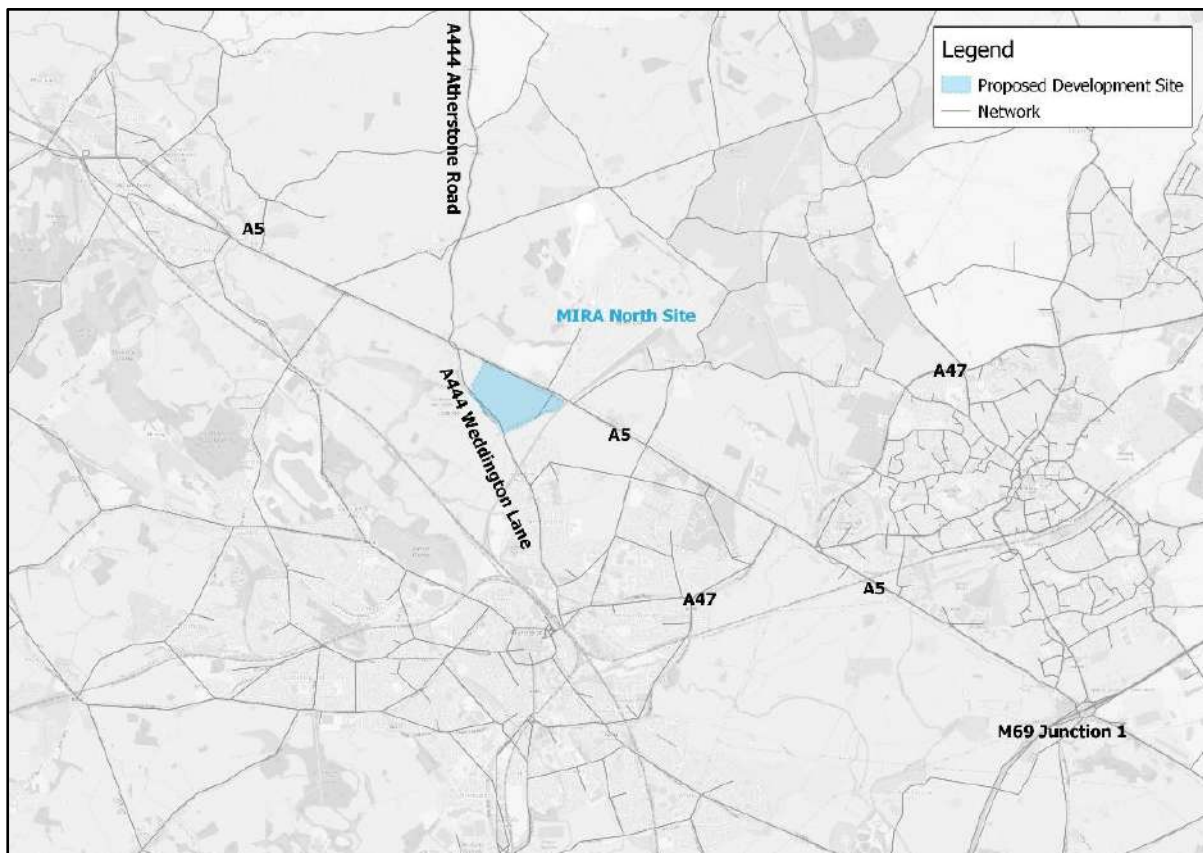
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Section 1 – Overview

1.1 Introduction

- 1.1.1 The MIRA Technology Park – South Site development is a proposed mixed-use development including industrial (Use Class B2), offices (use class E(g)(i)), research and development (use class E(g)(ii)) and warehousing (use class B8). The proposed development will comprise ~213,500m², and is expected to be built out by 2031.
- 1.1.2 Figure 1.1 provides an indicative location plan showing the proposed development site in blue, situated in the North Warwickshire borough, located to the south of the A5 with the A444 Weddington Lane broadly forming the western boundary of the development.

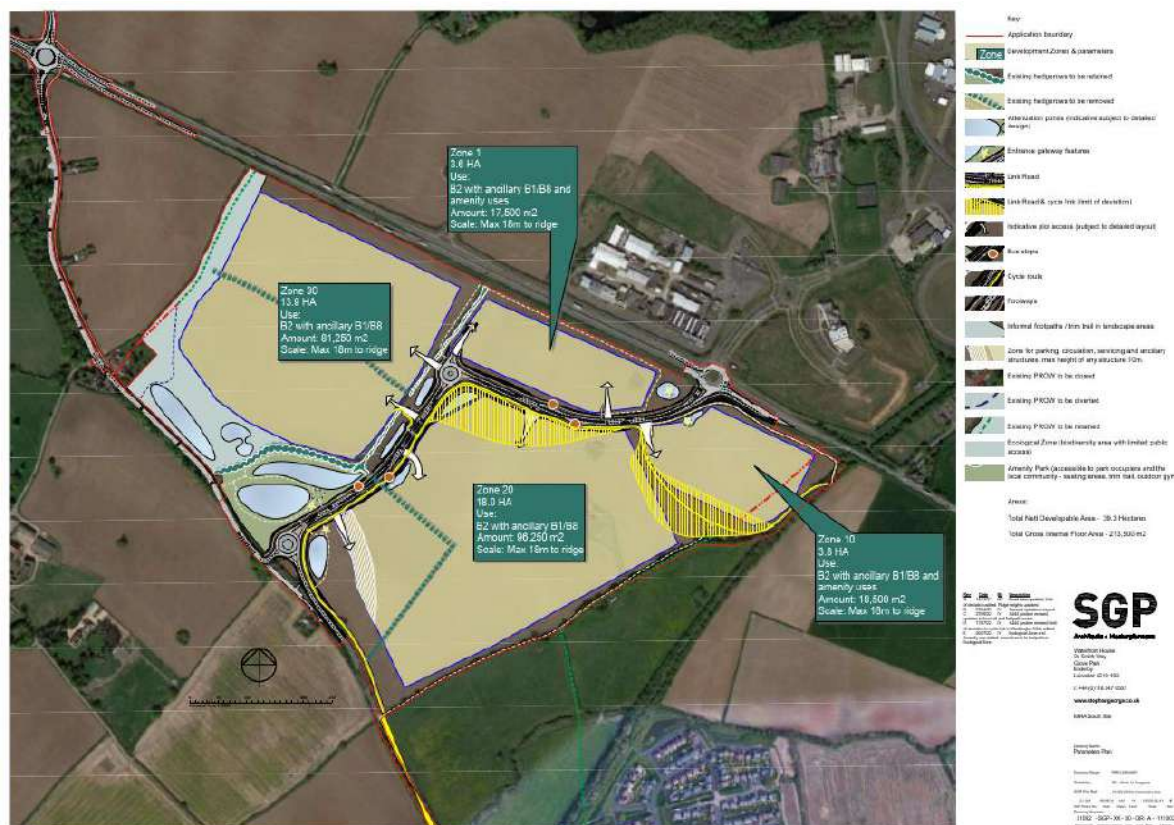
Figure 1.1: Location of Proposed Development



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- 1.1.3 Figure 1.2 displays the masterplan of the proposed development. It also illustrates that the site will be divided into four development zones or parcels with access taken from a link road that connects the A5 and the A444 Weddington Lane.

Figure 1.2: Development Masterplan¹



1.1.4 Figure 1.3 illustrates the proposed network upgrades associated with the development site. The site will access the highway network via two roundabouts, one on the A5 and the second on the A444 Weddington Lane to the south of the development. The A5 roundabout is currently a three-arm roundabout used to access MIRA Technology Park, to the north of the A5, which will be upgraded to a four-arm roundabout to allow access to/from the proposed development. The A444 Weddington Lane roundabout will be a new three-arm roundabout. These two roundabouts will be connected via a new A5-A444 Link Road.

1.1.5 In addition to the two access roundabouts and A5-A444 Link Road, additional infrastructure upgrades on the surrounding network as part of this proposed development will include;

- Redgate Junction (an elongated roundabout connecting the A5, the A444 Weddington Lane and the A444 Atherstone Road) to be re-modelled as a four-arm roundabout;
- the A5 widened to two lanes westbound between the development access roundabout on the A5 and Redgate Junction;
- the closure of the A444 Weddington Lane for through-traffic (restricted to local access only) between the access roundabout on the A444 Weddington Lane and Redgate Junction; and
- restricted turning movements at the A5 / Drayton Lane and the A5 / Woodford Lane junctions.

¹ Drawing no:17059 MIRA South Site TA Appendices Volume 1.pdf, provided as part of the information pack with the PRTM Development Form for MIRA Technology Park, South Site (MTP Complete 22.12.22).

Figure 1.3: Proposed Network Upgrades Associated with the Development Site²

- 1.1.6 AECOM has been commissioned to undertake strategic modelling to assess the potential traffic impacts of the proposed development using the Pan-Regional Transport Model (PRTM) for the AM Peak and PM Peak hours.
- 1.1.7 Within this assessment of the proposed MIRA South Site development, two forecast scenarios have been produced as shown in Table 1.1.

Table 1.1: Forecast Model Scenarios

Forecast Year Scenario Proposed Development (~213,500m²)

2031	Without Development	✗
	With Development	✓

- 1.1.8 This report is the Forecasting Report which documents the forecast model results for the PRTM strategic modelling assessment of the proposed development. This report follows the MIRA South Site Base Year Model Review Report³ which details the calibrated 2019 base year model review and performance in the vicinity of the proposed development site.
- 1.1.9 It should be noted that a mitigation scenario for 2031 will be undertaken in due course as part of this study. At the time of writing, the detailed assumptions for the mitigation scenario have not been confirmed with the client and stakeholders. As such, the modelling for the mitigation scenario has not been undertaken and this version of the Forecasting Report does not include the forecast model results for the 2031 mitigation scenario.

² Drawing no. 17059-GA-01-RevC, provided as part of the information pack with the PRTM Development Form for MIRA Technology Park, South Site (PRTM Development Form v1.3 (MTP Complete 22.12.22)).

³ PRTM -MIRA South Site - Base Year Model Review v1.0 (2023-02-22).

1.2 Report Structure

1.2.1 Following the introduction, this report contains the following sections:

- Section 2 – Forecast Approach and Assumptions: this section details the forecast assumptions applied within this assessment of the proposed development, including the assumed development trip generation and trip distribution.
- Section 3 – Forecast Model Results: the section details the forecast results requested as part of the brief.
- Section 4 – Summary of the PRTM Assessment: this section provides a summary of the assessment of the proposed development.
- Appendix A - Planning Data Assumptions: this section summarises the residential and employment forecast assumptions.
- Appendix B - Network Assumptions: this section details the network assumptions for the future year models.

Section 2 – Forecast Approach and Assumptions

2.1 Introduction

- 2.1.1 This section sets out the forecast assumptions applied for this application of the PRTM, and the methodology adopted to create the required model forecasts.
- 2.1.2 In addition to the calibrated 2019 base year model, the following forecast model scenarios have been produced:
- 2031 'Without Development'; and
 - 2031 'With Development'.
- 2.1.3 The 'Without Development' forecasts have made use of the highway, public transport, and variable demand model components of the PRTM. The forecasts therefore include the response of travel demand to forecast changes in the costs of travel (including congestion, fuel prices and public transport fares) and change in assumed highway and public transport infrastructure over time. Section 2.2 provides the 'Without Development' assumptions applied.
- 2.1.4 To produce the 'With Development' forecasts, the highway demand for the proposed development has been added to the PRTM 2031 'Without Development' highway demand matrices and assigned in the PRTM highway model. Sections 2.3 to 2.5 provide the highway network and demand assumptions for the proposed development.
- 2.1.5 As documented in the MIRA South Site Base Year Model Review Report⁴, the PRTM₂₀₁₉ v1.1 uses the November 2022 (Forthcoming Change version) TAG data book which was the latest available TAG data book available at the time of the model calibration.

2.2 'Without Development' Assumptions

- 2.2.1 The forecast planning data and infrastructure schemes, in the format of an Uncertainty Log, used to produce the forecast 'Without Development' scenarios, were reviewed by the client.
- 2.2.2 Appendix A presents the planning data assumptions (residential and employment) within North Warwickshire, Hinckley and Bosworth and Nuneaton and Bedworth that have been incorporated in the forecast modelling. Given the number of developments in the Uncertainty Log, the reporting of the planning data are limited to residential sites with more than 500 dwellings and employment sites with more than 750 jobs. All available data that should be used in the modelling, irrespective of size, have been used in the model forecasts. The complete list of the planning assumptions is included in the MIRA South Site Uncertainty Log v1.1⁵.
- 2.2.3 Appendix B presents the forecast assumptions for the highway network for this application.
- 2.2.4 The trip forecasting process contained within the PRTM uses forecasts of population, households, and jobs to generate estimates of future travel demand. Planning forecasts (containing measures of housing and development) were unconstrained (NTEM minimum⁶) for this application as noted in the proposal⁷.

2.3 Proposed Development Access Assumptions

- 2.3.1 To produce the 'With Development' network for 2031, the assumed site accesses, link road and associated infrastructure upgrades for the proposed development, as discussed in Paragraphs 1.1.4 and 1.1.5, were added in the relevant 'Without Development' networks.
- 2.3.2 Four PRTM development zones have been used to represent the proposed MIRA South Site development with one PRTM development zone representing each of the four development parcels (as shown in Figure 1.2). These four PRTM development zones will access the wider network via the new A5-A444 Link Road.

2.4 Proposed Development Trip Generation Assumptions

- 2.4.1 Development trip generation data for the proposed development were provided by the client⁸ and reproduced in Table 2.1. These have been added to the 2031 'Without Development' highway demand

⁴ PRTM -MIRA South Site - Base Year Model Review v1.0 (2023-02-22).

⁵ MIRA South Site Uncertainty Log v1.1.xlsx

⁶ In the event that the planning data lead to below NTEM / TEMPro growth, the model reverts to NTEM / TEMPro as minimum.

⁷ Fee Proposal for MIRA South Site v1.0 (2023-01-12)

⁸ Development Trip Generation provided via the PRTM Modelling Proforma provided via email on 22nd December 2022

matrices to form the 2031 'With Development' highway demand matrices and assigned in the PRTM highway model.

Table 2.1: Development Trip Generation (2031)

	Car Trips (in vehicles)			HGV Trips (in vehicles)			All (in vehicles)		
	Departing (Out)	Arriving (In)	Total	Departing (Out)	Arriving (In)	Total	Departing (Out)	Arriving (In)	Total
AM Peak hour (08:00 to 09:00)	100	523	623	64	68	132	164	591	755
PM Peak hour (17:00 to 18:00)	391	49	440	8	24	32	399	73	472

2.5 Proposed Development Trip Distribution Assumptions

- 2.5.1 It was agreed that the development trip distributions are to be based on an existing PRTM 'parent zone' taken from the 2031 'Without Development' scenario. It was agreed⁹ that the zone containing MIRA North Site, located to the north of the A5, should be used to define the trip distribution to / from the proposed development. This zone was selected based on both its location and land-use characteristics.
- 2.5.2 Figure 2.1 to Figure 2.4 show the forecast development trip distribution for HGVs and cars on the highway network for the 2031 'With Development' scenario. Given the difference in the quantum of trips between HGVs and cars the reader should note that the scale used in these figures differs by vehicle type for presentation purposes.
- 2.5.3 These figures show that the forecast HGV development traffic has a broadly similar distribution and quantum of trips to and from the proposed development in the AM Peak, but with fewer trips in the PM Peak hour. HGVs are forecast to use the A444 Weddington Lane to and from the south (e.g. Coventry), and the A5 to and from the east (e.g. Leicester). A small proportion of HGV trips is forecast to use the A5 to and from the north. Given the land-use characteristics to the north of the development, there are no HGV development trips forecast to use the A444 Atherstone Road in the AM Peak or PM Peak hours.
- 2.5.4 As noted in Paragraph 1.1.5 the A444 Weddington Lane is closed for through-traffic between the access roundabout on the A444 Weddington Lane and Redgate Junction and is therefore not used for HGV or car development traffic travelling north.
- 2.5.5 For cars, development trips to the proposed development in the AM Peak hour are forecast to use the A444 Weddington Lane to and from Nuneaton, Coventry and Bulkington, and the A5 to and from Hinckley, Leicester City and the east. Car trips are forecast to use the A5 to and from Atherstone and the north. A small proportion of car trips is also forecast to use the A444 Atherstone Road to access areas to the north of the development such as Twycross and Sutton Cheney. This forecast pattern is reversed for trips from the development in the PM Peak hour.
- 2.5.6 The quantum of car development trips from the development in the AM Peak hour is significantly smaller than the number of development trips to the development, as shown in Table 2.1. Development trips from the proposed development in the AM Peak hour are forecast to use the A444 Weddington Lane to and from Nuneaton and the south, and the A5 to and from the east. A small number of car trips is forecast to use the A5 to and from the north and the A444 Atherstone Road to access areas the north. This pattern is forecast in the reverse for the PM Peak hour development trips to the proposed development.

⁹ MIRA South Site – PRTM Progress Meeting on 13th April 2023

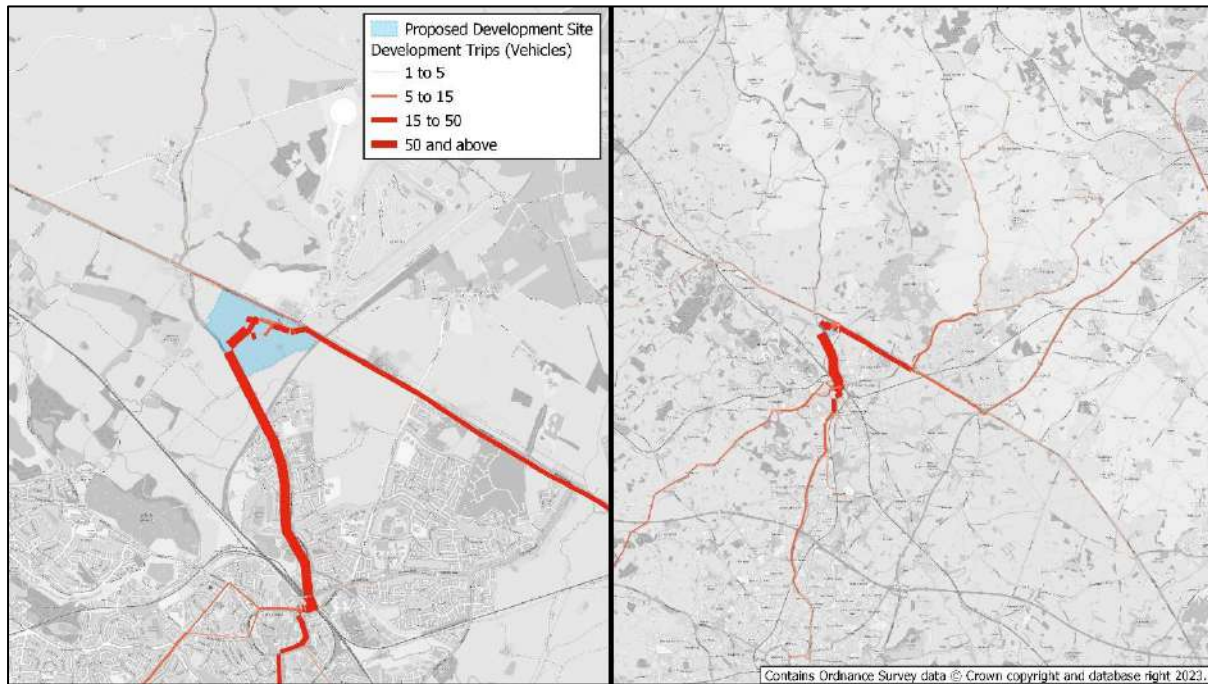
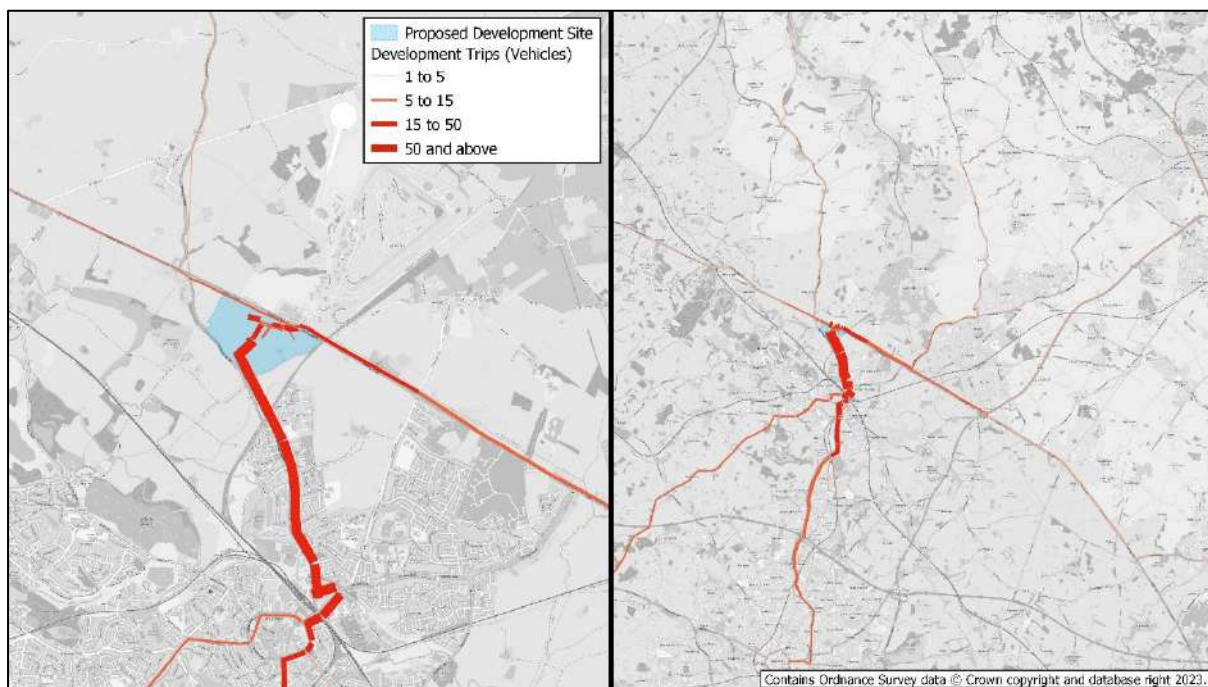
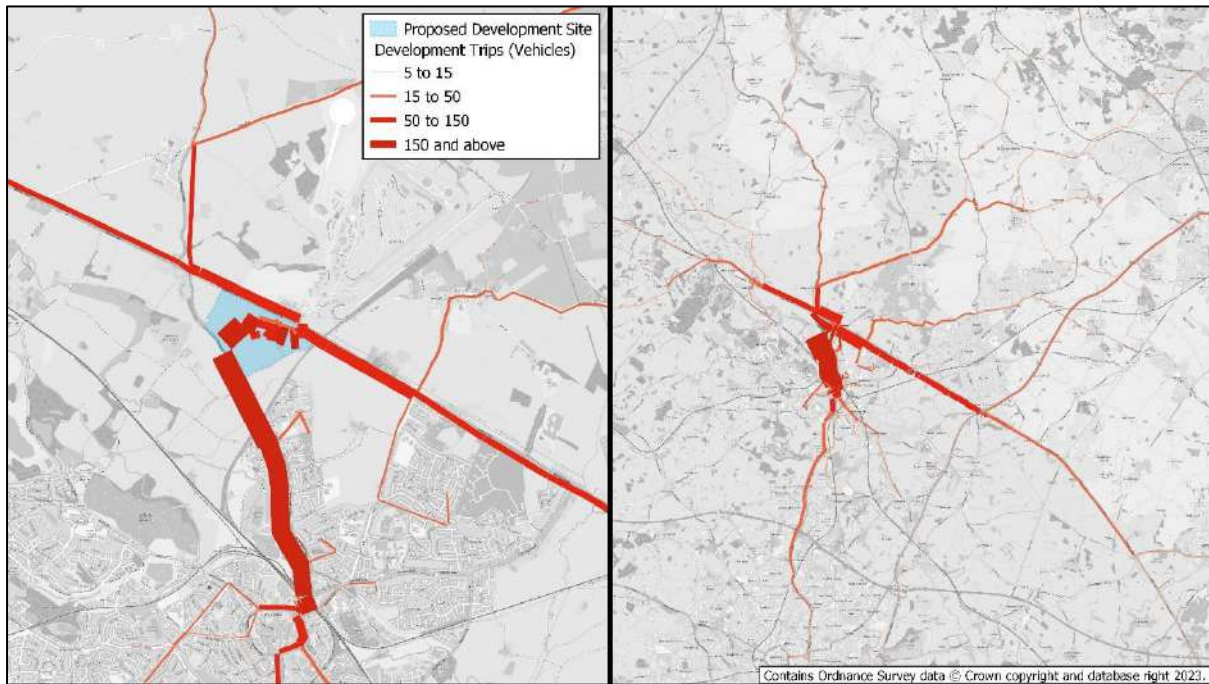
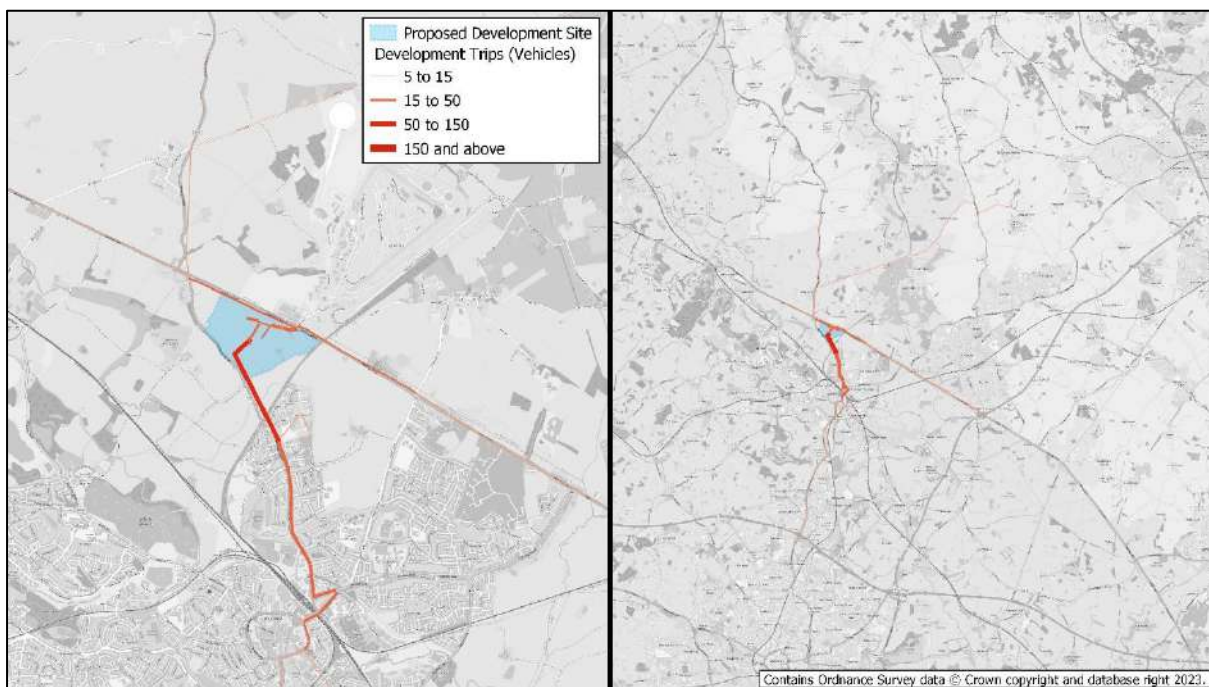
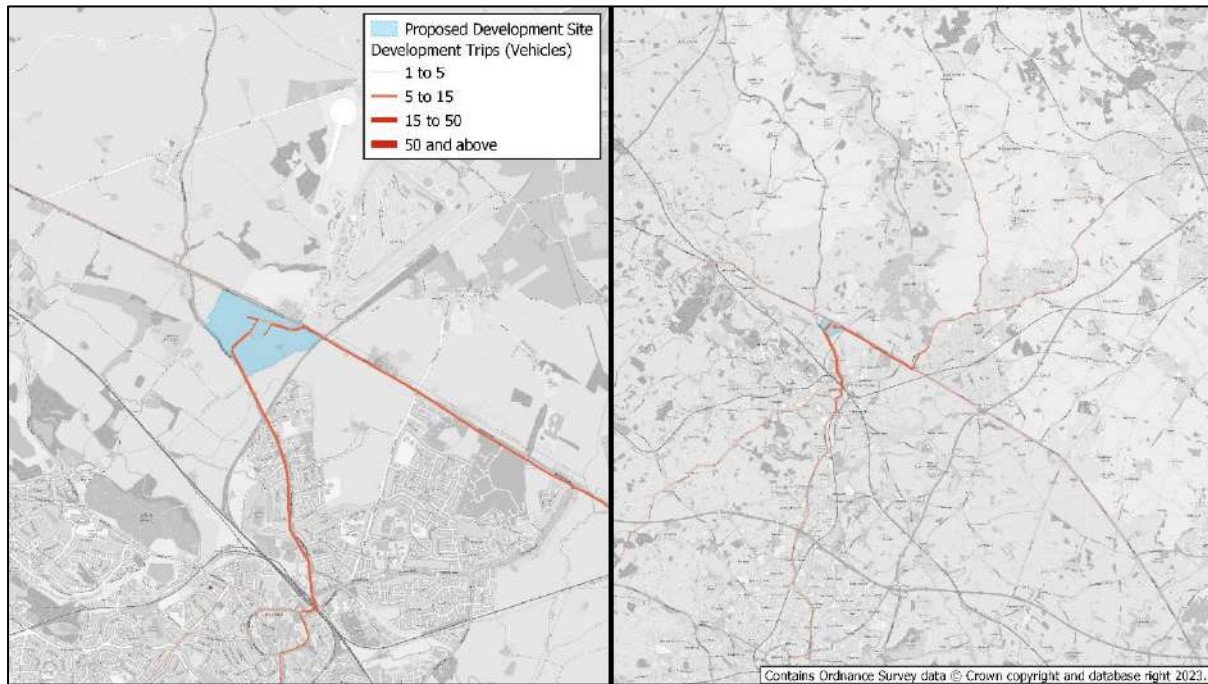
Figure 2.1: HGV Trip Distribution to and from the Proposed Development for 2031 (AM)**2031 'With Development' (AM) To the Development (68 HGVs in Total)***Contains Ordnance Survey data © Crown copyright and database right 2023***2031 'With Development' (AM) From the Development (64 HGVs in Total)***Contains Ordnance Survey data © Crown copyright and database right 2023*

Figure 2.2: Car Trip Distribution to and from the Proposed Development for 2031 (AM)**2031 'With Development' (AM) To the Development (523 Cars in Total)**

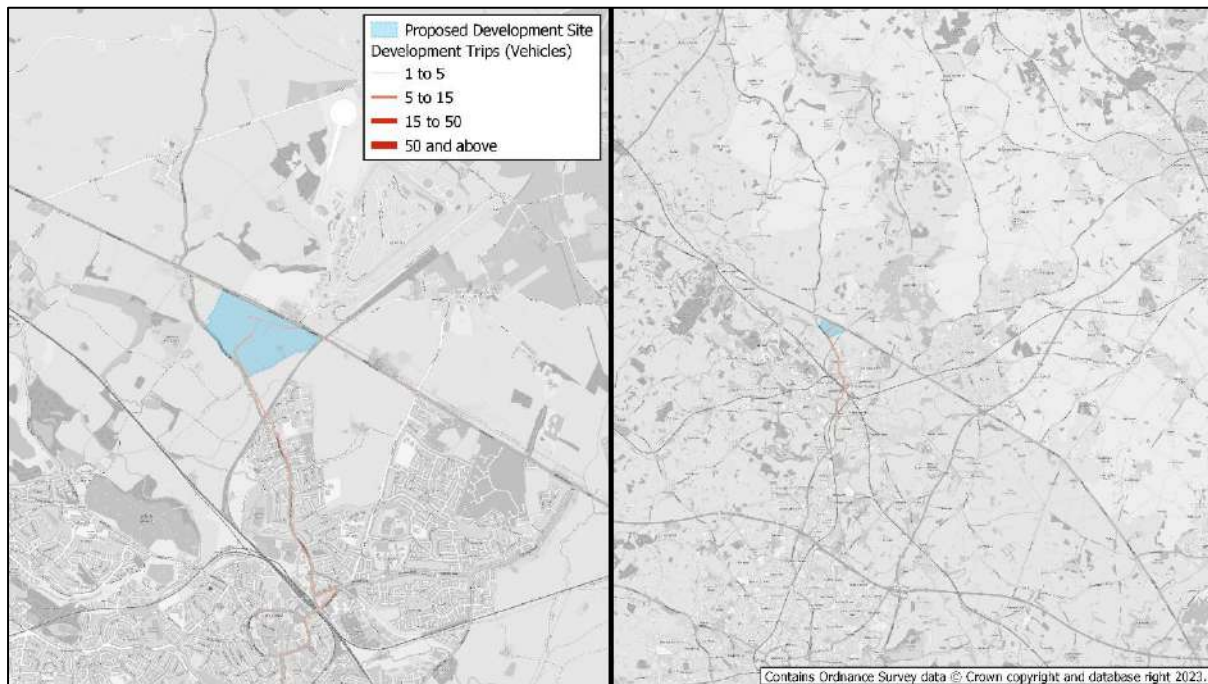
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2031 'With Development' (AM) From the Development (100 Cars in Total)

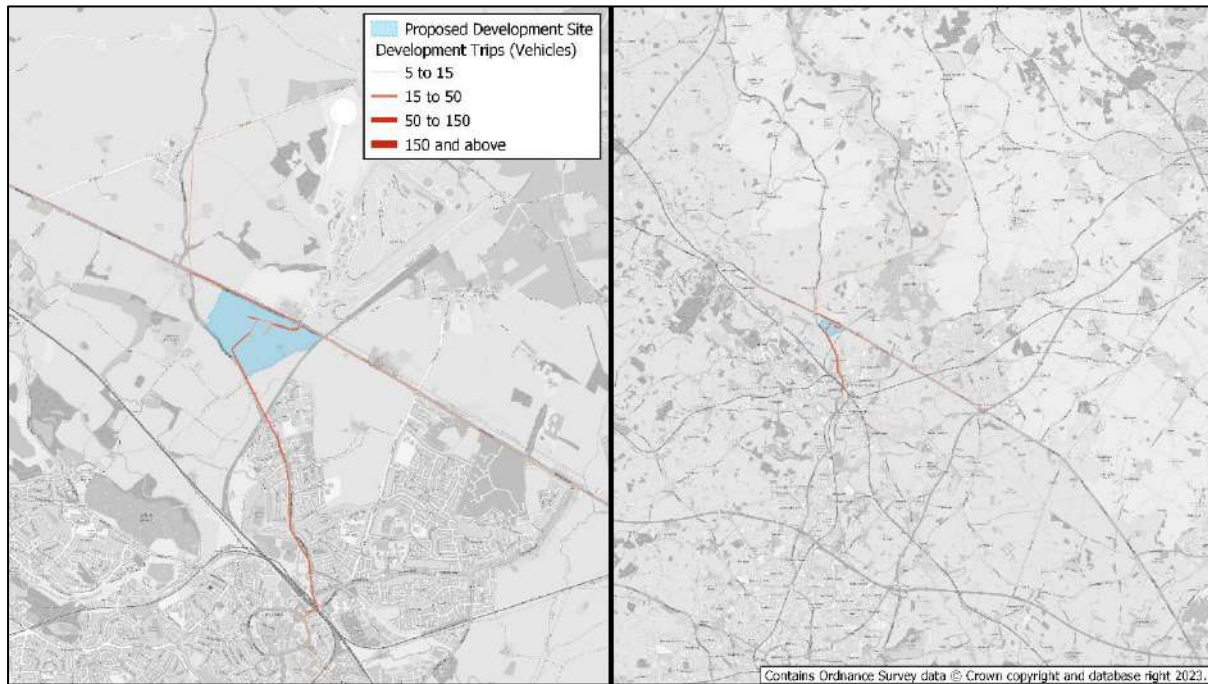
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Figure 2.3: HGV Trip Distribution to and from the Proposed Development for 2031 (PM)**2031 'With Development' (PM) To the Development (24 HGVs in Total)**

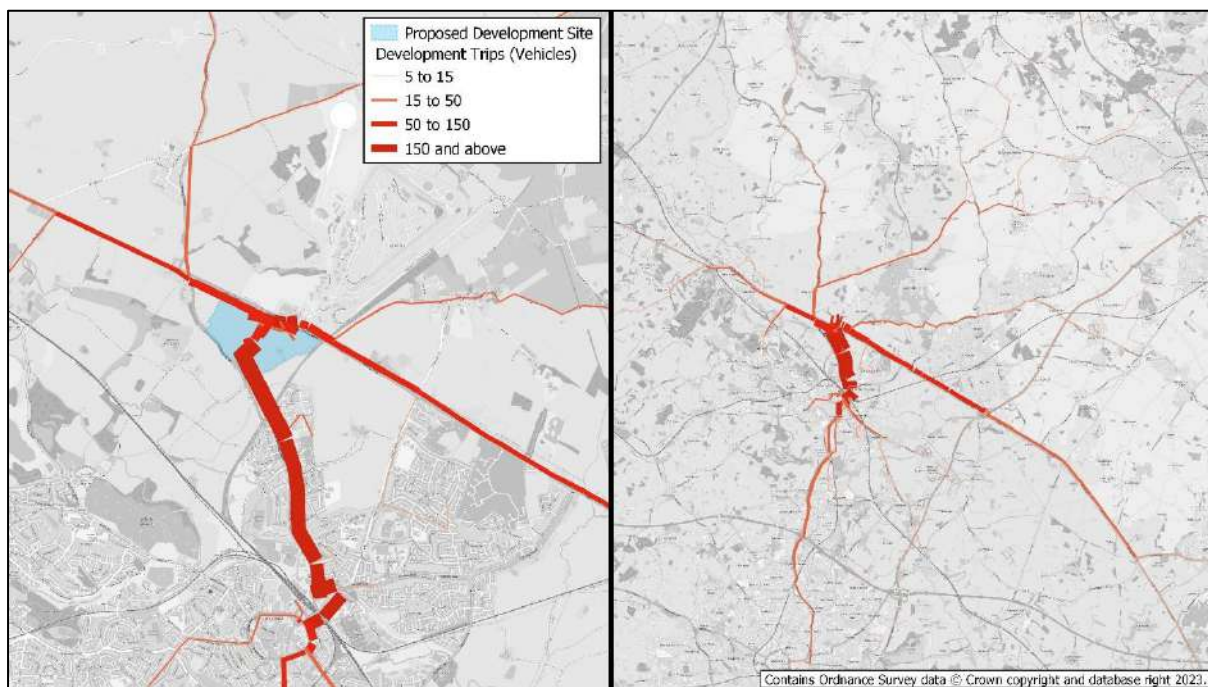
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2031 'With Development' (PM) From the Development (8 HGVs in Total)

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Figure 2.4: Car Trip Distribution to and from the Proposed Development for 2031 (PM)**2031 'With Development' (PM) To the Development (49 Cars in Total)**

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2031 'With Development' (PM) From the Development (391 Cars in Total)

Contains Ordnance Survey data © Crown copyright and database right 2023

Section 3 – Forecast Model Results

3.1 Introduction

3.1.1 This section details the forecast model results for the proposed MIRA South Site development assessment for the AM Peak (08:00 to 09:00) and PM Peak (17:00 to 18:00) hours. The analysis includes:

- routing of the forecast development traffic in the 2031 'With Development' scenario (Section 2.5 and Section 3.2);
- forecast flow changes in 2031 between the 'With Development' and 'Without Development' scenarios (Section 3.3);
- an assessment of the Area of Influence (Aol) (Section 3.4);
- forecast delay changes in 2031 between the 'With Development' and 'Without Development' scenarios (Section 3.5);
- forecast maximum node volume-capacity ratios in the 2031 'With Development' scenarios (Section 3.6); and
- forecast turning flows (and volume-capacity ratios for turns) at selected junctions (Section 3.7).

3.2 Forecast Development Traffic

3.2.1 Figure 2.1 to Figure 2.4 in Section 2.5 illustrate the assigned forecast trip distribution to and from the proposed development in 2031 for both AM Peak and PM Peak hours. These figures show that the HGV development traffic predominantly routes via A444 Weddington Lane to and from Coventry and the south, and the A5 to and from Leicester and the east. A small proportion of HGV trips is forecast to use the A5 to and from the north with no HGV development trips forecast to use the A444 Atherstone Road in either peak hour.

3.2.2 As noted in Paragraph 1.1.5, the section of road between the access roundabout on the A444 Weddington Lane and Redgate Junction on the A444 Weddington Lane is closed for through-traffic and is therefore not used for HGV or car development traffic.

3.2.3 The modelling shows that the car development traffic is forecast to:

- route to and from the south via the A444 Weddington Lane to access locations including Nuneaton, Coventry and Bulkington;
- route to and from the east via the A5 to access locations including Hinckley, Leicester City;
- route to and from the west via the A5 to access locations including Atherstone; and
- route to and from the north via the A444 Weddington Lane to access locations including Twycross and Sutton Cheney.

3.3 Forecast Flow Change

3.3.1 Figure 3.1 shows the forecast flow changes in 2031 between the 'With Development' and 'Without Development' scenarios for the AM Peak and PM Peak hours. Red bandwidth represents an increase in traffic flow in the 'With Development' scenario and green bandwidth represents a decrease.

3.3.2 As expected, the largest decrease in traffic is on the A444 Weddington Lane between the access roundabout on the A444 Weddington Lane and Redgate Junction as this section of road is closed to through-traffic in the 'With development' Scenario (as noted in Paragraph 1.1.5). This road closure has led to non-development traffic diverting on to alternate routes, including the B4114 Tuttle Hill to the south of the A444 Weddington Lane, in the 'With Development' scenario. This closure makes the A5 roundabout access more attractive for development trips travelling north.

3.3.3 As noted in Paragraph 1.1.5, turning movements have been restricted at the A5 / Drayton Lane and the A5 / Woodford Lane junctions in the 'With Development' scenario. These turning movement restrictions are forecast to divert traffic off Woodford Lane and Drayton Lane in the 'With Development' scenario in both peak hours.

3.3.4 The A5 between Woodford Lane and the A444 Weddington Lane is forecast to have fewer trips in the 'With Development' scenario. This forecast reduction in trips is caused by traffic diverting off this route

in response to both the closure of a section of road along the A444 Weddington Lane and the and the turning movement restriction at the A5 / Drayton Lane and the A5 / Woodford Lane junctions (as noted in Paragraph 1.1.5).

- 3.3.5 As expected, the largest increases in flows are forecast on roads in the immediate vicinity of the proposed development including the A5 south of the A444 Weddington Lane and the proposed A5-A444 Link Road.
- 3.3.6 There is a forecast increase in trips on Higham Lane, south of the A5, as trips divert via the Callendar Farm housing estate local access road. This local routeing is due to large forecast delays at the A5 Higham Roundabout, as shown in Figure 3.3.

Figure 3.1: Forecast Flow Change for 2031 'With Development' minus 'Without Development'**AM Peak hour**

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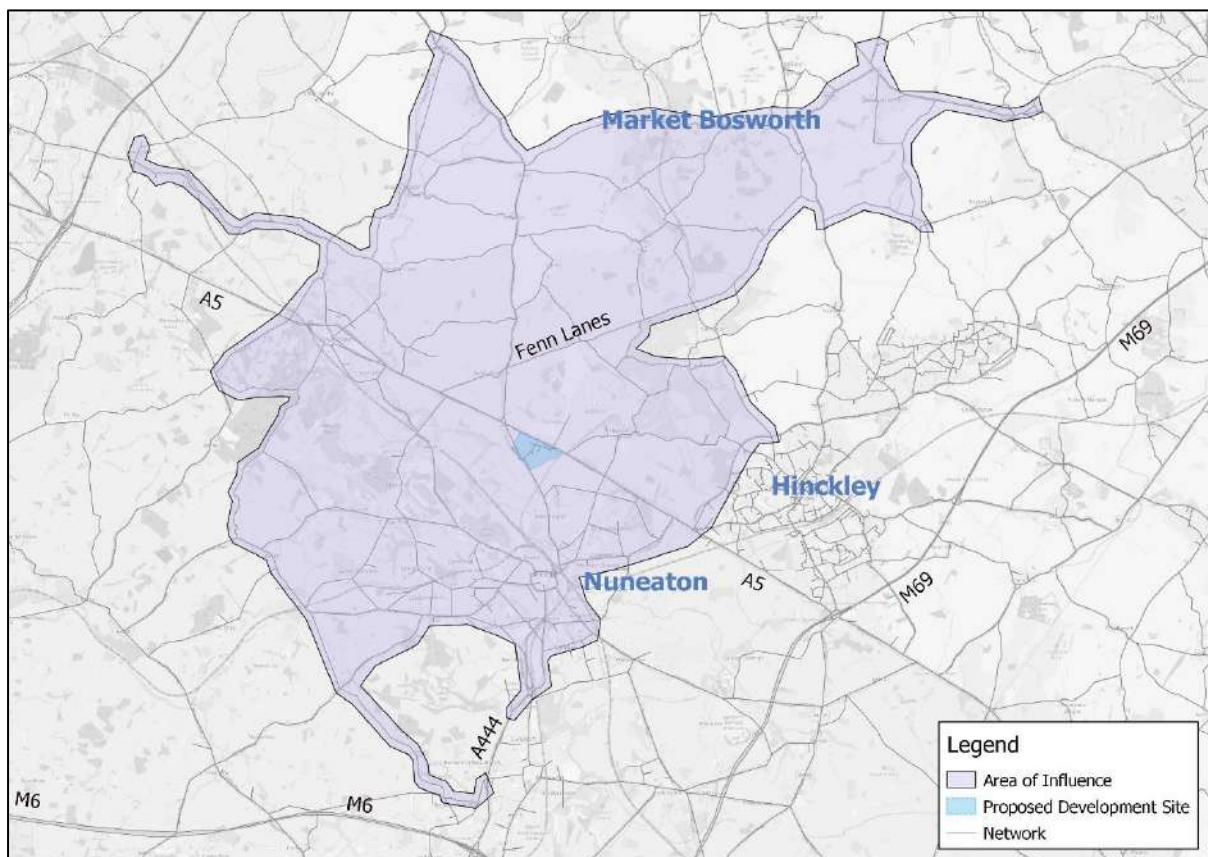
PM Peak hour

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3.4 Area of Influence

- 3.4.1 Using the forecast flow changes between the 'With Development' and 'Without Development' scenarios, an indication of the Area of Influence has been defined. Figure 3.2 shows the Area of Influence for the proposed development.
- 3.4.2 For the proposed development, the Area of Influence has been defined by considering the links which are forecast to change flow by more than $\pm 5\%$ and ± 30 PCUs between the 2031 'With Development' and 'Without Development' scenarios in either the AM Peak or the PM Peak hours. The links which are forecast to meet these criteria are included in the Area of Influence, as shown in Figure 3.2, and contain the following areas / links:
- the A5 between Dodwells Roundabout and the north of Tamworth;
 - the A47 between the A47 / Stoke Road and Nuneaton;
 - the A444 between Twycross and Griff Roundabout to the south of Nuneaton;
 - local roads in / around Nuneaton; and
 - local roads in / around Atherstone.

Figure 3.2: Area of Influence



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3.5 Forecast Delay Change

- 3.5.1 As a result of forecast flow changes in the 'With Development' scenario, there are also changes to the forecast delays on the highway network. These changes in delay can be generated from two sources: link delay based on the speed-flow curve applied to the link; and the junction delay due to capacity constraints for individual turning movements. The analysis in this section combines the link and junction delays (taking a flow-weighted average of junction delays) to assess the changes in forecast delays with the proposed development traffic.
- 3.5.2 Figure 3.3 shows the forecast delay changes in 2031 between the 'With Development' and 'Without Development' scenarios for the AM Peak and PM Peak hours. In the immediate vicinity of the proposed development delays are forecast to decrease on the A444 Weddington Lane as a section of this road is closed to through-traffic in the 'With Development' scenario (see Paragraph 1.1.5). Delays are forecast to increase by up to 35 seconds on the proposed A5-A444 Link Road that routes through the proposed development.
- 3.5.3 Forecast delays are also higher on all four approach arms at the Higham Junction roundabout in both AM Peak and PM Peak hours. The largest forecast increase in delay in the 'With Development' scenario is 112 seconds in the PM Peak hour. It should be noted that there are pre-existing high delays in the 'Without Development' scenario, and delay at this junction is sensitive to moderate increases in traffic.
- 3.5.4 To the west of the proposed development site, higher delays are forecast at the B4111 Nuneaton Road / Atherstone Road junction. This additional delay is generated from traffic diverting off the (partially closed) A444 Weddington Lane and on to the B4111 Nuneaton Road in the 'With Development' Scenario (also see Paragraph 3.3.2).
- 3.5.5 Traffic diverting on to this route is also forecast to increase delays at the B4114 Corporation Street / A444 Jubilee Way roundabout, in the centre of Nuneaton. The largest increase in forecast delay is 46 seconds in the PM Peak hour in the northbound direction.
- 3.5.6 Figure 3.3 shows an increase in delay at the B4102 Queens Road / A444 Jubilee Way signalised junction in both peak hours. This delay is caused by a sensitive turning movement at this junction that has a high volume-capacity ratio in the 'Without Development' meaning that small changes in forecast flow can create a large change in delay.

Figure 3.3: Forecast Delay Change for 2031 'With Development' minus 'Without Development'**AM Peak hour**

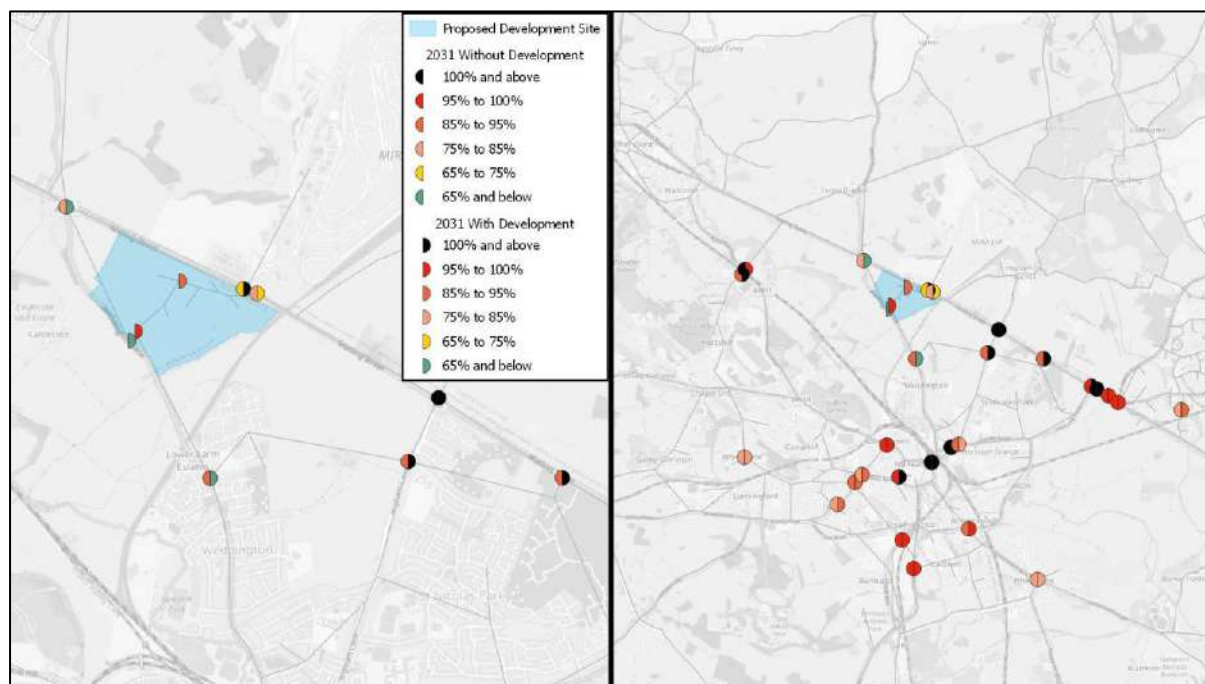
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PM Peak hour

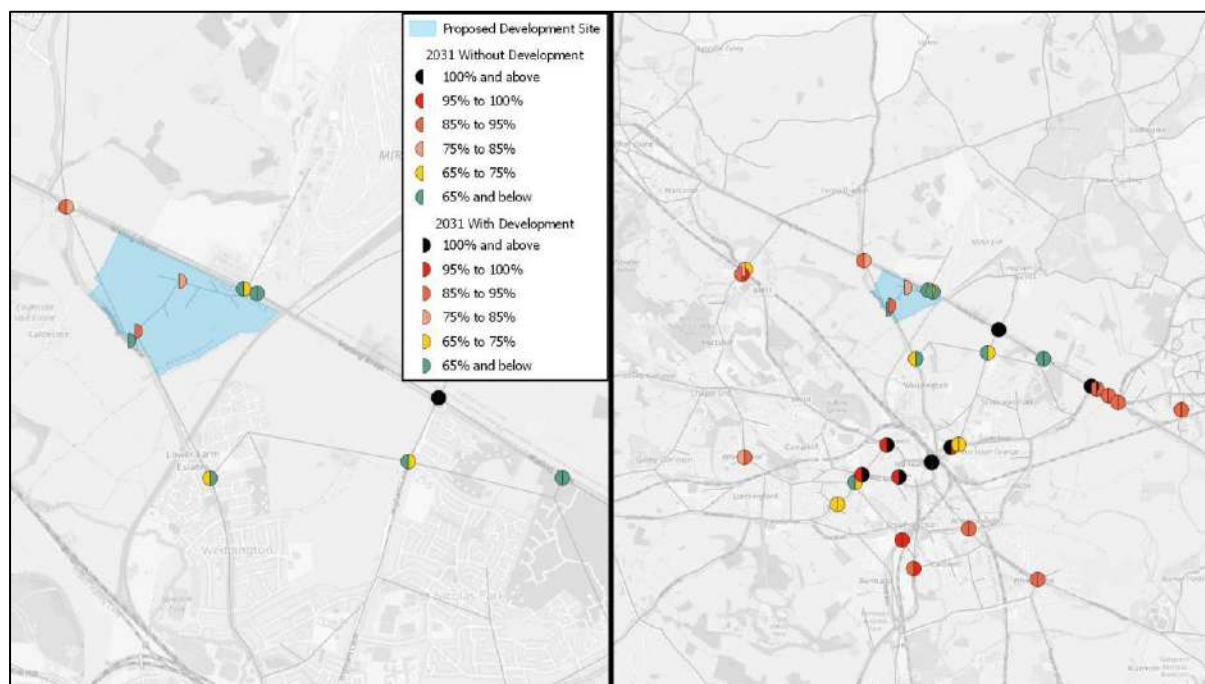
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3.6 Forecast Node Volume-Capacity Ratios

- 3.6.1 As a part of the forecast modelling, node / junction capacities are estimated for individual turning movements based on a number of factors including priority of the turn (for example, give-way or merge), the level of green-time at signalised junctions, and the amount of opposing traffic at the junction. Using these calculated capacities and the forecast traffic volumes, node volume-capacity ratios are estimated to identify locations where the forecast flows are approaching or exceeding the forecast capacity.
- 3.6.2 To summarise the forecast-capacity ratios for the individual turning movements at a node, there are two approaches. These are to calculate the flow-weighted average volume-capacity of the node, or to calculate the maximum volume-capacity ratio for all turns within a node. The average volume-capacity ratio provides an overview of how the individual node is performing but may not highlight locations where a limited number of movements at a node are approaching or exceeding capacity. To highlight these locations, the maximum volume-capacity ratio at each node has been used. Node volume-capacity ratios exceeding 85% indicate that the highway network is under stress, and there is likely to be a reduction in speed and increase in delay.
- 3.6.3 Figure 3.4 shows the forecast maximum junction volume-capacity ratios for the 2031 'With Development' and 'Without Development' scenarios. For ease of comparison, the symbology has been designed to show the data for 'Without Development' and 'With Development' scenarios on the same plot.
- 3.6.4 The reader should note that Figure 3.4 shows a subset of all nodes within the MIRA South Site Area of Interest to reduce the number of data points within the plots. Nodes which do not fall within the Area of Influence, as defined in Figure 3.2, are not shown. Nodes with maximum volume-capacity ratios below 85% in all forecast scenarios are not shown, except for three site access roundabout nodes which are located on the proposed A5-A444 Link Road.
- 3.6.5 The forecast maximum node volume-capacity ratio plots show that within close proximity to the proposed development the A5 / Mira Drive / the proposed A5-A444 Link Road roundabout, A444 Weddington Lane / Adderley Avenue / Lower Farm Way / Waititune Avenue roundabout, Higham Lane / Milby Drive priority junction and the A5 / Higham Lane / Nuneaton Lane roundabout are most affected by the proposed development.
- 3.6.6 Further away from the proposed development both the B411 Woodford Lane / B411 Nuneaton Road priority junction and the B4114 Midland Road / Manor Court Farm signalised junction are most affected by the proposed development. This impact corresponds with traffic diverting off the A444 Weddington Lane (due to a section of road being closed to through-traffic) and an increase on the B4114 (as shown in Figure 3.1).
- 3.6.7 The A444 Jubilee Way / B4102 Queens Road signalised junction shows an increase in volume-capacity ratios in the 'With Development' scenario. However, as noted in Paragraph 3.5.6, this increase is caused by a sensitive turning movement at this junction that has a high volume-capacity ratio in the 'Without Development' scenario, meaning that small changes in forecast flow can create a large change in volume-capacity ratios and delay.

Figure 3.4: Forecast Node Volume-Capacity Ratio for 2031 'Without Development' and the 2031 'With Development' Scenarios**AM Peak hour**

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PM Peak hour

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3.7 Forecast Junction Turning Flows

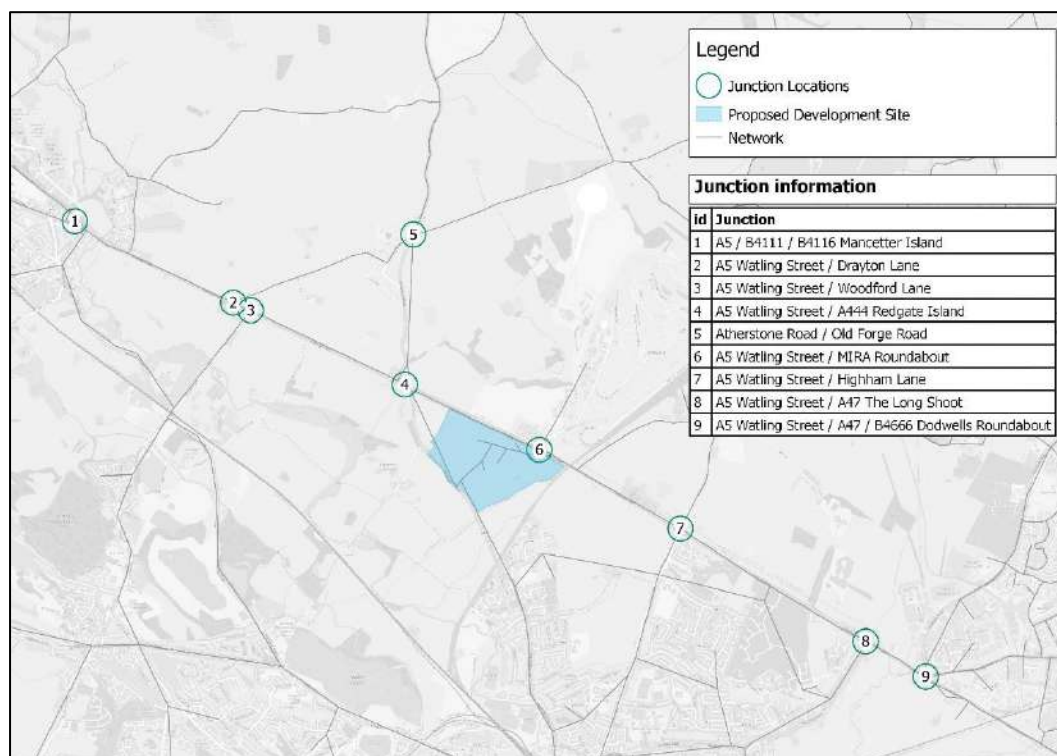
3.7.1 Forecast turning flows have been extracted for the following nine junctions (as shown in Figure 3.5) in the vicinity of the proposed development:

- A5 / B4111 / B4116 Mancetter Island;
- A5 / Drayton Lane;
- A5 / Woodford Lane;
- A5 / A444 Redgate Island;
- A444 Atherstone Road / Old Forge Road;
- A5 / MIRA Roundabout (proposed access roundabout);
- A5 / Higham Lane;
- A5 / A47 The Long Shoot; and
- A5 / A47 / B4666 Dodwells Roundabout.

3.7.2 The data have been provided separately in MS Excel / spreadsheet format¹⁰ which contains the forecast turning flows for the AM Peak and PM Peak hours for light and HGVs. Data are provided for the 2031 'Without Development' and the 2031 'With Development' scenarios. In addition to the turning flows, turn volume-capacity ratios have also been provided where available.

3.7.3 By design the PRTM highway model has not been calibrated or validated for individual turning movements, so care should be taken when using forecasts of flows and volume-capacity ratios at this level.

Figure 3.5: Location of Forecast Turning Flow Data



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¹⁰ MIRA_Junction Turning Flows - For Issue.xlsx

Section 4 – Summary of the PRTM Assessment

4.1 Summary of Assessment

- 4.1.1 Using the PRTM, forecasts have been undertaken to produce the 2031 'Without Development' and 'With Development' scenarios for both the AM Peak and PM Peak hours for the strategic assessment of the proposed MIRA South Site development.
- 4.1.2 Based on these model forecasts, the following is a summary of the key findings for the assessment of the proposed development:
- Development trips (HGVs) have been forecast to route via the following roads:
 - the A444 Weddington Lane to and from Coventry and the south;
 - the A5 to and from Leicester and the east; and
 - the A5 to and from the north.
 - Development trips (cars) have been forecast to route via the following roads:
 - the A444 Weddington Lane to access locations including Nuneaton, Coventry and Bulkington and south;
 - the A5 to access locations including Hinckley and Leicester City and the east;
 - the A5 to access locations including Atherstone and the west; and
 - the A444 Weddington Lane to access locations including Twycross and Sutton Cheney and the north.
- 4.1.3 As noted in Paragraph 1.1.5 the A444 Weddington Lane between the proposed access roundabout on the A444 Weddington Lane and Redgate Junction on the A444 Weddington Lane is closed for through-traffic and is therefore not used by HGV or car development traffic.
- 4.1.4 The forecast flow changes in 2031 between the 'With Development' and 'Without Development' scenarios show that the largest decreases in flows are forecast along the A444 Weddington Lane, reflecting the restriction on through-traffic. The largest forecast increase in flow is forecast on the A5 south of the A444 Weddington Lane and the proposed A5-A444 Link Road.
- 4.1.5 An Area of Influence for the proposed development has been defined by identifying links which are forecast to change by more than $\pm 5\%$ and ± 30 PCUs between the 'With Development' and 'Without Development' scenarios for 2031 in either the AM Peak or PM Peak hours. The forecast Area of Influence includes:
- the A5 between Dodwells Roundabout and the north of Tamworth;
 - the A47 between the A47 / Stoke Road and Nuneaton;
 - the A444 between Twycross and Griff Roundabout to the south of Nuneaton;
 - local roads in / around Nuneaton; and
 - local roads in / around Atherstone.
- 4.1.6 The forecast delay changes in 2031 between the 'With Development' and 'Without Development' scenarios show the proposed development is forecast to increase the forecast delays on the A5 / Nuneaton Lane / Higham Lane roundabout, the B4111 Nuneaton Road / Atherstone Road junction, and the B4114 Corporation Street / A444 Jubilee Way roundabout. Delays are forecast to decrease on the A444 Weddington Lane as a section of this road is closed to through-traffic in the 'With Development' scenario.
- 4.1.7 The forecast maximum node volume-capacity ratios show that the proposed development is forecast to increase pressure at the A5 / Mira Drive / the proposed A5-A444 Link Road roundabout, the A444 Weddington Lane / Adderley Avenue / Lower Farm Way / Watitune Avenue roundabout, the Higham Lane / Milby Drive priority junction, the A5 / Higham Lane / Nuneaton Lane roundabout, the B411 Woodford Lane / B411 Nuneaton Road priority junction and the B4114 Midland Road / Manor Court Farm signalised junction.

-
- 4.1.8 The forecasts undertaken reflect the forecast impact of the proposed development at MIRA South Site. It should be noted that the results provided in this report are at a high level. Due to the strategic nature of the PRTM, not all roads are modelled, and the results should be interpreted with that in mind.
- 4.1.9 Although the PRTM modelling provides the strategic impact and form part of the proposed MIRA South Site assessment evidence packs, the overall assessment should be complemented by local operational assessment and analysis.

Appendix A Planning Data Assumptions

Table A.1: Residential Development Assumptions (sites with more than 500 dwellings) (Hinckley and Bosworth, Nuneaton and Bedworth and North Warwickshire)

District	Location	Quantum	Timescale	Include
Hinckley and Bosworth	Land north-east of Triumph Motorcycles (Hinckley West site)	850	2021-2035	Y
Hinckley and Bosworth	Earl Shilton Sustainable Urban Extension	1,198	2029-2045	Y
Hinckley and Bosworth	Barwell Sustainable Urban Extension	2,500	2028-2051	Y
Nuneaton & Bedworth	Land north of Nuneaton	3,658	2020-2033	Y
Nuneaton & Bedworth	Land off Golf Drive	621	2022-2030	Y
Nuneaton & Bedworth	Arbury	1525	2022-2033	Y
Nuneaton & Bedworth	Gipsy Lane	575	2022-2028	Y
Nuneaton & Bedworth	Woodlands	689	2022-2033	Y
North Warwickshire	Land West of Robeys Lane, Tamworth	1,270	2022-2030	Y
North Warwickshire	Land at Whittington Farm, Atherstone	1,282	2025-2033	Y
North Warwickshire	Land to east of Former Tamworth Golf Course North of Tamworth Road	1,270	2022-2030	Y

Table A.2: Employment Development Assumptions (sites with more than 750 jobs) (Hinckley and Bosworth, Nuneaton and Bedworth and North Warwickshire)

For information, the following table shows the employment sites with more than 750 jobs within North Warwickshire, Nuneaton and Bedworth and Hinckley and Bosworth.

District	Location	Quantum	Timescale	Include
North Warwickshire	Land south-east of M42 J10, Trinity Road	6 HA (site area)	2020-2031	Y
Nuneaton & Bedworth	Faultlands	1,500 (jobs)	2022-2026	Y
Nuneaton & Bedworth	Phoenix Way/ Wilsons Lane	1,074 (jobs)	2020-2031	Y
Hinckley and Bosworth	Land East of Hinckley Island Hotel A5	80,688 sqm (floorspace)	2019-2021	Y
Hinckley and Bosworth	Land South of the A5 Padge Hall Farm	136,350 sqm (floorspace)	2030-2032	Y

Appendix B Network Assumptions

Table B.1: Highway Network Assumptions

Location	Scheme Name	Forecast Year	Include
Warwickshire	M6 J2-J4 SMART motorway	2021	Y
Leicestershire	A5 widening to dual carriageway near Hinckley	2026	N
Earl Shilton	Access arrangements for SUE/Highway improvements for SUE	2026	Y
Barwell	Access arrangements for SUE/Highway improvements for SUE	2026	Y
Lubbesthorpe	Access arrangements for SUE including strategic traffic link to the A563 Lubbesthorpe Way	2021	Y
Loughborough	A512 widening B591 to M1 J23, improvements to J23 and completion of dualling thereafter to either Snell's Nook Lane or Epinal Way junction	2021	Y
Castle Donington	Western Link Road from Back Lane to Tops Hill, NWLDC package of measures to help mitigate planned growth	2021	Y
Lubbesthorpe	Link across M69 to join north and south of the Lubbesthorpe development	2031	Y
Earl Shilton & Barwell	Highway improvements for SUE (Ashby Road/ Normandy Way)	2026	Y
Lubbesthorpe	Highway improvements for SUE (Mill Hill/ Warren Park, Meridian South/ A563, A47/A563)	2026	Y
SRFI	Highway improvements for new development	2021	Y
Loughborough	West of Loughborough SUE (access from the north via the A6 roundabout)	2022	Y
Loughborough	Access connection for the Science Park via the A512 roundabout	2031	Y
Loughborough	West of Loughborough SUE (connection to the northern arm of the A512 roundabout)	2036	Y
Blaby	Desford Crossroads	2026	N
Harborough	Harborough Strategic Development Area	2021	Y
Charnwood	North of Birstall SUE (Broadnook SUE)	2026	Y
Charnwood	Mountsorrel Lane, Rothley Link Road	2021	Y
Charnwood	A512 junction improvements	2021	Y
North of East Leicester	North of East Leicester Development Network – Thorpebury SUE	2026	Y
Leicester City	Welford Road	2021	Y
Leicester City	Waterside Development	2026	Y
Leicester City	Belgrave Gate South	2020	Y
Leicester City	Lancaster Road	2020	Y
Leicester City	Mansfield Street & Church Gate	2021	Y
Leicester City	SMBS Access to Burleys Way	2021	Y
Leicester City	Vaughan Way	2020	Y
Leicester City	Ashton Green	2021	Y
Leicester City	London Road	2020	Y
Leicester City	LNW2 Ravensbridge Drive / Blackbird Road	2020	Y
Melton	Melton Mowbray Distributor Road (Northern Section) (Nottingham Road to A607)	2026	Y
Melton	Melton Mowbray Distributor Road (Eastern Section) (A607 to Burton Road)	2026	Y

Location	Scheme Name	Forecast Year	Include
Melton	Melton Mowbray Southern Link Road (Burton Road to Leicester Road)	2026	Y
Melton	Gladman's Site Access (Leicester Road and Kirby Lane)	2021	Y
Leicester City	Beaumont Leys Anstey Lane Improvements	2021	Y
Hinckley	Rugby Road Corridor Improvements – Phase 4	2023	Y
Leicester City	Putney Road West Improvements	2022	Y
Lutterworth	Frank Whittle Roundabout approaches (Magna Park)	2021	Y
Lutterworth	Lutterworth East Development (Development Access (A4304, Gilmorton Road and A426))	2026	Y
Lutterworth	Lutterworth East Development Associated Mitigations	2031	Y
Lutterworth	Lutterworth East Development (Link Road between A4304 and A426)	2031	Y
Lutterworth	Lutterworth East Development (Gilmorton Road bridge bus restriction)	2026	Y
Bardon Hill	Bardon Hill Link Road North Section	2026	Y
Coalville	Hoo Ash Roundabout	2025	Y
Coalville	Thornborough Road Roundabout	2025	Y
Coalville	Dual Carriageway from Thornborough Rd to Whitwick Road	2025	Y
Coalville	Whitwick Road Roundabout	2025	Y
Coalville	Broom Leys Road Junction	2025	Y
Coalville	Bardon Link Road Junction	2025	Y
Coalville	Bardon Link Road Southern Section	2026	Y
Coalville	Birch Tree Roundabout	2025	Y
Coalville	Flying Horse Roundabout	2025	Y
Coalville	Fieldhead Roundabout	2025	Y
Hinckley	DPD A5 Access	2021	Y
Leicester City	Abbey Park Road Cycle Provision	2021	Y
Blaby	A47/Kirby Lane Tesco Express	2021	Y
Leicester City	Abbey Street	2021	Y
Leicester City	A50 Groby Road Bus Lane	2022	Y
Harborough	Magna Park Extension Access - Mere Lane, Lutterworth	2021	Y
Harborough	Magna Park Extension Access - A5, Lutterworth	2026	Y
Blaby	Highway improvements for Lubbesthorpe SUE (A47/Braunstone Lane/Ratby Lane, A5460/M1 J21)	2021	Y
Blaby	Foxhunter Roundabout Eastbound Approach	2021	Y
Harborough	B4114/B581 Signalisation Improvement, Broughton Astley	2026	Y
Blaby	Everards Meadow Access	2021	Y
Blaby	Hastings Fields Blaby DPD Site Access	2026	Y
Blaby	West of St Johns (Blaby DPD) Site Access	2031	Y
Harborough	Wigston Direction for Growth Site Access	2026	Y
Blaby	Everard Way Closure, Fosse Park	2020	Y
NWL	Money Hill Site Access A511	2026	Y
Derbyshire	Wragley Way (South Derbyshire) SUE Access A50 (A50 J3a)	2031	Y
Derbyshire	Clifton (Rushcliffe) SUE Access	2022	Y
Derbyshire	EMIP A50 (Freeport)	2030	Y
Derbyshire	Toton Innovation Hub (HS2)	2026	Y
Nottinghamshire	Ratcliffe Power Station A453 (Freeport)	2030	Y

Location	Scheme Name	Forecast Year	Include
Rugby	Rugby Radio Station - A5 Access	2022	Y
Leicester City	Buckminster Rd/Brading Rd Safer Streets	2022	Y
North West Leicestershire	Mercia Park	2020	Y
Leicester City	Western Park Golf Course	2029	Y
Harborough	Kettering Road Signalisation	2021	Y
M6 J10-13	M6 J10-13, M54-Stafford ALR	2021	Y
M54-M6 Toll	M54-M6 Toll, link road min 2 lane motorway	2024	Y
M6 J13-J15	M6 J13-15, Stafford South to Stoke South ALR	2022	Y
M1 J13-16	M1 J13-16, Milton Keynes South to J16 ALR	2022	Y
M40 M42	M40-M42, M40 J16-M42 J3 ALR	2026	Y
A46 Coventry	A46 Coventry, remove Binley and Walsgrove roundabouts & upgrade	2022	Y
A46 Toll Bar End	A46 Toll Bar End, grade separated junction and 3 lane highway	2021	Y
Newark N	A46 Newark, dualling Newark North bypass	2031	Y
Newark S	South of Newark, A1-A46 link S of Newark; part completed	2031	Y
Lincoln E	East of Lincoln, A15-A158 link; part completed	2021	Y
Lincoln S	South of Lincoln, A158-A46 link	2031	Y
Grantham S	South of Grantham, A1-A52 link; part completed	2023	Y
Nuneaton and Bedworth Borough	Coton Arches	2021	Y
Nuneaton and Bedworth Borough	A4254b Eastboro Way P1	2022	Y
Nuneaton and Bedworth Borough	College Street / A444	2023	Y
Nuneaton and Bedworth Borough	Transforming Nuneaton	2026	Y
Nuneaton and Bedworth Borough	Croft Road/Greenmoor Road Priority	2021	Y
Nuneaton and Bedworth Borough	A47 Old Hinckley Road	2024	Y
Nuneaton and Bedworth Borough	Coventry Road / Gipsy Lane	2026	Y
Nuneaton and Bedworth Borough	A4254 / B4114/Eastboro Way	2026	Y
Nuneaton and Bedworth Borough	Nuneaton Northern Sites Link Road	2026	Y
North Warwickshire	B5000 Market Street/Bridge St Signals	2026	Y
North Warwickshire	A5 Dualling between Grendon and Dordon and Dordon junction	2033	Y
North Warwickshire	A5 Dualling, Grendon to Atherstone	2031	Y
Rugby Borough	A426/A4071 Avon Mill Roundabout/Newbold Road/Hunters Lane Priority Junction	2026	Y
Rugby Borough	Ashlawn Road/Hillmorton Road	2021	Y
Rugby Borough	A5 Northern Access to DIRFT III	2021	Y
Rugby Borough	A5/A428 Halfway House Roundabout	2026	Y
Rugby Borough	M1 Junction 18	2022	Y

Location	Scheme Name	Forecast Year	Include
Rugby Borough	M6 to Coton House	2021	Y
Rugby Borough	A5 Southern Access to DIRFT III	2021	Y
M6 J2	Update coding of M6 J2 Ansty interchange to include signalised roundabout	2023	Y
Nuneaton and Bedworth Borough	Callendar Farm Phase 2	2031	Y
Nuneaton and Bedworth Borough	Bermuda Connectivity Project	2026	Y
Charnwood	Shuttle signals at the old railway bridge on Tickow Lane	2022	Y
Charnwood	Buttercup Lane	2022	Y
Hinckley & Bosworth	A47 roundabout between Wykin Road and Outlands Drive	2021	Y
Hinckley & Bosworth	A47/Dan's Lane	2023	Y
Newbold Verdon	B582 Barlestone Road / B585 Bosworth Lane signalisation	2023	Y
Derbyshire	A38 grade-separated junctions (Kingsway Roundabout, Markeaton Island and Little Eaton Roundabout)	2024	Y
Broxtowe	Toton Link Road	2026	N

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Appendix 4

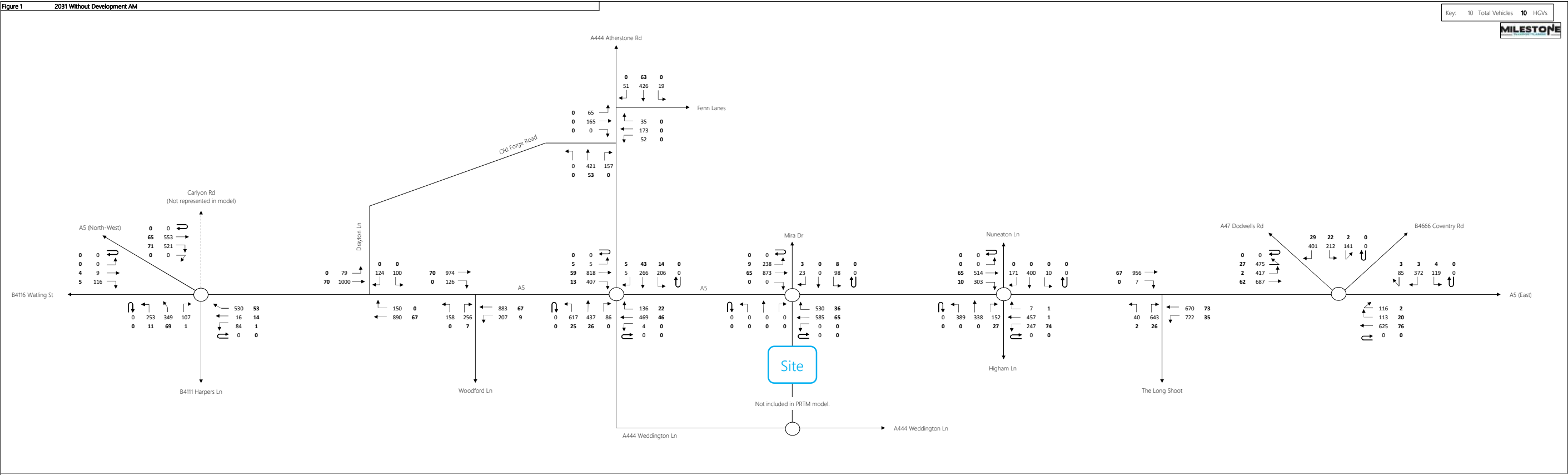


Figure 2 2031 Without Development PM

Key: 10 Total Vehicles 10 HGVs

MILESTONE

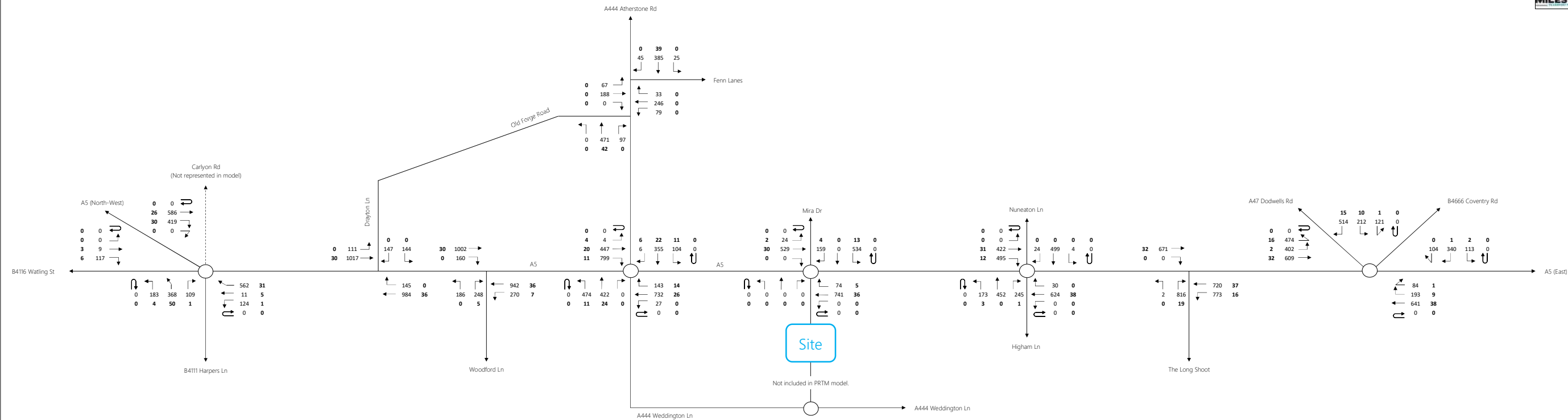


Figure 5 2031 With Development AM

Key: 10 Total Vehicles 10 HGVs

MILESTONE

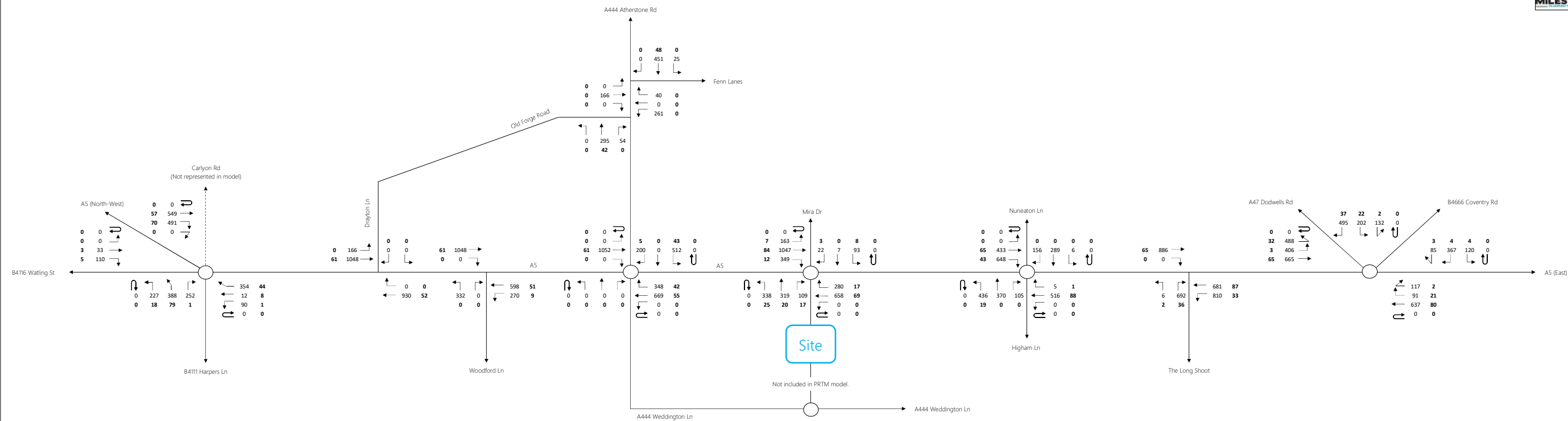
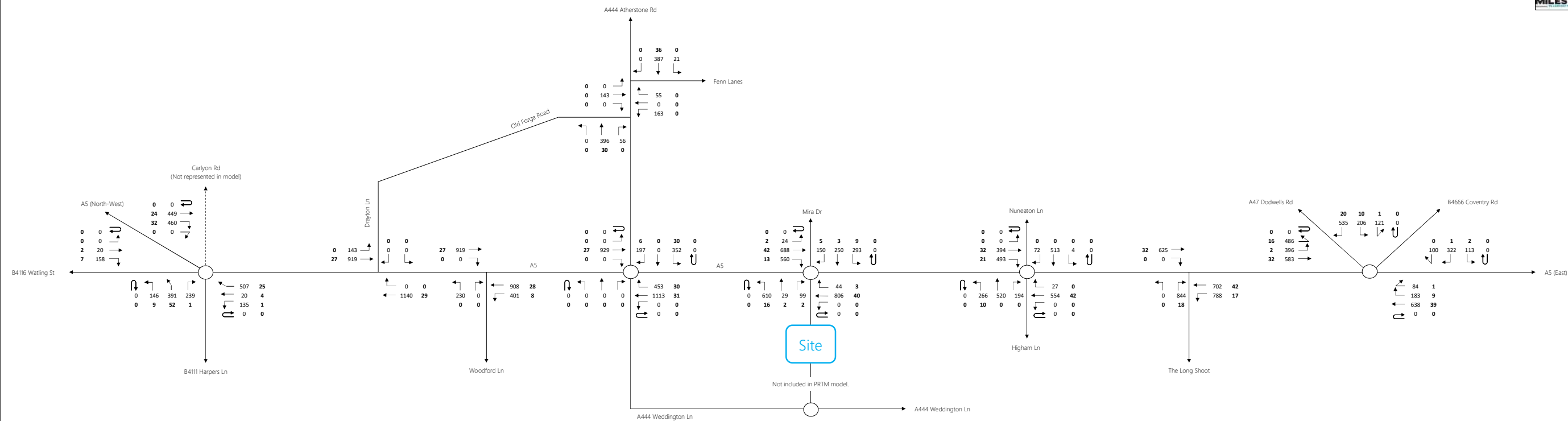


Figure 6 2031 With Development PM

Key: 10 Total Vehicles 10 HGVs

MILESTONE



Appendix 5

Junctions 10							
PICADY 10 - Priority Intersection Module							
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Filename: 17059 - A5-B4116 Watling St (PICADY) (PRTM).j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

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- »2031 Base + Dev, AM (08:00 - 09:00)
- »2031 Base + Dev, PM (17:00 - 18:00)

Summary of junction performance

	AM (08:00 - 09:00)					PM (17:00 - 18:00)				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
	2031 Base									
Stream B-AC	0.5	13.55	0.34	B	1.18	0.5	13.29	0.34	B	1.23
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
	2031 Base + Dev									
Stream B-AC	0.6	14.37	0.39	B	1.42	1.0	18.90	0.51	C	2.23
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	24/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓
D3	2031 Base + Dev	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D4	2031 Base + Dev	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base, AM (08:00 - 09:00)

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.18	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.18	A

Arms

Arms

Arm	Name	Description	Arm type
A	A5 South-West		Major
B	B4116 Watling St		Minor
C	A5 North-East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A5 North-East	6.00			0.0		-

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - B4116 Watling St	One lane	5.00	0	200

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	689	0.126	0.317	0.200	0.453
B-C	900	0.138	0.349	-	-
C-B	574	0.222	0.222	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 South-West		ONE HOUR	✓	1255	100.000
B - B4116 Watling St		ONE HOUR	✓	125	100.000
C - A5 North-East		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
From	A - A5 South-West	0	269	986
	B - B4116 Watling St	0	0	125
	C - A5 North-East	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
From	A - A5 South-West	0	9	12
	B - B4116 Watling St	0	0	7
	C - A5 North-East	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.34	13.55	0.5	B	115	172
C-A					0	0
C-B	0.00	0.00	0.0	A	0	0
A-B					247	370
A-C					905	1357

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	94	24	542	0.174	93	0.0	0.2	8.014	A
C-A	0	0			0				
C-B	0	0	340	0.000	0	0.0	0.0	0.000	A
A-B	203	51			203				
A-C	742	186			742				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	112	28	484	0.232	112	0.2	0.3	9.678	A
C-A	0	0			0				
C-B	0	0	295	0.000	0	0.0	0.0	0.000	A
A-B	242	60			242				
A-C	886	222			886				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	138	34	403	0.341	137	0.3	0.5	13.467	B
C-A	0	0			0				
C-B	0	0	232	0.000	0	0.0	0.0	0.000	A
A-B	296	74			296				
A-C	1086	271			1086				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	138	34	403	0.341	138	0.5	0.5	13.549	B
C-A	0	0			0				
C-B	0	0	232	0.000	0	0.0	0.0	0.000	A
A-B	296	74			296				
A-C	1086	271			1086				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	112	28	484	0.232	113	0.5	0.3	9.741	A
C-A	0	0			0				
C-B	0	0	295	0.000	0	0.0	0.0	0.000	A
A-B	242	60			242				
A-C	886	222			886				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	94	24	542	0.174	94	0.3	0.2	8.057	A
C-A	0	0			0				
C-B	0	0	340	0.000	0	0.0	0.0	0.000	A
A-B	203	51			203				
A-C	742	186			742				

2031 Base, PM (17:00 - 18:00)

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.23	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 South-West		ONE HOUR	✓	1233	100.000
B - B4116 Watling St		ONE HOUR	✓	126	100.000
C - A5 North-East		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
	A - A5 South-West	0	194	1039
	B - B4116 Watling St	0	0	126
	C - A5 North-East	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
From		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
	A - A5 South-West	0	5	8
	B - B4116 Watling St	0	0	7
	C - A5 North-East	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.34	13.29	0.5	B	116	173
C-A					0	0
C-B	0.00	0.00	0.0	A	0	0
A-B					178	267
A-C					953	1430

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	546	0.174	94	0.0	0.2	7.950	A
C-A	0	0			0				
C-B	0	0	352	0.000	0	0.0	0.0	0.000	A
A-B	146	37			146				
A-C	782	196			782				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	113	28	489	0.232	113	0.2	0.3	9.571	A
C-A	0	0			0				
C-B	0	0	309	0.000	0	0.0	0.0	0.000	A
A-B	174	44			174				
A-C	934	234			934				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	139	35	410	0.339	138	0.3	0.5	13.213	B
C-A	0	0			0				
C-B	0	0	249	0.000	0	0.0	0.0	0.000	A
A-B	214	53			214				
A-C	1144	286			1144				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	139	35	410	0.339	139	0.5	0.5	13.288	B
C-A	0	0			0				
C-B	0	0	249	0.000	0	0.0	0.0	0.000	A
A-B	214	53			214				
A-C	1144	286			1144				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	113	28	489	0.232	114	0.5	0.3	9.629	A
C-A	0	0			0				
C-B	0	0	309	0.000	0	0.0	0.0	0.000	A
A-B	174	44			174				
A-C	934	234			934				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	95	24	546	0.174	95	0.3	0.2	7.992	A
C-A	0	0			0				
C-B	0	0	352	0.000	0	0.0	0.0	0.000	A
A-B	146	37			146				
A-C	782	196			782				

2031 Base + Dev, AM (08:00 - 09:00)

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.42	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.42	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Dev	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 South-West		ONE HOUR	✓	1233	100.000
B - B4116 Watling St		ONE HOUR	✓	143	100.000
C - A5 North-East		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
From	A - A5 South-West	0	239	994
	B - B4116 Watling St	0	0	143
	C - A5 North-East	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
From	A - A5 South-West	0	11	12
	B - B4116 Watling St	0	0	6
	C - A5 North-East	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.39	14.37	0.6	B	131	197
C-A					0	0
C-B	0.00	0.00	0.0	A	0	0
A-B					219	329
A-C					912	1368

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	108	27	547	0.197	107	0.0	0.2	8.152	A
C-A	0	0			0				
C-B	0	0	343	0.000	0	0.0	0.0	0.000	A
A-B	180	45			180				
A-C	748	187			748				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	129	32	489	0.263	128	0.2	0.4	9.969	A
C-A	0	0			0				
C-B	0	0	298	0.000	0	0.0	0.0	0.000	A
A-B	215	54			215				
A-C	894	223			894				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	157	39	408	0.386	156	0.4	0.6	14.260	B
C-A	0	0			0				
C-B	0	0	236	0.000	0	0.0	0.0	0.000	A
A-B	263	66			263				
A-C	1094	274			1094				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	157	39	408	0.386	157	0.6	0.6	14.372	B
C-A	0	0			0				
C-B	0	0	236	0.000	0	0.0	0.0	0.000	A
A-B	263	66			263				
A-C	1094	274			1094				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	129	32	489	0.263	130	0.6	0.4	10.052	B
C-A	0	0			0				
C-B	0	0	298	0.000	0	0.0	0.0	0.000	A
A-B	215	54			215				
A-C	894	223			894				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	108	27	547	0.197	108	0.4	0.2	8.206	A
C-A	0	0			0				
C-B	0	0	343	0.000	0	0.0	0.0	0.000	A
A-B	180	45			180				
A-C	748	187			748				

2031 Base + Dev, PM (17:00 - 18:00)

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.23	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Dev	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 South-West		ONE HOUR	✓	1303	100.000
B - B4116 Watling St		ONE HOUR	✓	178	100.000
C - A5 North-East		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
From	A - A5 South-West	0	166	1137
	B - B4116 Watling St	0	0	178
	C - A5 North-East	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - A5 South-West	B - B4116 Watling St	C - A5 North-East
From	A - A5 South-West	0	8	7
	B - B4116 Watling St	0	0	5
	C - A5 North-East	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.51	18.90	1.0	C	163	245
C-A					0	0
C-B	0.00	0.00	0.0	A	0	0
A-B					152	228
A-C					1043	1565

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	134	34	535	0.250	133	0.0	0.3	8.914	A
C-A	0	0			0				
C-B	0	0	340	0.000	0	0.0	0.0	0.000	A
A-B	125	31			125				
A-C	856	214			856				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	160	40	473	0.338	159	0.3	0.5	11.461	B
C-A	0	0			0				
C-B	0	0	295	0.000	0	0.0	0.0	0.000	A
A-B	149	37			149				
A-C	1022	256			1022				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	196	49	386	0.507	194	0.5	1.0	18.531	C
C-A	0	0			0				
C-B	0	0	232	0.000	0	0.0	0.0	0.000	A
A-B	183	46			183				
A-C	1252	313			1252				

17:30 - 17:45

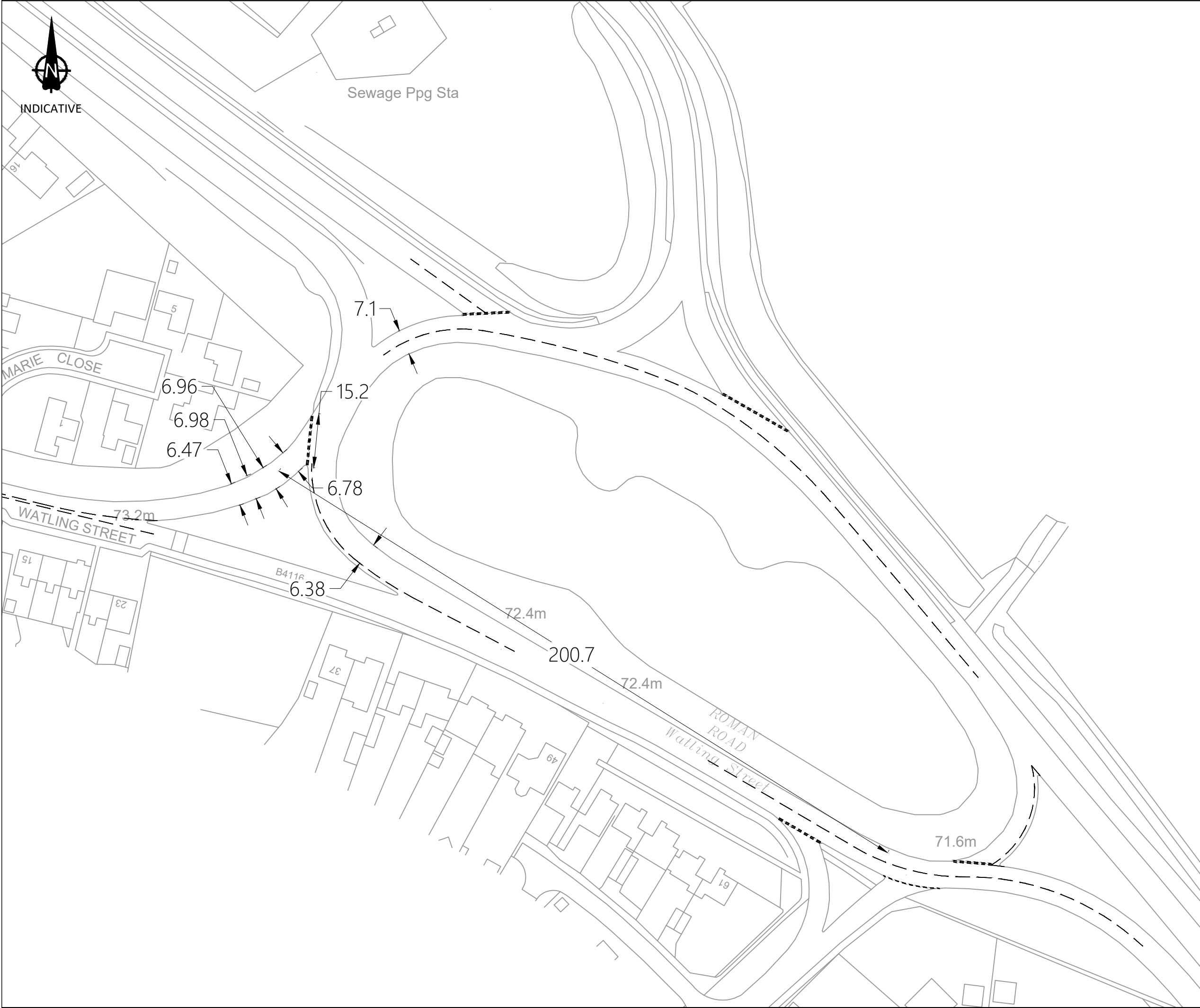
Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	196	49	386	0.507	196	1.0	1.0	18.895	C
C-A	0	0			0				
C-B	0	0	232	0.000	0	0.0	0.0	0.000	A
A-B	183	46			183				
A-C	1252	313			1252				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	160	40	473	0.338	162	1.0	0.5	11.653	B
C-A	0	0			0				
C-B	0	0	295	0.000	0	0.0	0.0	0.000	A
A-B	149	37			149				
A-C	1022	256			1022				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	134	34	535	0.250	135	0.5	0.3	9.005	A
C-A	0	0			0				
C-B	0	0	340	0.000	0	0.0	0.0	0.000	A
A-B	125	31			125				
A-C	856	214			856				



Notes

1.

Do not scale from this drawing. All dimensions shown are in metres unless noted otherwise.

2.

This drawing has been based upon Ordnance Survey information produced by others and Milestone Transport Planning cannot be held responsible for any discrepancies which may arise because of it.

Ordnance Survey Licence number: 100057360

Drawing Revisions

Rev:	Drn:	Date:	Details	Chk:
-	ZM	28/11/2022	First issue	MS
A	JB	14/07/2023	Updated title block and dimensions	MS

Client

ERI MTP Ltd

Project

MIRA Technology Park South Site

Title

A5 / B4111 / B4116 Mancetter Island Geometries (Existing Layout)

MILESTONE

TRANSPORT PLANNING

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Drawing Number:

17059/GEO/SK07

Scale:

1:1,000 @ A3

Revision:

A

Appendix 6

Junctions 10							
PICADY 10 - Priority Intersection Module							
Version: 10.1.0.1820							
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Filename: 17059 - A5 Watling St-Drayton Ln (PRTM).j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

Report generation date: 07/09/2023 15:36:48

»2031 Base, AM (08:00 - 09:00)

»2031 Base, PM (17:00 - 18:00)

Summary of junction performance

	AM (08:00 - 09:00)					PM (17:00 - 18:00)				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
2031 Base										
Stream B-C	49.6	2963.27	5.50	F	469.69	82.2	4677.70	7.91	F	519.81
Stream B-A	61.1	7003.41	5.55	F		83.8	4661.48	7.93	F	
Stream C-AB	0.6	13.74	0.39	B		0.6	13.62	0.38	B	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	24/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Drayton Lane - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		469.69	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	469.69	F

Arms

Arms

Arm	Name	Description	Arm type
A	A5 Watling Street (North-West)		Major
B	Drayton Lane		Minor
C	A5 Watling Street (South-East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A5 Watling Street (South-East)	6.50		✓	3.50	250.0	✓	11.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Drayton Lane	One lane plus flare	10.00	7.02	3.69	2.20	2.20	✓	1.00	54	39

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	535	0.095	0.241	0.151	0.344
B-C	718	0.108	0.272	-	-
C-B	820	0.311	0.311	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 Watling Street (North-West)		ONE HOUR	✓	1079	100.000
B - Drayton Lane		ONE HOUR	✓	224	100.000
C - A5 Watling Street (South-East)		ONE HOUR	✓	1040	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
		A - A5 Watling Street (North-West)	B - Drayton Lane	C - A5 Watling Street (South-East)
	A - A5 Watling Street (North-West)	0	79	1000
	B - Drayton Lane	124	0	100
	C - A5 Watling Street (South-East)	890	150	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		A - A5 Watling Street (North-West)	B - Drayton Lane	C - A5 Watling Street (South-East)
	A - A5 Watling Street (North-West)	0	0	7
	B - Drayton Lane	0	0	0
	C - A5 Watling Street (South-East)	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	5.50	2963.27	49.6	F	92	138	2236.04	974.72	24.84	2515.14	1096.38
B-A	5.55	7003.41	61.1	F	114	171	2747.03	965.69	30.52	3088.93	1085.89
C-AB	0.39	13.74	0.6	B	138	206	37.47	10.89	0.42	37.47	10.89
C-A					817	1225					
A-B					72	109					
A-C					918	1376					

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	75	19	383	0.197	74	0.0	0.2	11.623	B
B-A	93	23	184	0.507	90	0.0	0.9	36.822	E
C-AB	113	28	551	0.205	112	0.0	0.3	8.172	A
C-A	670	168			670				
A-B	59	15			59				
A-C	753	188			753				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	90	22	88	1.018	73	0.2	4.5	222.892	F
B-A	111	28	112	0.995	96	0.9	4.9	200.779	F
C-AB	135	34	499	0.270	134	0.3	0.4	9.856	A
C-A	800	200			800				
A-B	71	18			71				
A-C	899	225			899				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	110	28	20	5.383	20	4.5	26.9	2963.273	F
B-A	137	34	25	5.472	25	4.9	32.8	1632.675	F
C-AB	165	41	427	0.387	164	0.4	0.6	13.639	B
C-A	980	245			980				
A-B	87	22			87				
A-C	1101	275			1101				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	110	28	20	5.500	20	26.9	49.5	2116.907	F
B-A	137	34	25	5.546	25	32.8	60.8	7003.411	F
C-AB	165	41	427	0.387	165	0.6	0.6	13.739	B
C-A	980	245			980				
A-B	87	22			87				
A-C	1101	275			1101				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	90	22	90	0.998	89	49.5	49.6	1652.129	F
B-A	111	28	111	1.003	110	60.8	61.1	1643.636	F
C-AB	135	34	499	0.270	136	0.6	0.4	9.934	A
C-A	800	200			800				
A-B	71	18			71				
A-C	899	225			899				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	75	19	135	0.558	132	49.6	35.4	1163.613	F
B-A	93	23	166	0.561	164	61.1	43.5	1155.352	F
C-AB	113	28	551	0.205	113	0.4	0.3	8.228	A
C-A	670	168			670				
A-B	59	15			59				
A-C	753	188			753				

Queueing Delay Results for each time segment

07:45 - 08:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.43	0.23	11.623	B
B-A	12.28	0.82	36.822	E
C-AB	3.78	0.25	8.172	A

08:00 - 08:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	42.80	2.85	222.892	F
B-A	49.75	3.32	200.779	F
C-AB	5.47	0.36	9.856	A

08:15 - 08:30

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	235.73	15.72	2963.273	F
B-A	283.21	18.88	1632.675	F
C-AB	9.17	0.61	13.639	B

08:30 - 08:45

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	572.92	38.19	2116.907	F
B-A	702.41	46.83	7003.411	F
C-AB	9.45	0.63	13.739	B

08:45 - 09:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	743.23	49.55	1652.129	F
B-A	914.48	60.97	1643.636	F
C-AB	5.69	0.38	9.934	A

09:00 - 09:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	637.94	42.53	1163.613	F
B-A	784.89	52.33	1155.352	F
C-AB	3.92	0.26	8.228	A

2031 Base, PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Drayton Lane - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		519.81	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	519.81	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 Watling Street (North-West)		ONE HOUR	✓	1128	100.000
B - Drayton Lane		ONE HOUR	✓	291	100.000
C - A5 Watling Street (South-East)		ONE HOUR	✓	1129	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - A5 Watling Street (North-West)	B - Drayton Lane	C - A5 Watling Street (South-East)
From	A - A5 Watling Street (North-West)	0	111	1017
	B - Drayton Lane	147	0	144
	C - A5 Watling Street (South-East)	984	145	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - A5 Watling Street (North-West)	B - Drayton Lane	C - A5 Watling Street (South-East)
From	A - A5 Watling Street (North-West)	0	0	3
	B - Drayton Lane	0	0	0
	C - A5 Watling Street (South-East)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	7.91	4677.70	82.2	F	132	198	3691.47	1117.47	41.02	4547.69	1376.66
B-A	7.93	4661.48	83.8	F	135	202	3771.61	1118.43	41.91	4644.50	1377.27
C-AB	0.38	13.62	0.6	B	133	200	36.00	10.82	0.40	36.00	10.82
C-A					903	1354					
A-B					102	153					
A-C					933	1400					

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	108	27	364	0.298	107	0.0	0.4	13.898	B
B-A	111	28	192	0.577	106	0.0	1.2	39.955	E
C-AB	109	27	549	0.199	108	0.0	0.2	8.145	A
C-A	741	185			741				
A-B	84	21			84				
A-C	766	191			766				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	129	32	109	1.191	98	0.4	8.3	348.881	F
B-A	132	33	114	1.163	104	1.2	8.2	358.996	F
C-AB	130	33	497	0.263	130	0.2	0.4	9.811	A
C-A	885	221			885				
A-B	100	25			100				
A-C	914	229			914				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	159	40	20	7.767	20	8.3	42.8	4677.695	F
B-A	162	40	21	7.797	21	8.2	43.5	4661.485	F
C-AB	160	40	424	0.377	159	0.4	0.6	13.529	B
C-A	1083	271			1083				
A-B	122	31			122				
A-C	1120	280			1120				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	159	40	20	7.915	20	42.8	77.4	2426.119	F
B-A	162	40	20	7.931	20	43.5	78.9	2423.849	F
C-AB	160	40	424	0.377	160	0.6	0.6	13.621	B
C-A	1083	271			1083				
A-B	122	31			122				
A-C	1120	280			1120				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	129	32	111	1.171	110	77.4	82.2	2066.094	F
B-A	132	33	113	1.173	113	78.9	83.8	2064.699	F
C-AB	130	33	497	0.263	131	0.6	0.4	9.880	A
C-A	885	221			885				
A-B	100	25			100				
A-C	914	229			914				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	108	27	165	0.658	163	82.2	68.6	1668.988	F
B-A	111	28	168	0.658	166	83.8	69.9	1668.138	F
C-AB	109	27	549	0.199	110	0.4	0.3	8.198	A
C-A	741	185			741				
A-B	84	21			84				
A-C	766	191			766				

Queueing Delay Results for each time segment

16:45 - 17:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.84	0.39	13.898	B
B-A	15.64	1.04	39.955	E
C-AB	3.64	0.24	8.145	A

17:00 - 17:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	72.72	4.85	348.881	F
B-A	76.49	5.10	358.996	F
C-AB	5.26	0.35	9.811	A

17:15 - 17:30

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	383.03	25.54	4677.695	F
B-A	388.35	25.89	4661.485	F
C-AB	8.80	0.59	13.529	B

17:30 - 17:45

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	901.82	60.12	2426.119	F
B-A	918.17	61.21	2423.849	F
C-AB	9.05	0.60	13.621	B

17:45 - 18:00

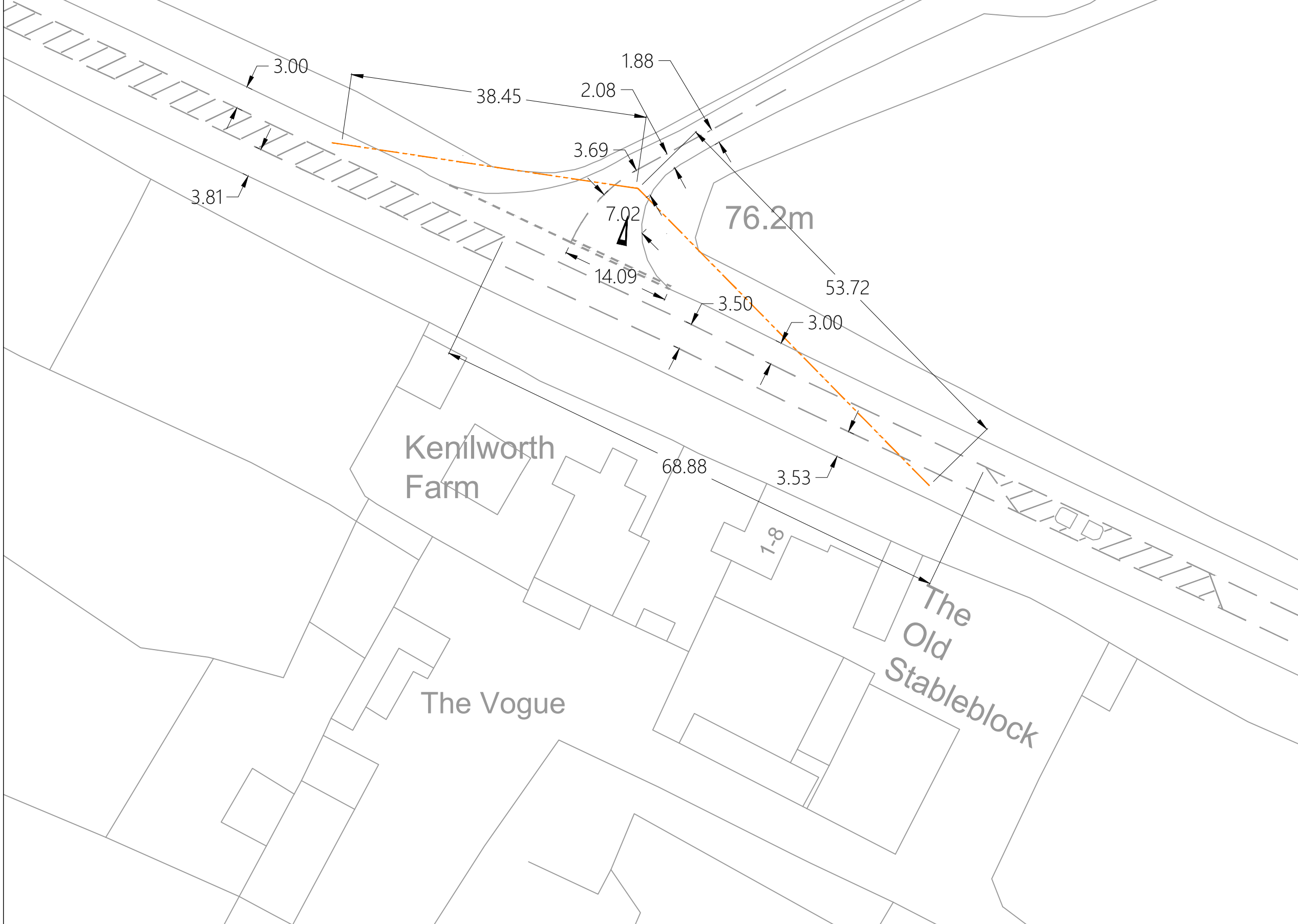
Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1197.22	79.81	2066.094	F
B-A	1220.09	81.34	2064.699	F
C-AB	5.47	0.36	9.880	A

18:00 - 18:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1130.84	75.39	1668.988	F
B-A	1152.88	76.86	1668.138	F
C-AB	3.77	0.25	8.198	A



INDICATIVE



- Notes
1. Do not scale from this drawing. All dimensions shown are in metres unless noted otherwise.
 2. This drawing has been based upon Ordnance Survey information produced by others and Milestone Transport Planning cannot be held responsible for any discrepancies which may arise because of it.

Ordnance Survey Licence number: 100057360

Drawing Revisions

Rev:	Drn:	Date:	Details	Chk:
-	ZM	28/11/2022	First issue	MS
A	JB	14/07/2023	Updated title block and dimensions	MS

Client
ERI MTP Ltd

Project
MIRA Technology Park
South Site

Title
A5 Watling Street / Drayton
Lane Geometries (Existing
Layout)

MILESTONE
TRANSPORT PLANNING

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Drawing Number:
17059/GEO/SK06

Scale:
1:500 @ A3
Revision:
A

Appendix 7

Junctions 10							
PICADY 10 - Priority Intersection Module							
Version: 10.1.0.1820							
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Filename: 17059 - A5 Watling St-Woodford Lane (PRTM).j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

Report generation date: 07/09/2023 15:44:43

»2031 Base, AM (08:00 - 09:00)

»2031 Base, PM (17:00 - 18:00)

Summary of junction performance

	AM (08:00 - 09:00)					PM (17:00 - 18:00)				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
2031 Base										
Stream B-C	91.2	3414.01	5.54	F	515.05	127.5	11880.68	16.80	F	1799.01
Stream B-A	147.0	3336.97	5.58	F		169.9	11798.20	16.81	F	
Stream C-AB	0.5	12.79	0.33	B		0.8	16.84	0.45	C	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	24/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Woodford Lane - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		515.05	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	515.05	F

Arms

Arms

Arm	Name	Description	Arm type
A	A5 Watling Street (South-East)		Major
B	Woodford Lane		Minor
C	A5 Watling Street (North-West)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A5 Watling Street (North-West)	6.50		✓	3.50	250.0	✓	16.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Woodford Lane	One lane plus flare	10.00	10.00	8.12	5.45	4.17	✓	3.00	125	250

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	752	0.134	0.338	0.213	0.484
B-C	843	0.126	0.320	-	-
C-B	820	0.311	0.311	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 Watling Street (South-East)		ONE HOUR	✓	1090	100.000
B - Woodford Lane		ONE HOUR	✓	414	100.000
C - A5 Watling Street (North-West)		ONE HOUR	✓	1100	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
		A - A5 Watling Street (South-East)	B - Woodford Lane	C - A5 Watling Street (North-West)
A - A5 Watling Street (South-East)		0	207	883
B - Woodford Lane		256	0	158
C - A5 Watling Street (North-West)		974	126	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		A - A5 Watling Street (South-East)	B - Woodford Lane	C - A5 Watling Street (North-West)
A - A5 Watling Street (South-East)		0	4	8
B - Woodford Lane		3	0	0
C - A5 Watling Street (North-West)		7	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	5.54	3414.01	91.2	F	145	217	4106.33	1132.91	45.63	5310.27	1465.07
B-A	5.58	3336.97	147.0	F	235	352	6615.31	1126.44	73.50	8550.86	1456.02
C-AB	0.33	12.79	0.5	B	116	173	29.84	10.32	0.33	29.84	10.32
C-A					894	1341					
A-B					190	285					
A-C					810	1215					

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	119	30	418	0.284	117	0.0	0.4	11.905	B
B-A	193	48	265	0.726	184	0.0	2.2	40.596	E
C-AB	95	24	547	0.173	94	0.0	0.2	7.937	A
C-A	733	183			733				
A-B	156	39			156				
A-C	665	166			665				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	142	36	105	1.351	98	0.4	11.5	414.254	F
B-A	230	58	175	1.314	169	2.2	17.5	388.728	F
C-AB	113	28	494	0.229	113	0.2	0.3	9.446	A
C-A	876	219			876				
A-B	186	47			186				
A-C	794	198			794				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	174	43	32	5.466	32	11.5	47.0	3414.008	F
B-A	282	70	51	5.537	51	17.5	75.2	3336.965	F
C-AB	139	35	420	0.330	138	0.3	0.5	12.720	B
C-A	1072	268			1072				
A-B	228	57			228				
A-C	972	243			972				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	174	43	31	5.537	31	47.0	82.7	2490.371	F
B-A	282	70	51	5.575	51	75.2	133.0	2473.840	F
C-AB	139	35	420	0.330	139	0.5	0.5	12.785	B
C-A	1072	268			1072				
A-B	228	57			228				
A-C	972	243			972				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	142	36	108	1.314	108	82.7	91.2	2253.790	F
B-A	230	58	174	1.320	174	133.0	147.0	2240.340	F
C-AB	113	28	494	0.229	114	0.5	0.3	9.502	A
C-A	876	219			876				
A-B	186	47			186				
A-C	794	198			794				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	119	30	162	0.732	161	91.2	80.7	1927.444	F
B-A	193	48	262	0.735	260	147.0	130.1	1915.850	F
C-AB	95	24	547	0.173	95	0.3	0.2	7.980	A
C-A	733	183			733				
A-B	156	39			156				
A-C	665	166			665				

Queueing Delay Results for each time segment

07:45 - 08:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.53	0.37	11.905	B
B-A	27.52	1.83	40.596	E
C-AB	3.08	0.21	7.937	A

08:00 - 08:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	95.93	6.40	414.254	F
B-A	152.49	10.17	388.728	F
C-AB	4.41	0.29	9.446	A

08:15 - 08:30

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	438.96	29.26	3414.008	F
B-A	695.12	46.34	3336.965	F
C-AB	7.21	0.48	12.720	B

08:30 - 08:45

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	972.82	64.85	2490.371	F
B-A	1561.91	104.13	2473.840	F
C-AB	7.38	0.49	12.785	B

08:45 - 09:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1303.81	86.92	2253.790	F
B-A	2100.28	140.02	2240.340	F
C-AB	4.56	0.30	9.502	A

09:00 - 09:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1289.28	85.95	1927.444	F
B-A	2077.98	138.53	1915.850	F
C-AB	3.19	0.21	7.980	A

2031 Base, PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Woodford Lane - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1799.01	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1799.01	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A5 Watling Street (South-East)		ONE HOUR	✓	1212	100.000
B - Woodford Lane		ONE HOUR	✓	434	100.000
C - A5 Watling Street (North-West)		ONE HOUR	✓	1162	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - A5 Watling Street (South-East)	B - Woodford Lane	C - A5 Watling Street (North-West)
	A - A5 Watling Street (South-East)	0	270	942
	B - Woodford Lane	248	0	186
	C - A5 Watling Street (North-West)	1002	160	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
From		A - A5 Watling Street (South-East)	B - Woodford Lane	C - A5 Watling Street (North-West)
	A - A5 Watling Street (South-East)	0	3	4
	B - Woodford Lane	2	0	0
	C - A5 Watling Street (North-West)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	16.80	11880.68	127.5	F	171	256	5740.58	1345.37	63.78	8101.20	1898.61
B-A	16.81	11798.20	169.9	F	228	341	7678.23	1349.61	85.31	10819.80	1901.80
C-AB	0.45	16.84	0.8	C	147	220	46.41	12.64	0.52	46.41	12.64
C-A					919	1379					
A-B					248	372					
A-C					864	1297					

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	140	35	389	0.360	138	0.0	0.5	14.205	B
B-A	187	47	241	0.774	176	0.0	2.7	49.325	E
C-AB	120	30	526	0.229	119	0.0	0.3	8.826	A
C-A	754	189			754				
A-B	203	51			203				
A-C	709	177			709				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	167	42	107	1.567	102	0.5	16.9	863.906	F
B-A	223	56	147	1.514	144	2.7	22.4	881.800	F
C-AB	144	36	469	0.307	143	0.3	0.4	11.037	B
C-A	901	225			901				
A-B	243	61			243				
A-C	847	212			847				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	205	51	13	16.114	13	16.9	64.9	11880.677	F
B-A	273	68	17	16.135	17	22.4	86.4	11798.199	F
C-AB	176	44	390	0.452	175	0.4	0.8	16.622	C
C-A	1103	276			1103				
A-B	297	74			297				
A-C	1037	259			1037				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	205	51	12	16.798	12	64.9	113.1	3007.805	F
B-A	273	68	16	16.810	16	86.4	150.6	3001.170	F
C-AB	176	44	390	0.452	176	0.8	0.8	16.836	C
C-A	1103	276			1103				
A-B	297	74			297				
A-C	1037	259			1037				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	167	42	109	1.528	109	113.1	127.5	2802.484	F
B-A	223	56	146	1.528	146	150.6	169.9	2796.215	F
C-AB	144	36	469	0.307	145	0.8	0.5	11.176	B
C-A	901	225			901				
A-B	243	61			243				
A-C	847	212			847				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	140	35	178	0.787	177	127.5	118.4	2506.287	F
B-A	187	47	237	0.787	236	169.9	157.6	2500.184	F
C-AB	120	30	526	0.229	121	0.5	0.3	8.905	A
C-A	754	189			754				
A-B	203	51			203				
A-C	709	177			709				

Queueing Delay Results for each time segment

16:45 - 17:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.68	0.51	14.205	B
B-A	31.75	2.12	49.325	E
C-AB	4.35	0.29	8.826	A

17:00 - 17:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	136.14	9.08	863.906	F
B-A	191.14	12.74	881.800	F
C-AB	6.52	0.43	11.037	B

17:15 - 17:30

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	613.58	40.91	11880.677	F
B-A	816.38	54.43	11798.199	F
C-AB	11.83	0.79	16.622	C

17:30 - 17:45

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1334.87	88.99	3007.805	F
B-A	1778.15	118.54	3001.170	F
C-AB	12.34	0.82	16.836	C

17:45 - 18:00

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1804.31	120.29	2802.484	F
B-A	2404.22	160.28	2796.215	F
C-AB	6.85	0.46	11.176	B

18:00 - 18:15

Stream	Queueing total delay (Veh-min)	Queueing rate of delay (Veh-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1843.99	122.93	2506.287	F
B-A	2456.58	163.77	2500.184	F
C-AB	4.53	0.30	8.905	A

Appendix 8

Junctions 10							
ARCADY 10 - Roundabout Module							
Version: 10.1.0.1820							
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Filename: 17059 - Redgate Roundabout Mitigation.j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

Report generation date: 07/09/2023 15:53:22

»2031 Base + Development, AM (08:00 - 09:00)

»2031 Base + Development, PM (17:00 - 18:00)

Summary of junction performance

	AM (08:00 - 09:00)					PM (17:00 - 18:00)				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
2031 Base + Development										
1 - A5 (East)	1.3	4.23	0.57	A	6.56	4.5	9.70	0.82	A	7.28
2 - A444 Weddington Lane	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
3 - A5 (West)	1.4	4.33	0.58	A		1.1	3.72	0.51	A	
4 - A444 Atherstone Road	2.8	13.30	0.74	B		1.1	6.33	0.52	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	03/03/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTPGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base + Development	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base + Development	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base + Development, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A5 (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - A444 Weddington Lane - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A5 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A444 Atherstone Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	6.56	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.56	A

Arms

Arms

Arm	Name	Description	No give-way line
1	A5 (East)		
2	A444 Weddington Lane		
3	A5 (West)		
4	A444 Atherstone Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - A5 (East)	7.50	8.30	54.5	15.0	50.0	44.0		
2 - A444 Weddington Lane	3.60	8.02	35.5	30.0	50.0	33.0		
3 - A5 (West)	7.00	8.04	52.8	22.0	50.0	27.0		
4 - A444 Atherstone Road	3.20	7.56	40.2	20.0	50.0	31.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A5 (East)	0.711	2342
2 - A444 Weddington Lane	0.678	2060
3 - A5 (West)	0.755	2453
4 - A444 Atherstone Road	0.654	1943

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)	Run automatically
D1	2031 Base + Development	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5 (East)		ONE HOUR	✓	1042	100.000
2 - A444 Weddington Lane		ONE HOUR	✓	0	100.000
3 - A5 (West)		ONE HOUR	✓	1052	100.000
4 - A444 Atherstone Road		ONE HOUR	✓	712	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - A5 (East)	2 - A444 Weddington Lane	3 - A5 (West)	4 - A444 Atherstone Road
From	1 - A5 (East)	25	0	669	348
	2 - A444 Weddington Lane	0	0	0	0
	3 - A5 (West)	1052	0	0	0
	4 - A444 Atherstone Road	512	0	200	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - A5 (East)	2 - A444 Weddington Lane	3 - A5 (West)	4 - A444 Atherstone Road
From	1 - A5 (East)	0	0	8	12
	2 - A444 Weddington Lane	0	0	0	0
	3 - A5 (West)	6	0	0	0
	4 - A444 Atherstone Road	8	0	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5 (East)	0.57	4.23	1.3	A	956	1434
2 - A444 Weddington Lane	0.00	0.00	0.0	A	0	0
3 - A5 (West)	0.58	4.33	1.4	A	965	1448
4 - A444 Atherstone Road	0.74	13.30	2.8	B	653	980

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	784	196	150	2045	0.384	782	1192	0.0	0.6	2.846	A
2 - A444 Weddington Lane	0	0	932	1377	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	792	198	280	2093	0.378	790	652	0.0	0.6	2.758	A
4 - A444 Atherstone Road	536	134	808	1298	0.413	533	261	0.0	0.7	4.688	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	937	234	179	2025	0.463	936	1426	0.6	0.9	3.302	A
2 - A444 Weddington Lane	0	0	1115	1242	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	946	236	335	2049	0.462	945	780	0.6	0.9	3.257	A
4 - A444 Atherstone Road	640	160	967	1195	0.536	638	313	0.7	1.1	6.443	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1147	287	218	1999	0.574	1145	1743	0.9	1.3	4.209	A
2 - A444 Weddington Lane	0	0	1364	1060	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	1158	290	410	1990	0.582	1156	954	0.9	1.4	4.309	A
4 - A444 Atherstone Road	784	196	1184	1055	0.743	777	383	1.1	2.7	12.698	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1147	287	220	1998	0.574	1147	1749	1.3	1.3	4.233	A
2 - A444 Weddington Lane	0	0	1367	1057	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	1158	290	411	1989	0.582	1158	957	1.4	1.4	4.332	A
4 - A444 Atherstone Road	784	196	1186	1053	0.744	784	383	2.7	2.8	13.303	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	937	234	182	2023	0.463	939	1435	1.3	0.9	3.323	A
2 - A444 Weddington Lane	0	0	1120	1238	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	946	236	336	2048	0.462	948	784	1.4	0.9	3.276	A
4 - A444 Atherstone Road	640	160	970	1193	0.536	647	313	2.8	1.2	6.663	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	784	196	151	2044	0.384	785	1199	0.9	0.6	2.864	A
2 - A444 Weddington Lane	0	0	937	1373	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	792	198	281	2092	0.379	793	655	0.9	0.6	2.773	A
4 - A444 Atherstone Road	536	134	812	1296	0.414	538	262	1.2	0.7	4.761	A

2031 Base + Development, PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A5 (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	2 - A444 Weddington Lane - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A5 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A444 Atherstone Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	7.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.28	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base + Development	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A5 (East)		ONE HOUR	✓	1568	100.000
2 - A444 Weddington Lane		ONE HOUR	✓	0	100.000
3 - A5 (West)		ONE HOUR	✓	929	100.000
4 - A444 Atherstone Road		ONE HOUR	✓	549	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		1 - A5 (East)	2 - A444 Weddington Lane	3 - A5 (West)	4 - A444 Atherstone Road
	1 - A5 (East)	2	0	1113	453
	2 - A444 Weddington Lane	0	0	0	0
	3 - A5 (West)	929	0	0	0
	4 - A444 Atherstone Road	352	0	197	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
	1 - A5 (East)	2 - A444 Weddington Lane	3 - A5 (West)	4 - A444 Atherstone Road
From				
1 - A5 (East)	0	0	3	7
2 - A444 Weddington Lane	0	0	0	0
3 - A5 (West)	3	0	0	8
4 - A444 Atherstone Road	9	0	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A5 (East)	0.82	9.70	4.5	A	1439	2158
2 - A444 Weddington Lane	0.00	0.00	0.0	A	0	0
3 - A5 (West)	0.51	3.72	1.1	A	852	1279
4 - A444 Atherstone Road	0.52	6.33	1.1	A	504	756

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1180	295	148	2144	0.551	1176	963	0.0	1.2	3.699	A
2 - A444 Weddington Lane	0	0	1323	1126	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	699	175	341	2114	0.331	697	982	0.0	0.5	2.537	A
4 - A444 Atherstone Road	413	103	699	1378	0.300	412	340	0.0	0.4	3.717	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1410	352	177	2124	0.664	1407	1152	1.2	1.9	5.000	A
2 - A444 Weddington Lane	0	0	1584	943	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	835	209	408	2062	0.405	834	1175	0.5	0.7	2.932	A
4 - A444 Atherstone Road	494	123	836	1292	0.382	493	406	0.4	0.6	4.501	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1726	432	216	2096	0.824	1716	1410	1.9	4.4	9.249	A
2 - A444 Weddington Lane	0	0	1933	696	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	1023	256	498	1991	0.514	1021	1435	0.7	1.0	3.708	A
4 - A444 Atherstone Road	604	151	1024	1174	0.515	603	496	0.6	1.0	6.284	A

17:30 - 17:45

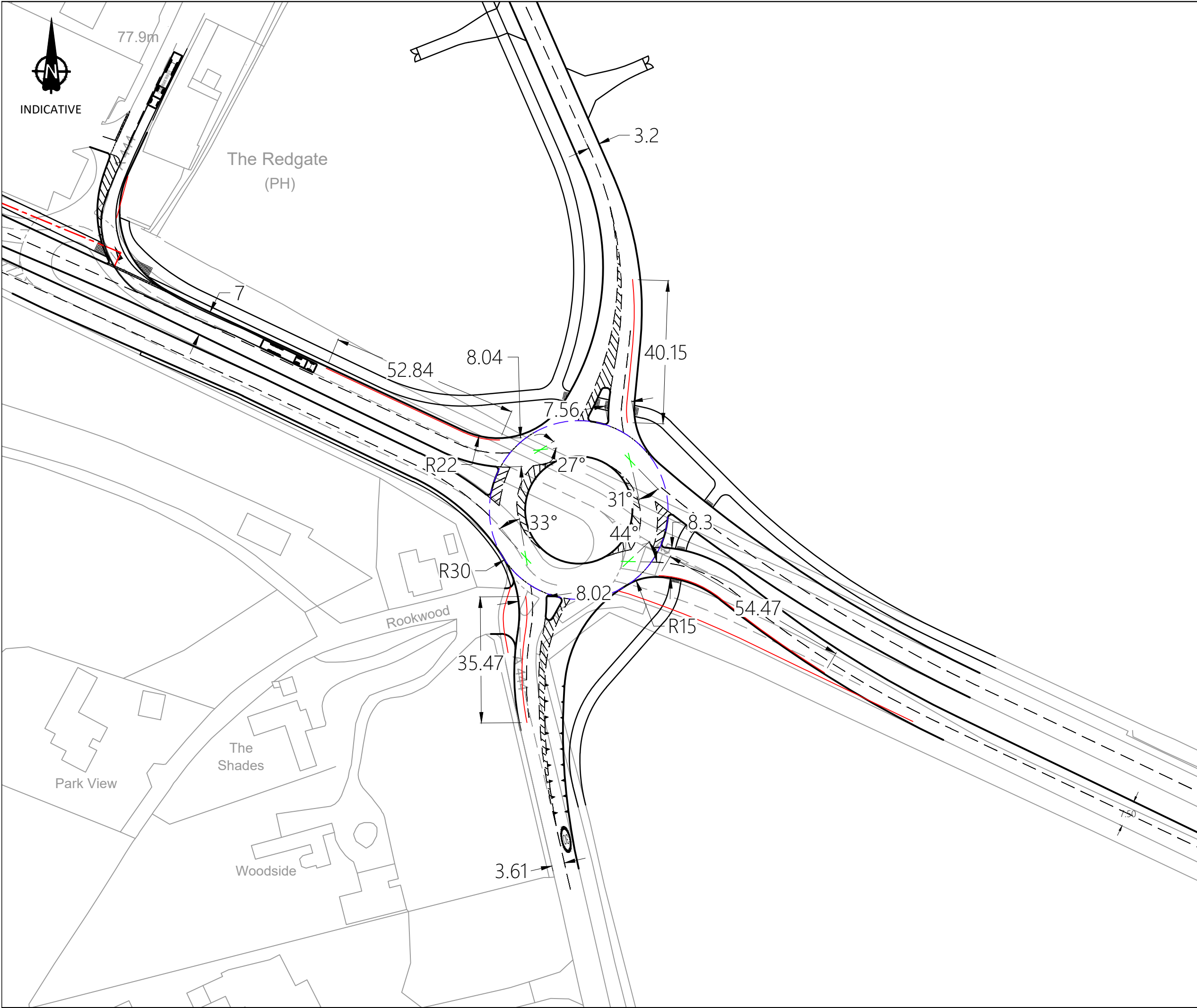
Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1726	432	217	2096	0.824	1726	1413	4.4	4.5	9.701	A
2 - A444 Weddington Lane	0	0	1943	689	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	1023	256	501	1989	0.514	1023	1442	1.0	1.1	3.725	A
4 - A444 Atherstone Road	604	151	1025	1173	0.515	604	499	1.0	1.1	6.332	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1410	352	178	2123	0.664	1420	1156	4.5	2.0	5.188	A
2 - A444 Weddington Lane	0	0	1597	933	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	835	209	412	2059	0.406	837	1185	1.1	0.7	2.948	A
4 - A444 Atherstone Road	494	123	838	1290	0.382	495	410	1.1	0.6	4.536	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - A5 (East)	1180	295	149	2144	0.551	1184	967	2.0	1.2	3.760	A
2 - A444 Weddington Lane	0	0	1332	1120	0.000	0	0	0.0	0.0	0.000	A
3 - A5 (West)	699	175	343	2112	0.331	700	989	0.7	0.5	2.551	A
4 - A444 Atherstone Road	413	103	702	1377	0.300	414	342	0.6	0.4	3.742	A



- Notes
1. Do not scale from this drawing. All dimensions shown are in metres unless noted otherwise.
 2. This drawing has been based upon Ordnance Survey information produced by others and Milestone Transport Planning cannot be held responsible for any discrepancies which may arise because of it.

- Key
- Effective Flare Length
 - Conflict (entry) Angle
 - Inscribed Circle Diameter

Ordnance Survey Licence number: 100057360

Drawing Revisions				
Rev.	Drn:	Date:	Details	Chk:
-	ZM	28/11/2022	First issue	MS
A	JB	17/07/2023	Updated title block and dimensions	MS

Client

ERI MTP Ltd

Project

MIRA Technology Park South Site

Title

A5 / A444 Redgate Island Mitigation Geometries (Proposed Layout)

MILESTONE
TRANSPORT PLANNING
7 Ancells Court, Rye Close, Fleet, Hampshire, GU51 2UY
Tel: 01483 397888
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Drawing Number:	Scale:
17059/GEO/SK13	1:1,000 @ A3
Revision:	A

Appendix 9

Junctions 10											
PICADY 10 - Priority Intersection Module											
Version: 10.1.0.1820											
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Filename: 17059- A444-Old Forge Road (PRTM).j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

Report generation date: 08/09/2023 12:01:12

- »2031 Base, AM
- »2031 Base, PM
- »2031 Base + Development, AM
- »2031 Base + Development, PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
	2031 Base											
Stream B-ACD	D1	1.8	23.28	0.65	C	21.71	D2	3.3	31.74	0.78	D	15.36
Stream AB-CD		3.7	13.76	0.70	B			8.1	29.58	0.86	D	
Stream D-ABC		7.2	86.71	0.99	F			1.1	14.77	0.54	B	
Stream CD-AB		14.4	52.69	0.96	F			8.3	26.79	0.85	D	
	2031 Base + Development											
Stream B-ACD	D3	1.8	20.63	0.66	C	4.23	D4	1.0	15.11	0.50	C	3.08
Stream AB-CD		0.0	0.00	0.00	A			0.0	0.00	0.00	A	
Stream D-ABC		0.4	8.88	0.31	A			0.4	8.92	0.28	A	
Stream CD-AB		1.7	10.24	0.54	B			1.6	8.42	0.51	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	08/09/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTPGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2031 Base + Development	AM	ONE HOUR	07:45	09:15	15	✓
D4	2031 Base + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Last Run	Last Run	Stream D-ABC	Capacity of Minor Stream D-ABC has been reduced in timesegment(s) 4 due to traffic queuing at the center of the junction.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		21.71	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	21.71	C

Arms

Arms

Arm	Name	Description	Arm type
A	A444 Atherstone Road (N)		Major
B	Fenn Lanes		Minor
C	A444 Atherstone Road (S)		Major
D	Old Forge Road		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - A444 Atherstone Road (N)	6.70			250.0	✓	0.00
C - A444 Atherstone Road (S)	6.80			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Fenn Lanes	One lane	3.65	80	90
D - Old Forge Road	One lane	3.70	63	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
AB-D	719	-	-	-	-	-	0.270	0.270	0.270	-	-
B-A	584	0.103	0.260	0.260	-	-	0.163	0.371	-	0.163	0.371
B-CD	725	0.107	0.271	0.271	-	-	-	-	-	-	-
CD-B	719	0.269	0.269	0.269	-	-	-	-	-	-	-
D-AB	701	-	-	-	-	-	0.263	0.263	0.104	-	-
D-C	559	-	0.157	0.357	0.157	0.357	0.250	0.250	0.099	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A444 Atherstone Road (N)		ONE HOUR	✓	496	100.000
B - Fenn Lanes		ONE HOUR	✓	260	100.000
C - A444 Atherstone Road (S)		ONE HOUR	✓	578	100.000
D - Old Forge Road		ONE HOUR	✓	230	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
From A - A444 Atherstone Road (N)	0	19	426	51
From B - Fenn Lanes	35	0	52	173
From C - A444 Atherstone Road (S)	421	157	0	0
From D - Old Forge Road	65	165	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
	A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
From A - A444 Atherstone Road (N)	0	0	15	0
From B - Fenn Lanes	0	0	0	0
From C - A444 Atherstone Road (S)	13	0	0	0
From D - Old Forge Road	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-ACD	0.65	23.28	1.8	C	239	358
A-B					17	26
A-C					391	586
A-D					47	70
AB-CD	0.70	13.76	3.7	B	443	664
AB-C					201	301
D-ABC	0.99	86.71	7.2	F	211	317
C-D					0	0
C-A					386	579
C-B					144	216
CD-AB	0.96	52.69	14.4	F	637	955
CD-A					104	157

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	196	49	546	0.358	194	0.0	0.5	10.152	B
A-B	14	4			14				
A-C	321	80			321				
A-D	38	10			38				
AB-CD	299	75	816	0.366	295	0.0	0.9	6.900	A
AB-C	228	57			228				
D-ABC	173	43	576	0.301	171	0.0	0.4	8.866	A
C-D	0	0			0				
C-A	317	79			317				
C-B	118	30			118				
CD-AB	429	107	834	0.515	423	0.0	1.5	8.716	A
CD-A	177	44			177				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	234	58	508	0.460	233	0.5	0.8	13.001	B
A-B	17	4			17				
A-C	383	96			383				
A-D	46	11			46				
AB-CD	410	103	843	0.487	408	0.9	1.5	8.256	A
AB-C	220	55			220				
D-ABC	207	52	551	0.375	206	0.4	0.6	10.398	B
C-D	0	0			0				
C-A	378	95			378				
C-B	141	35			141				
CD-AB	588	147	864	0.680	582	1.5	3.0	12.685	B
CD-A	138	35			138				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	286	72	448	0.639	283	0.8	1.7	21.398	C
A-B	21	5			21				
A-C	469	117			469				
A-D	56	14			56				
AB-CD	608	152	883	0.689	600	1.5	3.4	12.704	B
AB-C	162	40			162				
D-ABC	253	63	518	0.489	252	0.6	0.9	13.465	B
C-D	0	0			0				
C-A	464	116			464				
C-B	173	43			173				
CD-AB	871	218	909	0.959	828	3.0	13.6	39.924	E
CD-A	17	4			17				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	286	72	440	0.651	286	1.7	1.8	23.277	C
A-B	21	5			21				
A-C	469	117			469				
A-D	56	14			56				
AB-CD	616	154	886	0.695	615	3.4	3.7	13.757	B
AB-C	156	39			156				
D-ABC	253	63	257	0.986	228	0.9	7.2	86.710	F
C-D	0	0			0				
C-A	464	116			464				
C-B	173	43			173				
CD-AB	843	211	920	0.917	840	13.6	14.3	52.694	F
CD-A	22	5			22				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	234	58	497	0.470	237	1.8	0.9	14.020	B
A-B	17	4			17				
A-C	383	96			383				
A-D	46	11			46				
AB-CD	419	105	848	0.495	428	3.7	1.7	8.949	A
AB-C	215	54			215				
D-ABC	207	52	551	0.375	233	7.2	0.6	12.224	B
C-D	0	0			0				
C-A	378	95			378				
C-B	141	35			141				
CD-AB	653	163	887	0.735	691	14.3	4.7	23.344	C
CD-A	100	25			100				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	196	49	544	0.360	197	0.9	0.6	10.426	B
A-B	14	4			14				
A-C	321	80			321				
A-D	38	10			38				
AB-CD	304	76	818	0.372	307	1.7	0.9	7.174	A
AB-C	225	56			225				
D-ABC	173	43	576	0.301	174	0.6	0.4	8.972	A
C-D	0	0			0				
C-A	317	79			317				
C-B	118	30			118				
CD-AB	437	109	840	0.521	450	4.7	1.6	9.702	A
CD-A	172	43			172				

2031 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		15.36	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	15.36	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A444 Atherstone Road (N)		ONE HOUR	✓	455	100.000
B - Fenn Lanes		ONE HOUR	✓	358	100.000
C - A444 Atherstone Road (S)		ONE HOUR	✓	568	100.000
D - Old Forge Road		ONE HOUR	✓	255	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
	A - A444 Atherstone Road (N)	0	25	385	45
	B - Fenn Lanes	33	0	79	246
	C - A444 Atherstone Road (S)	471	97	0	0
	D - Old Forge Road	67	188	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
	A - A444 Atherstone Road (N)	0	0	10	0
	B - Fenn Lanes	0	0	0	0
	C - A444 Atherstone Road (S)	9	0	0	0
	D - Old Forge Road	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-ACD	0.78	31.74	3.3	D	329	493
A-B					23	34
A-C					353	530
A-D					41	62
AB-CD	0.86	29.58	8.1	D	555	832
AB-C					138	206
D-ABC	0.54	14.77	1.1	B	234	351
C-D					0	0
C-A					432	648
C-B					89	134
CD-AB	0.85	26.79	8.3	D	593	889
CD-A					162	243

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	270	67	582	0.463	266	0.0	0.8	11.287	B
A-B	19	5			19				
A-C	290	72			290				
A-D	34	8			34				
AB-CD	378	94	819	0.461	373	0.0	1.2	8.044	A
AB-C	188	47			188				
D-ABC	192	48	580	0.331	190	0.0	0.5	9.180	A
C-D	0	0			0				
C-A	355	89			355				
C-B	73	18			73				
CD-AB	397	99	873	0.455	392	0.0	1.2	7.456	A
CD-A	221	55			221				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	322	80	553	0.582	320	0.8	1.3	15.329	C
A-B	22	6			22				
A-C	346	87			346				
A-D	40	10			40				
AB-CD	515	129	845	0.609	511	1.2	2.2	10.737	B
AB-C	162	41			162				
D-ABC	229	57	557	0.412	228	0.5	0.7	10.936	B
C-D	0	0			0				
C-A	423	106			423				
C-B	87	22			87				
CD-AB	547	137	911	0.601	543	1.2	2.2	9.801	A
CD-A	192	48			192				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	394	99	507	0.777	387	1.3	3.1	28.493	D
A-B	28	7			28				
A-C	424	106			424				
A-D	50	12			50				
AB-CD	750	187	885	0.847	731	2.2	6.9	22.939	C
AB-C	75	19			75				
D-ABC	281	70	524	0.536	279	0.7	1.1	14.574	B
C-D	0	0			0				
C-A	519	130			519				
C-B	107	27			107				
CD-AB	817	204	964	0.848	798	2.2	7.2	21.279	C
CD-A	87	22			87				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	394	99	505	0.781	393	3.1	3.3	31.741	D
A-B	28	7			28				
A-C	424	106			424				
A-D	50	12			50				
AB-CD	766	192	892	0.859	761	6.9	8.1	29.582	D
AB-C	64	16			64				
D-ABC	281	70	524	0.536	281	1.1	1.1	14.767	B
C-D	0	0			0				
C-A	519	130			519				
C-B	107	27			107				
CD-AB	830	208	972	0.854	826	7.2	8.2	26.789	D
CD-A	76	19			76				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	322	80	550	0.585	329	3.3	1.5	16.801	C
A-B	22	6			22				
A-C	346	87			346				
A-D	40	10			40				
AB-CD	534	133	856	0.623	555	8.1	2.7	13.246	B
AB-C	152	38			152				
D-ABC	229	57	557	0.412	231	1.1	0.7	11.103	B
C-D	0	0			0				
C-A	423	106			423				
C-B	87	22			87				
CD-AB	560	140	921	0.607	582	8.2	2.6	11.668	B
CD-A	182	45			182				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	270	67	581	0.464	272	1.5	0.9	11.735	B
A-B	19	5			19				
A-C	290	72			290				
A-D	34	8			34				
AB-CD	386	97	822	0.470	392	2.7	1.3	8.576	A
AB-C	184	46			184				
D-ABC	192	48	580	0.331	193	0.7	0.5	9.311	A
C-D	0	0			0				
C-A	355	89			355				
C-B	73	18			73				
CD-AB	403	101	877	0.460	408	2.6	1.3	7.869	A
CD-A	217	54			217				

2031 Base + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		4.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.23	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Development	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A444 Atherstone Road (N)		ONE HOUR	✓	476	100.000
B - Fenn Lanes		ONE HOUR	✓	301	100.000
C - A444 Atherstone Road (S)		ONE HOUR	✓	349	100.000
D - Old Forge Road		ONE HOUR	✓	166	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
From	A - A444 Atherstone Road (N)	0	25	451	0
	B - Fenn Lanes	40	0	261	0
	C - A444 Atherstone Road (S)	295	54	0	0
	D - Old Forge Road	0	166	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
	A - A444 Atherstone Road (N)	0	0	11	0
	B - Fenn Lanes	0	0	0	0
	C - A444 Atherstone Road (S)	14	0	0	0
	D - Old Forge Road	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-ACD	0.66	20.63	1.8	C	276	414
A-B					23	34
A-C					414	621
A-D					0	0
AB-CD	0.00	0.00	0.0	A	0	0
AB-C					653	979
D-ABC	0.31	8.88	0.4	A	152	228
C-D					0	0
C-A					271	406
C-B					50	74
CD-AB	0.54	10.24	1.7	B	320	479
CD-A					153	229

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	227	57	573	0.395	224	0.0	0.6	10.242	B
A-B	19	5			19				
A-C	340	85			340				
A-D	0	0			0				
AB-CD	0	0	622	0.000	0	0.0	0.0	0.000	A
AB-C	534	133			534				
D-ABC	125	31	624	0.200	124	0.0	0.2	7.184	A
C-D	0	0			0				
C-A	222	56			222				
C-B	41	10			41				
CD-AB	234	59	748	0.313	232	0.0	0.6	6.953	A
CD-A	153	38			153				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	271	68	545	0.496	269	0.6	1.0	12.976	B
A-B	22	6			22				
A-C	405	101			405				
A-D	0	0			0				
AB-CD	0	0	607	0.000	0	0.0	0.0	0.000	A
AB-C	639	160			639				
D-ABC	149	37	609	0.245	149	0.2	0.3	7.822	A
C-D	0	0			0				
C-A	265	66			265				
C-B	49	12			49				
CD-AB	304	76	758	0.401	303	0.6	0.9	7.880	A
CD-A	159	40			159				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	331	83	505	0.656	328	1.0	1.8	19.915	C
A-B	28	7			28				
A-C	497	124			497				
A-D	0	0			0				
AB-CD	0	0	587	0.000	0	0.0	0.0	0.000	A
AB-C	781	195			781				
D-ABC	183	46	588	0.311	182	0.3	0.4	8.859	A
C-D	0	0			0				
C-A	325	81			325				
C-B	59	15			59				
CD-AB	418	104	773	0.541	415	0.9	1.6	9.992	A
CD-A	149	37			149				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	331	83	505	0.656	331	1.8	1.8	20.633	C
A-B	28	7			28				
A-C	497	124			497				
A-D	0	0			0				
AB-CD	0	0	587	0.000	0	0.0	0.0	0.000	A
AB-C	784	196			784				
D-ABC	183	46	588	0.311	183	0.4	0.4	8.880	A
C-D	0	0			0				
C-A	325	81			325				
C-B	59	15			59				
CD-AB	419	105	774	0.542	419	1.6	1.7	10.238	B
CD-A	148	37			148				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	271	68	545	0.497	274	1.8	1.0	13.442	B
A-B	22	6			22				
A-C	405	101			405				
A-D	0	0			0				
AB-CD	0	0	607	0.000	0	0.0	0.0	0.000	A
AB-C	643	161			643				
D-ABC	149	37	609	0.245	150	0.4	0.3	7.849	A
C-D	0	0			0				
C-A	265	66			265				
C-B	49	12			49				
CD-AB	306	76	759	0.403	309	1.7	1.0	8.147	A
CD-A	158	39			158				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	227	57	573	0.396	228	1.0	0.7	10.491	B
A-B	19	5			19				
A-C	340	85			340				
A-D	0	0			0				
AB-CD	0	0	622	0.000	0	0.0	0.0	0.000	A
AB-C	537	134			537				
D-ABC	125	31	624	0.200	125	0.3	0.3	7.225	A
C-D	0	0			0				
C-A	222	56			222				
C-B	41	10			41				
CD-AB	236	59	749	0.315	238	1.0	0.6	7.116	A
CD-A	152	38			152				

2031 Base + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		3.08	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.08	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Development	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - A444 Atherstone Road (N)		ONE HOUR	✓	408	100.000
B - Fenn Lanes		ONE HOUR	✓	218	100.000
C - A444 Atherstone Road (S)		ONE HOUR	✓	452	100.000
D - Old Forge Road		ONE HOUR	✓	143	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
From	A - A444 Atherstone Road (N)	0	21	387	0
	B - Fenn Lanes	55	0	163	0
	C - A444 Atherstone Road (S)	396	56	0	0
	D - Old Forge Road	0	143	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - A444 Atherstone Road (N)	B - Fenn Lanes	C - A444 Atherstone Road (S)	D - Old Forge Road
	A - A444 Atherstone Road (N)	0	0	9	0
	B - Fenn Lanes	0	0	0	0
	C - A444 Atherstone Road (S)	8	0	0	0
	D - Old Forge Road	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-ACD	0.50	15.11	1.0	C	200	300
A-B					19	29
A-C					355	533
A-D					0	0
AB-CD	0.00	0.00	0.0	A	0	0
AB-C					504	757
D-ABC	0.28	8.92	0.4	A	131	197
C-D					0	0
C-A					363	545
C-B					51	77
CD-AB	0.51	8.42	1.6	A	329	494
CD-A					216	325

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	164	41	550	0.298	162	0.0	0.4	9.241	A
A-B	16	4			16				
A-C	291	73			291				
A-D	0	0			0				
AB-CD	0	0	607	0.000	0	0.0	0.0	0.000	A
AB-C	413	103			413				
D-ABC	108	27	605	0.178	107	0.0	0.2	7.209	A
C-D	0	0			0				
C-A	298	75			298				
C-B	42	11			42				
CD-AB	235	59	815	0.288	233	0.0	0.6	6.178	A
CD-A	212	53			212				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	196	49	521	0.376	195	0.4	0.6	11.023	B
A-B	19	5			19				
A-C	348	87			348				
A-D	0	0			0				
AB-CD	0	0	588	0.000	0	0.0	0.0	0.000	A
AB-C	494	123			494				
D-ABC	129	32	587	0.219	128	0.2	0.3	7.848	A
C-D	0	0			0				
C-A	356	89			356				
C-B	50	13			50				
CD-AB	311	78	838	0.372	310	0.6	0.9	6.816	A
CD-A	223	56			223				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	240	60	479	0.501	238	0.6	1.0	14.895	B
A-B	23	6			23				
A-C	426	107			426				
A-D	0	0			0				
AB-CD	0	0	562	0.000	0	0.0	0.0	0.000	A
AB-C	604	151			604				
D-ABC	157	39	561	0.281	157	0.3	0.4	8.900	A
C-D	0	0			0				
C-A	436	109			436				
C-B	62	15			62				
CD-AB	439	110	871	0.504	437	0.9	1.5	8.275	A
CD-A	215	54			215				

17:30 - 17:45

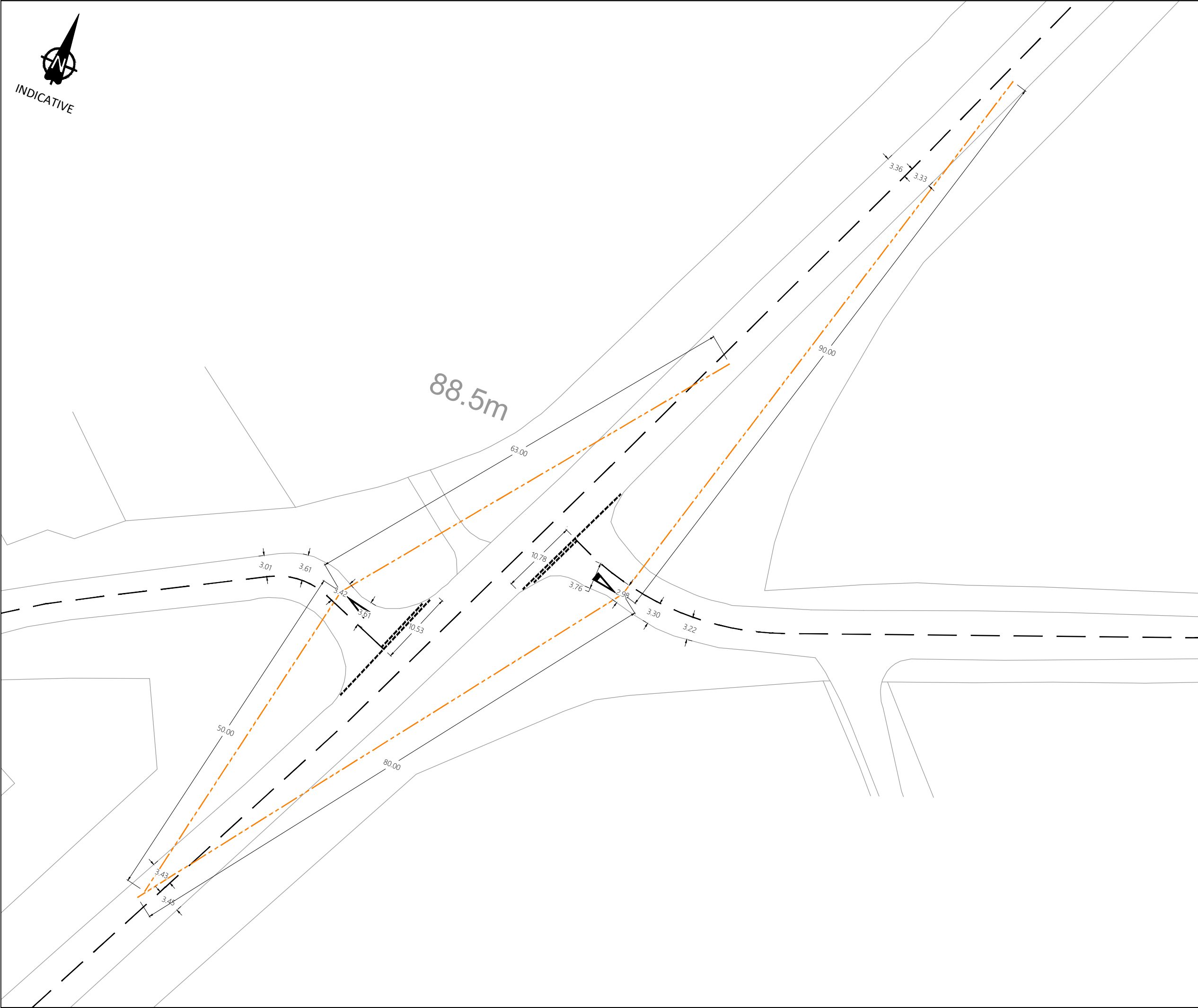
Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	240	60	478	0.502	240	1.0	1.0	15.106	C
A-B	23	6			23				
A-C	426	107			426				
A-D	0	0			0				
AB-CD	0	0	562	0.000	0	0.0	0.0	0.000	A
AB-C	606	151			606				
D-ABC	157	39	561	0.281	157	0.4	0.4	8.919	A
C-D	0	0			0				
C-A	436	109			436				
C-B	62	15			62				
CD-AB	441	110	872	0.505	440	1.5	1.6	8.420	A
CD-A	214	54			214				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	196	49	520	0.377	197	1.0	0.6	11.197	B
A-B	19	5			19				
A-C	348	87			348				
A-D	0	0			0				
AB-CD	0	0	588	0.000	0	0.0	0.0	0.000	A
AB-C	496	124			496				
D-ABC	129	32	587	0.219	129	0.4	0.3	7.870	A
C-D	0	0			0				
C-A	356	89			356				
C-B	50	13			50				
CD-AB	313	78	839	0.373	316	1.6	0.9	6.981	A
CD-A	222	56			222				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	164	41	550	0.299	165	0.6	0.4	9.373	A
A-B	16	4			16				
A-C	291	73			291				
A-D	0	0			0				
AB-CD	0	0	607	0.000	0	0.0	0.0	0.000	A
AB-C	415	104			415				
D-ABC	108	27	605	0.178	108	0.3	0.2	7.239	A
C-D	0	0			0				
C-A	298	75			298				
C-B	42	11			42				
CD-AB	237	59	816	0.291	238	0.9	0.6	6.287	A
CD-A	211	53			211				



Notes

1.

Do not scale from this drawing. All dimensions shown are in metres unless noted otherwise.

2.

This drawing has been based upon Ordnance Survey information produced by others and Milestone Transport Planning cannot be held responsible for any discrepancies which may arise because of it.

Ordnance Survey Licence number: 100057360

Drawing Revisions

Rev:	Drn:	Date:	Details	Chk:
-	ZM	08/09/2023	First issue	MS

Client

ERI MTP Ltd

Project

MIRA Technology Park South Site

Title

A444 Atherstone Road / Old Forge Road Geometries

MILESTONE

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Drawing Number:

17059/GEO/SK16

Scale:

1:500 @ A3

Revision:

-

Appendix 10

Junctions 10									
ARCADY 10 - Roundabout Module									
Version: 10.0.4.1693									
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Filename: Import of 17059- A5-Mira Roundabout (PRTM).j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

Report generation date: 14/06/2023 09:24:57

- »2031 Base, AM (08:00 - 09:00)
- »2031 Base , PM (17:00 - 18:00)
- »2031 Base + Dev, AM (08:00 - 09:00)
- »2031 Base + Dev, PM (17:00 - 18:00)

Summary of junction performance

	AM (08:00 - 09:00)					PM (17:00 - 18:00)				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
	2031 Base									
1 - Mira Drive	0.1	2.96	0.09	A	3.68	0.8	3.77	0.44	A	2.81
2 - A5 South-East	0.9	3.07	0.49	A		0.6	2.51	0.37	A	
3 - Site Access	0.0	0.00	0.00	A		0.0	0.00	0.00	A	
4 - A5 North-West	1.4	4.38	0.58	A		0.3	2.03	0.24	A	
	2031 Base + Dev									
1 - Mira Drive	0.2	4.64	0.14	A	10.49	2.2	10.64	0.69	B	6.21
2 - A5 South-East	0.9	3.35	0.47	A		1.2	4.76	0.54	A	
3 - Site Access	1.8	8.43	0.64	A		1.7	7.92	0.64	A	
4 - A5 North-West	6.9	16.26	0.88	C		1.4	3.76	0.58	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	24/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓
D3	2031 Base + Dev	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D4	2031 Base + Dev	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Site Access - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	3.68	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.68	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Mira Drive		
2	A5 South-East		
3	Site Access		
4	A5 North-West		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Mira Drive	6.64	7.01	4.9	18.0	50.0	23.0		
2 - A5 South-East	8.30	8.30	0.0	25.0	50.0	30.0		
3 - Site Access	3.50	8.16	35.5	15.0	50.0	32.0		
4 - A5 North-West	8.45	8.45	0.0	25.0	50.0	34.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Mira Drive	0.698	2142
2 - A5 South-East	0.770	2539
3 - Site Access	0.660	2007
4 - A5 North-West	0.768	2550

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)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Mira Drive		ONE HOUR	✓	110	100.000
2 - A5 South-East		ONE HOUR	✓	1014	100.000
3 - Site Access		ONE HOUR	✓	0	100.000
4 - A5 North-West		ONE HOUR	✓	1037	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
	1 - Mira Drive	0	90	0	20
	2 - A5 South-East	494	0	0	520
	3 - Site Access	0	0	0	0
	4 - A5 North-West	229	808	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
	1 - Mira Drive	0	9	0	15
	2 - A5 South-East	7	0	0	13
	3 - Site Access	0	0	0	0
	4 - A5 North-West	4	8	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Mira Drive	0.09	2.96	0.1	A	101	151
2 - A5 South-East	0.49	3.07	0.9	A	930	1396
3 - Site Access	0.00	0.00	0.0	A	0	0
4 - A5 North-West	0.58	4.38	1.4	A	952	1427

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	83	21	606	1531	0.054	83	543	0.0	0.1	2.486	A
2 - A5 South-East	763	191	15	2295	0.333	761	674	0.0	0.5	2.344	A
3 - Site Access	0	0	776	1442	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	781	195	371	2096	0.373	778	405	0.0	0.6	2.728	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	99	25	726	1449	0.068	99	649	0.1	0.1	2.665	A
2 - A5 South-East	912	228	18	2293	0.398	911	806	0.5	0.7	2.604	A
3 - Site Access	0	0	929	1331	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	932	233	444	2040	0.457	931	485	0.6	0.8	3.244	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	121	30	888	1338	0.091	121	795	0.1	0.1	2.957	A
2 - A5 South-East	1116	279	22	2289	0.488	1115	987	0.7	0.9	3.063	A
3 - Site Access	0	0	1137	1180	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	1142	285	543	1963	0.581	1140	594	0.8	1.4	4.358	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	121	30	890	1337	0.091	121	796	0.1	0.1	2.960	A
2 - A5 South-East	1116	279	22	2289	0.488	1116	989	0.9	0.9	3.068	A
3 - Site Access	0	0	1138	1179	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	1142	285	544	1963	0.582	1142	595	1.4	1.4	4.382	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	99	25	728	1447	0.068	99	651	0.1	0.1	2.671	A
2 - A5 South-East	912	228	18	2293	0.398	913	809	0.9	0.7	2.612	A
3 - Site Access	0	0	931	1330	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	932	233	445	2039	0.457	934	486	1.4	0.8	3.263	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	83	21	609	1529	0.054	83	545	0.1	0.1	2.491	A
2 - A5 South-East	763	191	15	2295	0.333	764	677	0.7	0.5	2.352	A
3 - Site Access	0	0	779	1440	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	781	195	372	2095	0.373	782	407	0.8	0.6	2.743	A

2031 Base , PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Site Access - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	2.81	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.81	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Mira Drive		ONE HOUR	✓	676	100.000
2 - A5 South-East		ONE HOUR	✓	774	100.000
3 - Site Access		ONE HOUR	✓	0	100.000
4 - A5 North-West		ONE HOUR	✓	521	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
	1 - Mira Drive	0	521	0	155
	2 - A5 South-East	69	0	0	705
	3 - Site Access	0	0	0	0
	4 - A5 North-West	22	499	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
	1 - Mira Drive	0	2	0	3
	2 - A5 South-East	7	0	0	5
	3 - Site Access	0	0	0	0
	4 - A5 North-West	9	6	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Mira Drive	0.44	3.77	0.8	A	620	930
2 - A5 South-East	0.37	2.51	0.6	A	710	1065
3 - Site Access	0.00	0.00	0.0	A	0	0
4 - A5 North-West	0.24	2.03	0.3	A	478	717

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	509	127	375	1824	0.279	507	68	0.0	0.4	2.732	A
2 - A5 South-East	583	146	116	2327	0.250	581	766	0.0	0.3	2.062	A
3 - Site Access	0	0	698	1524	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	392	98	52	2362	0.166	391	646	0.0	0.2	1.826	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	608	152	448	1771	0.343	607	82	0.4	0.5	3.091	A
2 - A5 South-East	696	174	139	2309	0.301	695	916	0.3	0.4	2.230	A
3 - Site Access	0	0	835	1429	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	468	117	62	2355	0.199	468	773	0.2	0.2	1.907	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	744	186	549	1698	0.438	743	100	0.5	0.8	3.767	A
2 - A5 South-East	852	213	170	2286	0.373	852	1122	0.4	0.6	2.508	A
3 - Site Access	0	0	1022	1300	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	574	143	76	2344	0.245	573	946	0.2	0.3	2.033	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	744	186	549	1698	0.438	744	100	0.8	0.8	3.774	A
2 - A5 South-East	852	213	171	2286	0.373	852	1123	0.6	0.6	2.510	A
3 - Site Access	0	0	1023	1299	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	574	143	76	2344	0.245	574	947	0.3	0.3	2.033	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	608	152	449	1771	0.343	609	82	0.8	0.5	3.100	A
2 - A5 South-East	696	174	140	2309	0.301	696	918	0.6	0.4	2.232	A
3 - Site Access	0	0	836	1428	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	468	117	62	2355	0.199	469	774	0.3	0.2	1.911	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	509	127	376	1823	0.279	509	69	0.5	0.4	2.742	A
2 - A5 South-East	583	146	117	2326	0.250	583	769	0.4	0.3	2.066	A
3 - Site Access	0	0	700	1523	0.000	0	0	0.0	0.0	0.000	A
4 - A5 North-West	392	98	52	2362	0.166	392	648	0.2	0.2	1.826	A

2031 Base + Dev, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Site Access - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	10.49	B

Junction Network

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Dev	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Mira Drive		ONE HOUR	✓	111	100.000
2 - A5 South-East		ONE HOUR	✓	852	100.000
3 - Site Access		ONE HOUR	✓	704	100.000
4 - A5 North-West		ONE HOUR	✓	1456	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
From	1 - Mira Drive	0	85	7	19
	2 - A5 South-East	263	0	0	589
	3 - Site Access	299	92	0	313
	4 - A5 North-West	156	963	337	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
	1 - Mira Drive	0	9	0	16
	2 - A5 South-East	6	0	0	12
	3 - Site Access	7	18	0	8
	4 - A5 North-West	4	9	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Mira Drive	0.14	4.64	0.2	A	102	153
2 - A5 South-East	0.47	3.35	0.9	A	782	1173
3 - Site Access	0.64	8.43	1.8	A	646	969
4 - A5 North-West	0.88	16.26	6.9	C	1336	2004

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	84	21	1043	1234	0.068	83	538	0.0	0.1	3.128	A
2 - A5 South-East	641	160	272	2107	0.304	640	855	0.0	0.4	2.450	A
3 - Site Access	530	133	654	1406	0.377	528	258	0.0	0.6	4.088	A
4 - A5 North-West	1096	274	490	1996	0.549	1091	691	0.0	1.2	3.957	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	100	25	1248	1093	0.091	100	644	0.1	0.1	3.623	A
2 - A5 South-East	766	191	325	2068	0.370	765	1022	0.4	0.6	2.763	A
3 - Site Access	633	158	782	1320	0.479	632	308	0.6	0.9	5.220	A
4 - A5 North-West	1309	327	587	1922	0.681	1305	827	1.2	2.1	5.807	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	122	31	1516	908	0.135	122	787	0.1	0.2	4.580	A
2 - A5 South-East	938	235	396	2016	0.465	937	1243	0.6	0.9	3.332	A
3 - Site Access	775	194	958	1203	0.644	772	375	0.9	1.8	8.286	A
4 - A5 North-West	1603	401	718	1820	0.881	1585	1012	2.1	6.5	14.358	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	122	31	1531	898	0.136	122	790	0.2	0.2	4.641	A
2 - A5 South-East	938	235	399	2014	0.466	938	1254	0.9	0.9	3.346	A
3 - Site Access	775	194	959	1202	0.645	775	378	1.8	1.8	8.425	A
4 - A5 North-West	1603	401	720	1819	0.881	1601	1014	6.5	6.9	16.258	C

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	100	25	1269	1079	0.093	100	649	0.2	0.1	3.680	A
2 - A5 South-East	766	191	331	2064	0.371	767	1038	0.9	0.6	2.780	A
3 - Site Access	633	158	784	1319	0.480	636	314	1.8	0.9	5.302	A
4 - A5 North-West	1309	327	590	1919	0.682	1328	830	6.9	2.2	6.273	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	84	21	1052	1229	0.068	84	542	0.1	0.1	3.146	A
2 - A5 South-East	641	160	274	2105	0.305	642	861	0.6	0.4	2.463	A
3 - Site Access	530	133	656	1404	0.377	531	260	0.9	0.6	4.131	A
4 - A5 North-West	1096	274	493	1994	0.550	1100	694	2.2	1.2	4.042	A

2031 Base + Dev, PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Site Access - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	6.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Dev	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Mira Drive		ONE HOUR	✓	676	100.000
2 - A5 South-East		ONE HOUR	✓	807	100.000
3 - Site Access		ONE HOUR	✓	718	100.000
4 - A5 North-West		ONE HOUR	✓	1215	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
From	1 - Mira Drive	0	284	247	145
	2 - A5 South-East	41	0	0	766
	3 - Site Access	27	97	0	594
	4 - A5 North-West	22	646	547	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Mira Drive	2 - A5 South-East	3 - Site Access	4 - A5 North-West
	1 - Mira Drive	0	3	1	3
	2 - A5 South-East	7	0	0	5
	3 - Site Access	7	2	0	3
	4 - A5 North-West	9	7	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Mira Drive	0.69	10.64	2.2	B	620	930
2 - A5 South-East	0.54	4.76	1.2	A	741	1111
3 - Site Access	0.64	7.92	1.7	A	659	988
4 - A5 North-West	0.58	3.76	1.4	A	1115	1672

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	509	127	968	1404	0.362	507	68	0.0	0.6	4.002	A
2 - A5 South-East	608	152	704	1890	0.321	606	771	0.0	0.5	2.799	A
3 - Site Access	541	135	714	1468	0.368	538	596	0.0	0.6	3.861	A
4 - A5 North-West	915	229	124	2339	0.391	912	1129	0.0	0.6	2.519	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	608	152	1159	1269	0.479	606	81	0.6	0.9	5.426	A
2 - A5 South-East	725	181	843	1787	0.406	725	922	0.5	0.7	3.385	A
3 - Site Access	645	161	855	1374	0.470	644	713	0.6	0.9	4.924	A
4 - A5 North-West	1092	273	148	2320	0.471	1091	1351	0.6	0.9	2.925	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	744	186	1418	1084	0.687	739	99	0.9	2.1	10.318	B
2 - A5 South-East	889	222	1030	1647	0.539	887	1127	0.7	1.2	4.723	A
3 - Site Access	791	198	1045	1246	0.634	787	872	0.9	1.7	7.787	A
4 - A5 North-West	1338	334	181	2295	0.583	1336	1651	0.9	1.4	3.743	A

17:30 - 17:45

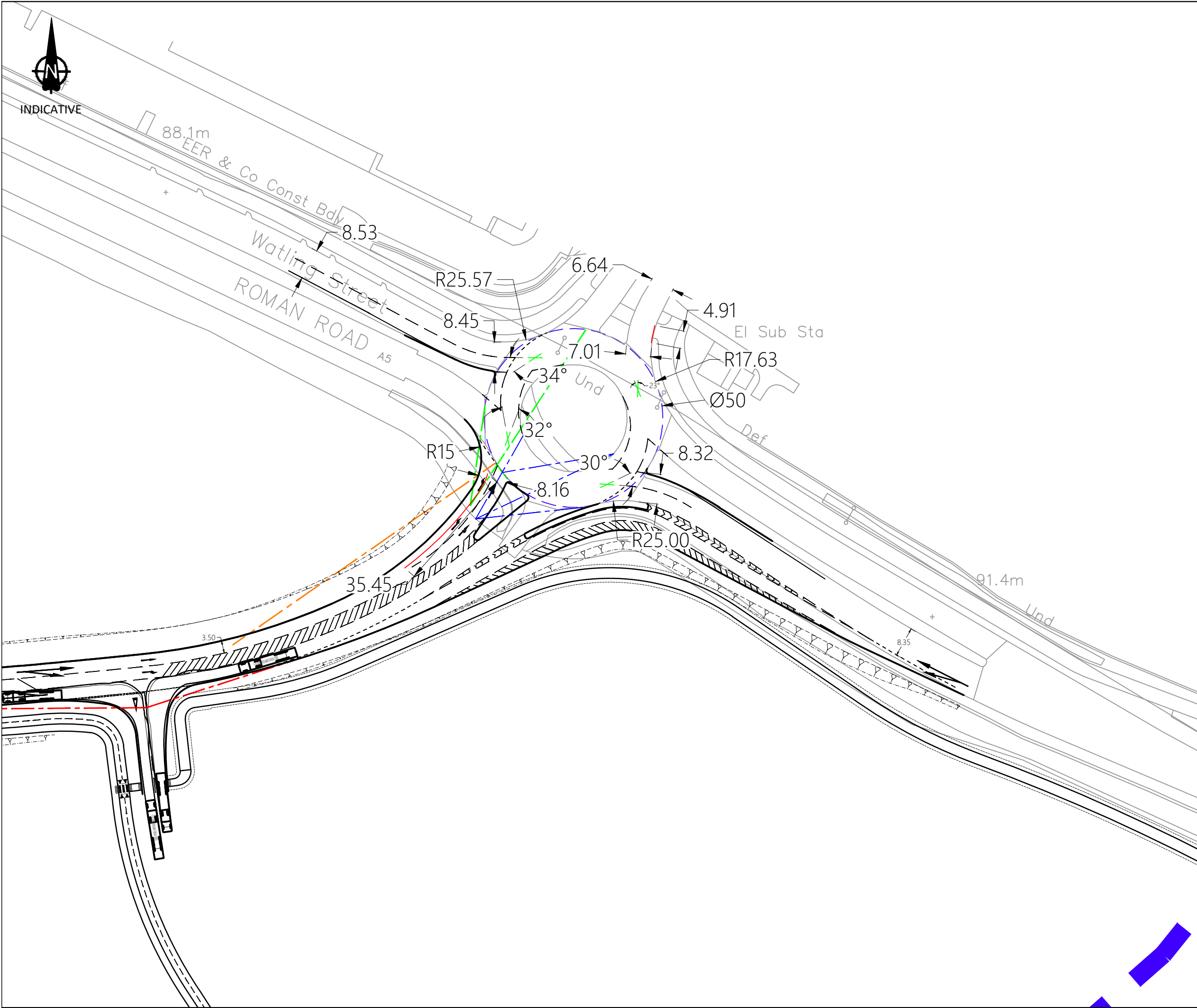
Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	744	186	1420	1082	0.688	744	99	2.1	2.2	10.642	B
2 - A5 South-East	889	222	1034	1644	0.540	888	1131	1.2	1.2	4.762	A
3 - Site Access	791	198	1048	1244	0.635	790	874	1.7	1.7	7.923	A
4 - A5 North-West	1338	334	182	2295	0.583	1338	1657	1.4	1.4	3.760	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	608	152	1162	1266	0.480	613	81	2.2	0.9	5.551	A
2 - A5 South-East	725	181	848	1783	0.407	727	927	1.2	0.7	3.417	A
3 - Site Access	645	161	859	1371	0.471	649	716	1.7	0.9	5.004	A
4 - A5 North-West	1092	273	149	2320	0.471	1094	1359	1.4	0.9	2.941	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Mira Drive	509	127	972	1401	0.363	510	68	0.9	0.6	4.047	A
2 - A5 South-East	608	152	708	1887	0.322	608	774	0.7	0.5	2.816	A
3 - Site Access	541	135	718	1466	0.369	542	599	0.9	0.6	3.899	A
4 - A5 North-West	915	229	124	2338	0.391	916	1135	0.9	0.6	2.531	A



- Notes
- 1. Do not scale from this drawing. All dimensions shown are in metres unless noted otherwise.
 - 2. This drawing has been based upon Ordnance Survey information produced by others and Milestone Transport Planning cannot be held responsible for any discrepancies which may arise because of it.

- Key
- Effective Flare Length
 - Conflict (entry) Angle
 - Inscribed Circle Diameter

Ordnance Survey Licence number: 100057360

Drawing Revisions

Rev:	Drn:	Date:	Details	Chk:
-	ZM	28/11/2022	First issue	MS
A	JB	14/07/2023	Title Block and Dimensions Updated	MS

Client
ERI MTP Ltd

Project
MIRA Technology Park
South Site

Title
A5 Watling Street / MIRA
Roundabout Geometries
(Proposed Layout)

MILESTONE
TRANSPORT PLANNING

7 Ancells Court, Rye Close, Fleet, Hampshire, GU51 2UY
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Drawing Number:	Scale:
17059/GEO/SK01	1:1,000 @ A3
Revision:	A

APPENDIX 11

Junctions 10										
ARCADY 10 - Roundabout Module										
Version: 10.1.0.1820										
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Filename: 17059 - A5 Watling St-Higham Lane Roundabout (PRTM).j10

Path: P:\17 jobs\059 MIRA - Southern Manufacturing Sector\Technical Assessments\Modelling PRTM Flows

Report generation date: 07/09/2023 15:39:40

- »2031 Base, AM (08:00 - 09:00)
- »2031 Base, PM (17:00 - 18:00)
- »2031 Base + Dev, AM (08:00 - 09:00)
- »2031 Base + Dev, PM (17:00 - 18:00)

Summary of junction performance

	AM (08:00 - 09:00)					PM (17:00 - 18:00)				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
	2031 Base									
1 - Nuneaton Lane	1.5	8.58	0.60	A	7.34	1.5	9.14	0.60	A	8.44
2 - A5 Watling Street (South-East)	1.8	8.17	0.64	A		1.5	7.73	0.61	A	
3 - Higham Lane	1.6	6.08	0.62	A		1.6	6.12	0.62	A	
4 - A5 Watling Street (North-West)	1.8	7.10	0.64	A		2.9	10.69	0.75	B	
	2031 Base + Dev									
1 - Nuneaton Lane	1.2	8.67	0.54	A	10.74	1.7	9.69	0.64	A	8.86
2 - A5 Watling Street (South-East)	1.3	8.31	0.57	A		1.3	7.49	0.57	A	
3 - Higham Lane	2.0	7.42	0.67	A		2.3	7.67	0.70	A	
4 - A5 Watling Street (North-West)	4.9	15.35	0.84	C		2.8	10.52	0.74	B	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	24/02/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	mtp\MTGeneral
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓
D3	2031 Base + Dev	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓
D4	2031 Base + Dev	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2031 Base, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 Watling Street (North-West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	7.34	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.34	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Nuneaton Lane		
2	A5 Watling Street (South-East)		
3	Higham Lane		
4	A5 Watling Street (North-West)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Nuneaton Lane	2.50	8.10	27.2	25.0	54.0	35.0		
2 - A5 Watling Street (South-East)	4.20	7.95	29.1	20.0	54.0	47.0		
3 - Higham Lane	3.75	8.95	27.9	30.0	54.0	43.0		
4 - A5 Watling Street (North-West)	4.20	7.00	79.0	20.0	54.0	51.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Nuneaton Lane	0.600	1767
2 - A5 Watling Street (South-East)	0.620	1955
3 - Higham Lane	0.648	2062
4 - A5 Watling Street (North-West)	0.603	1886

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)	Run automatically
D1	2031 Base	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Nuneaton Lane		ONE HOUR	✓	581	100.000
2 - A5 Watling Street (South-East)		ONE HOUR	✓	711	100.000
3 - Higham Lane		ONE HOUR	✓	879	100.000
4 - A5 Watling Street (North-West)		ONE HOUR	✓	817	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	10	400	171
	2 - A5 Watling Street (South-East)	7	0	247	457
	3 - Higham Lane	338	152	0	389
	4 - A5 Watling Street (North-West)	0	514	303	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	0	0	0
	2 - A5 Watling Street (South-East)	14	0	30	0
	3 - Higham Lane	0	18	0	0
	4 - A5 Watling Street (North-West)	0	13	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Nuneaton Lane	0.60	8.58	1.5	A	533	800
2 - A5 Watling Street (South-East)	0.64	8.17	1.8	A	652	979
3 - Higham Lane	0.62	6.08	1.6	A	807	1210
4 - A5 Watling Street (North-West)	0.64	7.10	1.8	A	750	1125

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	437	109	726	1285	0.340	435	259	0.0	0.5	4.227	A
2 - A5 Watling Street (South-East)	535	134	655	1397	0.383	533	507	0.0	0.6	4.155	A
3 - Higham Lane	662	165	476	1700	0.389	659	712	0.0	0.6	3.449	A
4 - A5 Watling Street (North-West)	615	154	373	1508	0.408	612	762	0.0	0.7	4.005	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	522	131	870	1190	0.439	521	310	0.5	0.8	5.375	A
2 - A5 Watling Street (South-East)	639	160	784	1324	0.483	638	607	0.6	0.9	5.240	A
3 - Higham Lane	790	198	570	1641	0.481	789	852	0.6	0.9	4.219	A
4 - A5 Watling Street (North-West)	734	184	446	1466	0.501	733	913	0.7	1.0	4.908	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	640	160	1063	1061	0.603	637	379	0.8	1.5	8.426	A
2 - A5 Watling Street (South-East)	783	196	958	1225	0.639	780	742	0.9	1.7	8.025	A
3 - Higham Lane	968	242	696	1562	0.620	965	1042	0.9	1.6	6.006	A
4 - A5 Watling Street (North-West)	900	225	546	1408	0.639	897	1116	1.0	1.7	7.005	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	640	160	1067	1059	0.604	640	380	1.5	1.5	8.580	A
2 - A5 Watling Street (South-East)	783	196	962	1223	0.640	783	744	1.7	1.8	8.174	A
3 - Higham Lane	968	242	699	1560	0.620	968	1046	1.6	1.6	6.077	A
4 - A5 Watling Street (North-West)	900	225	547	1407	0.640	899	1120	1.7	1.8	7.095	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	522	131	875	1187	0.440	525	311	1.5	0.8	5.467	A
2 - A5 Watling Street (South-East)	639	160	790	1321	0.484	642	610	1.8	0.9	5.334	A
3 - Higham Lane	790	198	574	1639	0.482	793	858	1.6	0.9	4.269	A
4 - A5 Watling Street (North-West)	734	184	448	1464	0.502	737	918	1.8	1.0	4.972	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	437	109	731	1282	0.341	438	260	0.8	0.5	4.275	A
2 - A5 Watling Street (South-East)	535	134	660	1394	0.384	537	510	0.9	0.6	4.204	A
3 - Higham Lane	662	165	479	1698	0.390	663	717	0.9	0.6	3.483	A
4 - A5 Watling Street (North-West)	615	154	375	1507	0.408	616	767	1.0	0.7	4.048	A

2031 Base, PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 Watling Street (North-West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	8.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.44	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Nuneaton Lane		ONE HOUR	✓	527	100.000
2 - A5 Watling Street (South-East)		ONE HOUR	✓	654	100.000
3 - Higham Lane		ONE HOUR	✓	870	100.000
4 - A5 Watling Street (North-West)		ONE HOUR	✓	917	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	4	499	24
	2 - A5 Watling Street (South-East)	30	0	0	624
	3 - Higham Lane	452	245	0	173
	4 - A5 Watling Street (North-West)	0	422	495	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	0	0	0
	2 - A5 Watling Street (South-East)	0	0	0	6
	3 - Higham Lane	0	0	0	2
	4 - A5 Watling Street (North-West)	0	7	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Nuneaton Lane	0.60	9.14	1.5	A	484	725
2 - A5 Watling Street (South-East)	0.61	7.73	1.5	A	600	900
3 - Higham Lane	0.62	6.12	1.6	A	798	1197
4 - A5 Watling Street (North-West)	0.75	10.69	2.9	B	841	1262

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	397	99	871	1227	0.323	395	361	0.0	0.5	4.316	A
2 - A5 Watling Street (South-East)	492	123	763	1397	0.352	490	503	0.0	0.5	3.959	A
3 - Higham Lane	655	164	508	1708	0.384	653	745	0.0	0.6	3.405	A
4 - A5 Watling Street (North-West)	690	173	545	1493	0.462	687	615	0.0	0.9	4.447	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	474	118	1042	1121	0.423	473	433	0.5	0.7	5.557	A
2 - A5 Watling Street (South-East)	588	147	913	1308	0.449	587	602	0.5	0.8	4.983	A
3 - Higham Lane	782	196	608	1640	0.477	781	892	0.6	0.9	4.188	A
4 - A5 Watling Street (North-West)	824	206	653	1431	0.576	822	737	0.9	1.3	5.896	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	580	145	1272	978	0.593	577	529	0.7	1.4	8.926	A
2 - A5 Watling Street (South-East)	720	180	1115	1189	0.606	717	735	0.8	1.5	7.588	A
3 - Higham Lane	958	239	744	1548	0.619	955	1088	0.9	1.6	6.049	A
4 - A5 Watling Street (North-West)	1010	252	798	1347	0.750	1004	901	1.3	2.9	10.307	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	580	145	1279	974	0.596	580	531	1.4	1.5	9.138	A
2 - A5 Watling Street (South-East)	720	180	1121	1185	0.607	720	739	1.5	1.5	7.731	A
3 - Higham Lane	958	239	746	1546	0.620	958	1094	1.6	1.6	6.122	A
4 - A5 Watling Street (North-West)	1010	252	800	1345	0.750	1009	904	2.9	2.9	10.687	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	474	118	1052	1115	0.425	477	435	1.5	0.7	5.666	A
2 - A5 Watling Street (South-East)	588	147	921	1303	0.451	591	607	1.5	0.8	5.072	A
3 - Higham Lane	782	196	612	1637	0.478	785	900	1.6	0.9	4.238	A
4 - A5 Watling Street (North-West)	824	206	656	1429	0.577	831	741	2.9	1.4	6.077	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	397	99	877	1223	0.324	398	364	0.7	0.5	4.369	A
2 - A5 Watling Street (South-East)	492	123	769	1394	0.353	493	506	0.8	0.5	4.003	A
3 - Higham Lane	655	164	512	1705	0.384	656	750	0.9	0.6	3.436	A
4 - A5 Watling Street (North-West)	690	173	548	1491	0.463	692	619	1.4	0.9	4.519	A

2031 Base + Dev, AM (08:00 - 09:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 Watling Street (North-West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	10.74	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.74	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Dev	AM (08:00 - 09:00)	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Nuneaton Lane		ONE HOUR	✓	451	100.000
2 - A5 Watling Street (South-East)		ONE HOUR	✓	521	100.000
3 - Higham Lane		ONE HOUR	✓	911	100.000
4 - A5 Watling Street (North-West)		ONE HOUR	✓	1081	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	6	289	156
	2 - A5 Watling Street (South-East)	5	0	0	516
	3 - Higham Lane	370	105	0	436
	4 - A5 Watling Street (North-West)	0	433	648	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	0	0	0
	2 - A5 Watling Street (South-East)	20	0	0	17
	3 - Higham Lane	0	0	0	4
	4 - A5 Watling Street (North-West)	0	15	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Nuneaton Lane	0.54	8.67	1.2	A	414	621
2 - A5 Watling Street (South-East)	0.57	8.31	1.3	A	478	717
3 - Higham Lane	0.67	7.42	2.0	A	836	1254
4 - A5 Watling Street (North-West)	0.84	15.35	4.9	C	992	1488

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	340	85	888	1185	0.287	338	281	0.0	0.4	4.243	A
2 - A5 Watling Street (South-East)	392	98	819	1219	0.322	390	407	0.0	0.5	4.337	A
3 - Higham Lane	686	171	507	1659	0.414	683	702	0.0	0.7	3.679	A
4 - A5 Watling Street (North-West)	814	203	360	1514	0.537	809	830	0.0	1.1	5.075	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	405	101	1063	1070	0.379	405	337	0.4	0.6	5.402	A
2 - A5 Watling Street (South-East)	468	117	980	1130	0.415	467	488	0.5	0.7	5.428	A
3 - Higham Lane	819	205	607	1587	0.516	818	840	0.7	1.1	4.673	A
4 - A5 Watling Street (North-West)	972	243	431	1475	0.659	969	994	1.1	1.9	7.065	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	497	124	1294	919	0.541	494	411	0.6	1.2	8.442	A
2 - A5 Watling Street (South-East)	574	143	1195	1011	0.567	571	594	0.7	1.3	8.138	A
3 - Higham Lane	1003	251	742	1490	0.673	999	1024	1.1	2.0	7.285	A
4 - A5 Watling Street (North-West)	1190	298	526	1423	0.837	1179	1215	1.9	4.7	14.160	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	497	124	1305	912	0.545	496	413	1.2	1.2	8.666	A
2 - A5 Watling Street (South-East)	574	143	1203	1007	0.570	574	599	1.3	1.3	8.307	A
3 - Higham Lane	1003	251	745	1487	0.674	1003	1031	2.0	2.0	7.424	A
4 - A5 Watling Street (North-West)	1190	298	528	1422	0.837	1189	1220	4.7	4.9	15.346	C

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	405	101	1078	1060	0.382	408	339	1.2	0.6	5.537	A
2 - A5 Watling Street (South-East)	468	117	992	1123	0.417	471	494	1.3	0.7	5.537	A
3 - Higham Lane	819	205	612	1583	0.517	823	851	2.0	1.1	4.755	A
4 - A5 Watling Street (North-West)	972	243	434	1474	0.659	983	1001	4.9	2.0	7.507	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	340	85	896	1179	0.288	340	283	0.6	0.4	4.296	A
2 - A5 Watling Street (South-East)	392	98	826	1215	0.323	393	411	0.7	0.5	4.388	A
3 - Higham Lane	686	171	511	1656	0.414	687	708	1.1	0.7	3.724	A
4 - A5 Watling Street (North-West)	814	203	362	1513	0.538	817	836	2.0	1.2	5.198	A

2031 Base + Dev, PM (17:00 - 18:00)

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	4 - A5 Watling Street (North-West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	8.86	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.86	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Dev	PM (17:00 - 18:00)	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Nuneaton Lane		ONE HOUR	✓	589	100.000
2 - A5 Watling Street (South-East)		ONE HOUR	✓	581	100.000
3 - Higham Lane		ONE HOUR	✓	980	100.000
4 - A5 Watling Street (North-West)		ONE HOUR	✓	887	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	4	513	72
	2 - A5 Watling Street (South-East)	27	0	0	554
	3 - Higham Lane	520	194	0	266
	4 - A5 Watling Street (North-West)	0	394	493	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Nuneaton Lane	2 - A5 Watling Street (South-East)	3 - Higham Lane	4 - A5 Watling Street (North-West)
From	1 - Nuneaton Lane	0	0	0	0
	2 - A5 Watling Street (South-East)	0	0	0	8
	3 - Higham Lane	0	0	0	4
	4 - A5 Watling Street (North-West)	0	8	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Nuneaton Lane	0.64	9.69	1.7	A	540	811
2 - A5 Watling Street (South-East)	0.57	7.49	1.3	A	533	800
3 - Higham Lane	0.70	7.67	2.3	A	899	1349
4 - A5 Watling Street (North-West)	0.74	10.52	2.8	B	814	1221

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	443	111	810	1258	0.352	441	410	0.0	0.5	4.395	A
2 - A5 Watling Street (South-East)	437	109	808	1342	0.326	435	444	0.0	0.5	3.961	A
3 - Higham Lane	738	184	489	1705	0.433	735	754	0.0	0.8	3.701	A
4 - A5 Watling Street (North-West)	668	167	556	1466	0.455	664	669	0.0	0.8	4.472	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	529	132	970	1158	0.457	528	491	0.5	0.8	5.708	A
2 - A5 Watling Street (South-East)	522	131	967	1249	0.418	521	531	0.5	0.7	4.941	A
3 - Higham Lane	881	220	586	1639	0.538	879	902	0.8	1.1	4.731	A
4 - A5 Watling Street (North-West)	797	199	665	1404	0.568	796	800	0.8	1.3	5.899	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	649	162	1184	1023	0.634	645	600	0.8	1.7	9.430	A
2 - A5 Watling Street (South-East)	640	160	1180	1124	0.569	637	648	0.7	1.3	7.364	A
3 - Higham Lane	1079	270	716	1550	0.696	1075	1101	1.1	2.2	7.509	A
4 - A5 Watling Street (North-West)	977	244	813	1320	0.740	971	978	1.3	2.7	10.155	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	649	162	1190	1020	0.636	648	602	1.7	1.7	9.690	A
2 - A5 Watling Street (South-East)	640	160	1187	1120	0.571	640	652	1.3	1.3	7.488	A
3 - Higham Lane	1079	270	719	1548	0.697	1079	1107	2.2	2.3	7.670	A
4 - A5 Watling Street (North-West)	977	244	816	1318	0.741	976	982	2.7	2.8	10.517	B

17:45 - 18:00

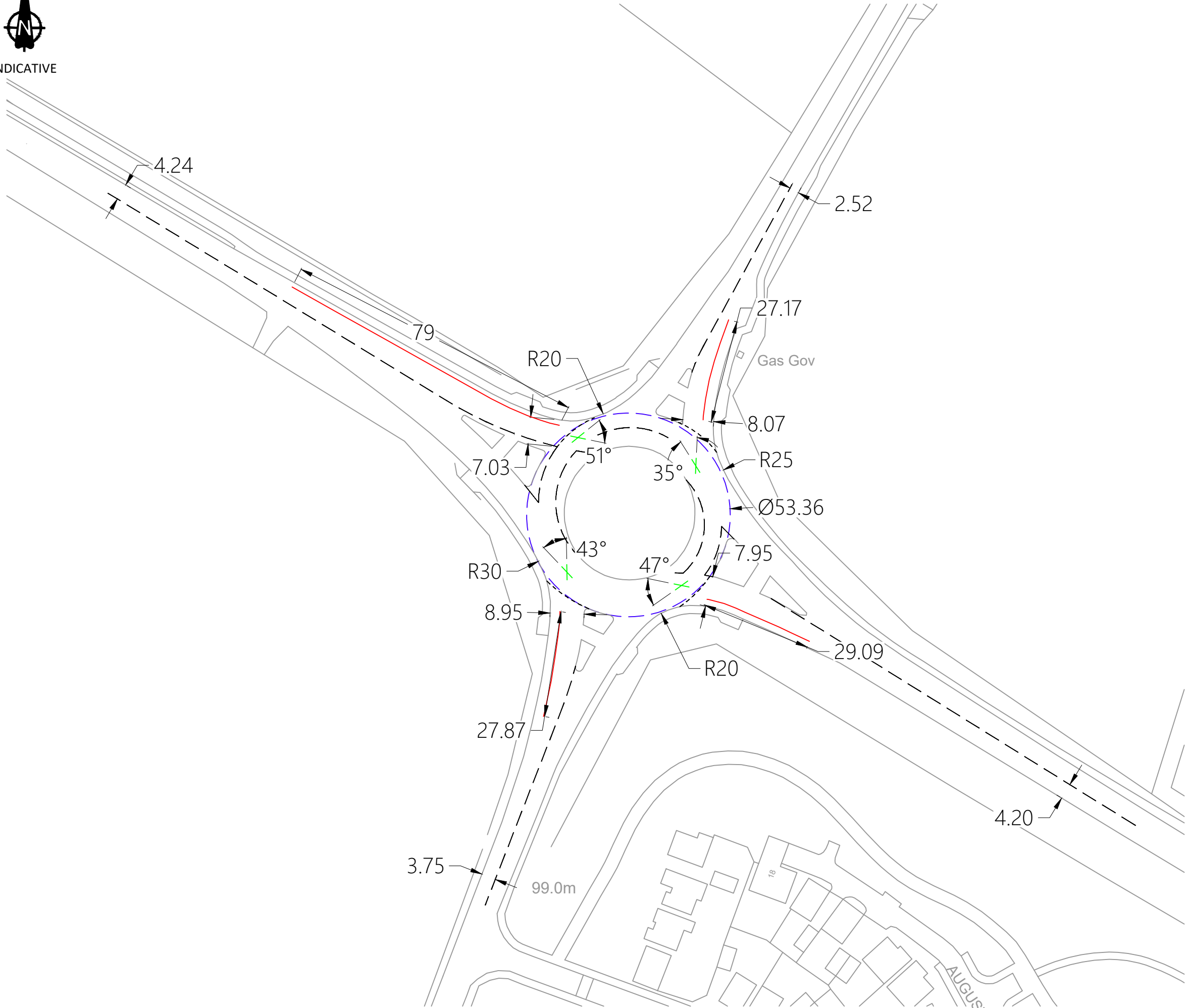
Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	529	132	978	1152	0.460	533	494	1.7	0.9	5.845	A
2 - A5 Watling Street (South-East)	522	131	976	1244	0.420	525	536	1.3	0.7	5.021	A
3 - Higham Lane	881	220	590	1636	0.538	885	911	2.3	1.2	4.821	A
4 - A5 Watling Street (North-West)	797	199	669	1401	0.569	803	806	2.8	1.3	6.076	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Nuneaton Lane	443	111	816	1254	0.354	445	413	0.9	0.6	4.452	A
2 - A5 Watling Street (South-East)	437	109	814	1339	0.327	438	447	0.7	0.5	4.002	A
3 - Higham Lane	738	184	493	1703	0.433	739	760	1.2	0.8	3.745	A
4 - A5 Watling Street (North-West)	668	167	559	1464	0.456	670	673	1.3	0.8	4.543	A



INDICATIVE



- Notes
1. Do not scale from this drawing. All dimensions shown are in metres unless noted otherwise.
 2. This drawing has been based upon Ordnance Survey information produced by others and Milestone Transport Planning cannot be held responsible for any discrepancies which may arise because of it.

- Key
- Effective Flare Length
 - Conflict (entry) Angle
 - Inscribed Circle Diameter

Ordnance Survey Licence number: 100057360

Drawing Revisions				
Rev.	Drn:	Date:	Details	Chk:
-	ZM	28/11/2022	First issue	MS
A	JB	14/07/2023	Updated title block and dimensions	MS

Client
ERI MTP Ltd

Project
MIRA Technology Park
South Site

Title
A5 Watling Street / Higham
Lane Geometries (Existing
Layout)

MILESTONE
TRANSPORT PLANNING
7 Ancells Court, Rye Close, Fleet, Hampshire, GU51 2UY
Tel: 01483 397888
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Drawing Number:	Scale:
17059/GEO/SK03	1:1,000 @ A3
Revision:	A

APPENDIX 12

AM

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	
	AM Peak (07:15-08:15)								
	AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
Average Delay per Vehicle in the Network (s)	72.4	72.3	79.8	77.2	88.6	87.9	101.4	89.4	112.2
Overall Delay per Vehicle (including time off network) (s)	72.9	72.8	80.3	77.7	89.6	88.6	102.7	90.0	113.1
Average Speed per Vehicle (mph)	21.9	22.1	21.7	21.5	20.7	20.7	19.9	20.4	18.8
Vehicles Active in the Network	224	236	251	252	268	255	285	271	309
Vehicle Trips Completed	3690	3861	3973	4123	4234	3956	4052	4199	4286
Latent Demand at End of Peak Hour	0	0	0	0	0	0	0	0	2
Total Peak Hour Input Vehicle Numbers	3914	4097	4224	4375	4502	4211	4337	4470	4597
Total Delay (hrs)	78.7	82.3	93.6	93.8	110.8	102.8	122.1	111.1	143.2
Latent Delay (hrs)	0.6	0.6	0.7	0.6	1.2	0.8	1.6	0.7	1.2

PM

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	
	PM Peak (16:00-17:00)								
	PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA
Average Delay per Vehicle in the Network (s)	66.2	69.7	73.6	73.9	77.2	70.7	75.5	74.5	80.3
Overall Delay per Vehicle (including time off network) (s)	66.8	70.2	74.4	74.5	77.8	71.3	76.3	75.0	80.9
Average Speed per Vehicle (mph)	22.6	22.5	22.2	22.0	21.8	22.4	22.0	22.0	21.5
Vehicles Active in the Network	247	258	279	275	288	272	281	283	295
Vehicle Trips Completed	3810	4024	4080	4213	4277	4098	4165	4255	4322
Latent Demand at End of Peak Hour	0	0	0	0	0	0	0	0	0
Total Peak Hour Input Vehicle Numbers	4057	4282	4359	4488	4565	4370	4446	4538	4617
Total Delay (hrs)	74.7	82.9	89.1	92.1	97.9	85.8	93.3	93.9	103.0
Latent Delay (hrs)	0.7	0.6	0.9	0.7	0.8	0.7	0.9	0.7	0.8

Time Period >>	AM
Vehicle Type >>	All Vehicles

				Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	
Junction No.	Junction Name	From	To	AM Peak (07:15-08:15)								
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	598	658	685	679	708	687	714	695	723
			A47 Long Shoot	77	77	77	76	77	67	66	66	66
		A5 Watling Street (SE)	A5 Watling Street (NW)	599	678	771	665	758	655	748	649	742
			A47 Long Shoot	684	710	710	719	717	733	733	737	733
		A47 Long Shoot	A5 Watling Street (NW)	58	58	58	59	59	58	59	58	59
			A5 Watling Street (SE)	802	704	703	726	724	741	741	748	746
2	Aldi / Petrol Pump	A5 Watling Street (NW)	Aldi	18	18	18	18	17	18	18	18	18
			PFS	34	34	34	34	34	34	34	34	34
		A5 Watling Street (SE)	A5 Watling Street (SE)	1349	1311	1337	1354	1379	1377	1403	1392	1417
			PFS	2	2	2	2	2	2	2	2	2
		A5 Watling Street (SE)	A5 Watling Street (SE)	12	11	11	11	11	12	12	12	12
			A5 Watling Street (NW)	4	4	3	5	5	4	4	5	5
3	Jacknell Road / A47	A47 N	Jacknell Road	95	105	104	102	102	126	125	120	120
			A47 S	699	721	729	765	774	802	811	844	852
		A47 S	Jacknell Road	114	115	115	117	116	117	117	114	115
			A47 N	473	498	504	495	500	529	533	523	527
		Jacknell Road	A47 S	21	23	24	24	24	23	23	24	23
			A47 N	24	27	27	27	27	27	27	28	27
4	Dodwells Roundabout	A5 Watling Street (NW)	A47 Dodwells Road	364	330	336	330	334	363	368	352	357
			B4866 Coventry Road	601	593	594	588	588	608	608	591	593
		A47 Dodwells Road	A5 Watling Street (SE)	403	410	429	457	475	424	443	467	487
			A5 Watling Street (NW)	427	414	423	414	422	440	449	436	440
		B4866 Coventry Road	B4866 Coventry Road	118	129	128	127	127	150	150	147	146
			A5 Watling Street (SE)	129	153	153	197	197	183	183	232	230
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	A5 Watling Street (NW)	440	502	510	487	496	500	509	493	501
			A47 Dodwells Road	62	64	63	65	65	52	52	53	53
		Harrowbrook Road	A5 Watling Street (SE)	15	15	15	21	21	16	16	21	21
			A5 Watling Street (NW)	390	445	523	455	534	421	500	431	510
		B4666 Coventry Road (W)	A47 Dodwells Road	111	171	171	169	169	181	181	183	183
			B4666 Coventry Road	22	21	21	30	30	18	18	27	27
6	A5 / Development Site Access	B4666 Coventry Road (E)	B4866 Coventry Road (W)	487	546	553	538	544	533	540	531	538
			Harrowbrook Road	157	157	157	162	162	147	147	157	157
		Harrowbrook Road	B4666 Coventry Road (E)	29	29	29	29	29	20	20	20	20
			B4666 Coventry Road (W)	33	39	41	40	42	40	42	41	43
		B4666 Coventry Road (W)	Harrowbrook Road	161	167	167	165	165	182	182	175	174
			B4666 Coventry Road (E)	582	577	578	582	582	597	596	592	593
6	A5 / Development Site Access	A5 W	A5 E	-	-	-	595	612	-	-	638	651
			Development Site	-	-	-	127	128	-	-	127	127
		A5 E	Development Site	-	-	-	134	134	-	-	134	134
			A5 W	-	-	-	614	694	-	-	600	678
		Development Site	A5 W	-	-	-	89	89	-	-	89	89
			A5 E	-	-	-	-	-	-	-	-	-

Time Period >>	AM
Vehicle Type >>	Base Lights

		Scenario 1Scenario 2Scenario 3Scenario 4Scenario 5Scenario 6Scenario 7Scenario 8										
Junction No.	Junction Name	From	To	AM Peak (07:15-08:15)								
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	526	524	524	524	525	523	523	524	524
			A47 Long Shoot	65	66	66	65	65	65	65	65	65
		A5 Watling Street (SE)	A5 Watling Street (NW)	529	492	491	492	490	484	483	484	483
			A47 Long Shoot	645	633	633	628	626	620	620	614	611
2	Aldi / Petrol Pump	A5 Watling Street (NW)	A5 Watling Street (NW)	18	18	18	18	17	18	18	18	18
			PFS	34	34	34	34	34	34	34	34	34
			A5 Watling Street (SE)	1243	1147	1147	1140	1138	1181	1181	1160	1159
		Aldi	PFS	2	2	2	2	2	2	2	2	2
			A5 Watling Street (SE)	12	11	11	11	11	12	12	12	12
		PFS	A5 Watling Street (NW)	4	4	3	5	5	4	4	5	5
			Aldi	0	0	0	0	0	0	0	0	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	47	47	47	46	47	47	46	47	47
			A5 Watling Street (NW)	1166	1117	1117	1112	1110	1096	1097	1092	1089
			Aldi	14	13	14	14	14	14	14	14	14
3	Jacknell Road / A47	A47 N	Jacknell Road	93	93	92	93	93	93	92	93	92
			A47 S	643	606	605	602	602	598	598	598	597
		A47 S	Jacknell Road	109	103	104	104	104	103	103	102	102
			A47 N	422	386	387	386	386	396	396	388	387
		Jacknell Road	A47 S	17	17	17	17	17	17	17	17	17
4	Dodwells Roundabout	A5 Watling Street (NW)	A47 N	17	17	17	17	17	17	17	17	16
			A47 Dodwells Road	334	293	293	294	293	314	314	306	306
			B4866 Coventry Road	586	546	546	542	542	566	565	555	556
		A47 Dodwells Road	A5 Watling Street (SE)	347	334	334	329	328	325	324	323	323
			A5 Watling Street (NW)	395	358	358	358	357	350	350	349	346
			B4866 Coventry Road	116	116	116	116	116	116	116	116	115
		B4866 Coventry Road	A5 Watling Street (SE)	113	113	113	109	109	113	113	113	112
			A5 Watling Street (NW)	420	418	417	418	418	419	418	418	417
		A5 Watling Street (SE)	A47 Dodwells Road	61	62	62	62	62	49	49	50	50
			A5 Watling Street (SE)	15	15	15	15	15	15	15	15	15
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	A5 Watling Street (NW)	333	321	321	316	316	309	309	305	304
			A47 Dodwells Road	98	98	98	97	97	98	97	95	95
		Harrowbrook Road	B4666 Coventry Road	20	20	19	20	19	17	16	16	16
			B4666 Coventry Road (W)	467	467	467	467	466	454	454	455	455
		B4666 Coventry Road (W)	Harrowbrook Road	147	147	147	147	147	137	137	147	147
6	A5 / Development Site Access	A5 W	B4666 Coventry Road (E)	20	20	20	20	20	20	20	20	20
			B4666 Coventry Road (W)	33	33	33	33	33	33	33	33	33
		A5 E	Harrowbrook Road	161	153	153	152	152	155	154	151	150
			B4666 Coventry Road (E)	563	530	530	528	527	545	544	539	539
		Development Site	A5 E	-	-	-	462	461	-	-	459	455
			Development Site	-	-	-	0	0	-	-	0	0

Time Period >>	AM
Vehicle Type >>	Base Heavies

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Junction No.	Junction Name	From	To	AM Peak (07:15-08:15)								
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	71	67	67	70	70	71	71	71	72
			A47 Long Shoot	11	11	11	11	11	1	1	1	1
		A5 Watling Street (SE)	A5 Watling Street (NW)	70	70	70	70	70	70	70	70	70
			A47 Long Shoot	33	32	32	32	31	32	32	32	32
2	Aldi / Petrol Pump	A5 Watling Street (NW)	A5 Watling Street (NW)	11	11	11	11	11	11	11	11	11
			A5 Watling Street (SE)	27	23	23	23	22	23	23	21	21
			Aldi	0	0	0	0	0	0	0	0	0
		Aldi	PFS	0	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	97	90	90	93	93	95	95	93	93
			PFS	0	0	0	0	0	0	0	0	0
		PFS	A5 Watling Street (SE)	0	0	0	0	0	0	0	0	0
			A5 Watling Street (NW)	0	0	0	0	0	0	0	0	0
			Aldi	0	0	0	0	0	0	0	0	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	0	0	0	0	0	0	0	0	0
3	Jacknell Road / A47	A47 N	A5 Watling Street (NW)	103	102	101	101	101	102	102	102	101
			Aldi	0	0	0	0	0	0	0	0	0
		A47 S	PFS	0	0	0	0	0	0	0	0	0
			Jacknell Road	2	2	2	2	2	2	2	2	2
		Jacknell Road	A47 S	55	55	55	55	55	54	54	54	54
			A47 N	5	5	5	5	5	5	5	5	5
4	Dodwells Roundabout	A47 N	A47 S	49	46	46	48	48	50	50	50	49
			A47 N	4	4	4	4	4	4	4	4	4
		A47 S	A47 N	7	7	7	7	7	7	7	7	7
			A47 S	28	25	26	27	27	29	29	29	29
		A5 Watling Street (NW)	A47 Dodwells Road	8	8	8	7	7	8	8	8	8
			B4866 Coventry Road	57	53	53	54	54	55	54	53	53
		A47 Dodwells Road	A5 Watling Street (SE)	30	30	30	30	30	30	30	30	29
			B4866 Coventry Road	2	2	2	2	2	2	2	2	2
		B4866 Coventry Road	A5 Watling Street (SE)	15	15	15	15	15	15	15	15	15
			A5 Watling Street (NW)	13	12	12	12	12	12	12	12	12
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	A47 Dodwells Road	1	1	1	1	1	1	1	1	1
			A5 Watling Street (SE)	0	0	0	0	0	0	0	0	0
		Harrowbrook Road	A5 Watling Street (NW)	57	57	57	57	57	57	57	57	57
			A47 Dodwells Road	14	14	14	14	14	14	14	14	14
		B4666 Coventry Road (W)	B4666 Coventry Road	2	2	2	2	2	2	2	2	2
			B4666 Coventry Road (W)	14	13	13	13	13	13	13	13	13
6	A5 / Development Site Access	A5 W	Harrowbrook Road	10	10	10	10	10	10	10	10	10
			B4666 Coventry Road (E)	9	9	9	9	9	0	0	0	0
		A5 E	B4666 Coventry Road (W)	0	0	0	0	0	0	0	0	0
			Harrowbrook Road	0	0	0	0	0	0	0	0	0
		Development Site	B4666 Coventry Road (E)	0	0	0	0	0	0	0	0	0
			B4666 Coventry Road (W)	12	11	11	11	11	11	11	11	11
		Development Site	A5 E	-	-	-	77	76	-	-	75	74
			Development Site	-	-	-	0	0	-	-	0	0

Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Time Period >>	AM
Vehicle Type >>	Growth Heavies

				Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	
Junction No.	Junction Name	From	To	AM Peak (07:15-08:15)								
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	-	3	3	1	1	13	13	10	10
			A47 Long Shoot	-	0	0	0	0	0	0	0	0
		A5 Watling Street (SE)	A47 Long Shoot	-	14	14	13	13	24	24	22	22
			A47 Long Shoot	-	1	1	1	1	2	2	2	2
2	Aldi / Petrol Pump		A5 Watling Street (NW)	-	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	-	0	0	0	0	2	2	2	2
		Aldi	Aldi	-	0	0	0	0	0	0	0	0
			PFS	-	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	-	3	3	1	1	15	15	12	12
			PFS	-	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	-	0	0	0	0	0	0	0	0
			A5 Watling Street (NW)	-	0	0	0	0	0	0	0	0
			Aldi	-	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	-	0	0	0	0	0	0	0	0
3	Jacknell Road / A47		A5 Watling Street (NW)	-	15	15	14	14	26	26	24	24
			Aldi	-	0	0	0	0	0	0	0	0
			PFS	-	0	0	0	0	0	0	0	0
		A47 N	Jacknell Road	-	0	0	0	0	2	2	2	2
			A47 S	-	21	21	20	20	27	28	27	27
			Jacknell Road	-	0	0	0	0	0	0	0	0
4	Dodwells Roundabout		A47 N	-	0	0	0	0	8	8	6	6
			A47 S	-	0	0	0	0	0	0	0	0
			A47 N	-	0	0	0	0	0	0	0	0
			A47 S	-	0	0	0	0	0	0	0	0
		A5 Watling Street (NW)	A47 Dodwells Road	-	0	0	0	0	8	8	6	6
			B4866 Coventry Road	-	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	-	3	3	1	1	7	7	6	6
		A47 Dodwells Road	A5 Watling Street (NW)	-	9	9	9	9	12	12	12	12
			B4866 Coventry Road	-	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	-	12	12	11	11	14	14	14	14
5	Harrowbrooks Road / B4666 Coventry Road		A5 Watling Street (NW)	-	0	0	0	0	0	0	0	0
			A47 Dodwells Road	-	7	7	6	6	14	14	12	12
			A47 Dodwells Road	-	0	0	0	0	0	0	0	0
			B4666 Coventry Road	-	0	0	0	0	0	0	0	0
		B4666 Coventry Road (E)	B4866 Coventry Road (W)	-	0	0	0	0	0	0	0	0
			Harrowbrook Road	-	0	0	0	0	0	0	0	0
6	A5 / Development Site Access		B4666 Coventry Road (E)	-	0	0	0	0	0	0	0	0
			Harrowbrook Road	-	0	0	0	0	0	0	0	0
			B4666 Coventry Road (W)	-	0	0	0	0	0	0	0	0
			Harrowbrook Road	-	0	0	0	0	0	0	0	0
			B4666 Coventry Road (W)	-	0	0	0	0	0	0	0	0
			B4666 Coventry Road (E)	-	0	0	0	0	0	0	0	0
6	A5 / Development Site Access	A5 W	A5 E	-	-	-	11	11	-	-	20	20
			Development Site	-	-	-	0	0	-	-	0	0
		A5 E	Development Site	-	-	-	0	0	-	-	0	0
			A5 W	-	-	-	6	6	-	-	12	12
		Development Site	A5 W	-	-	-	0	0	-	-	0	0
			A5 E	-	-	-	-	-	-	-	-	-

Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Time Period >>	AM
Vehicle Type >>	MIRA Lights

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Junction No.	Junction Name	From	To	AM Peak (07:15-08:15)								
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE) A47 Long Shoot	-	-	13	-	14	-	13	-	14
		A5 Watling Street (SE)	A5 Watling Street (NW) A47 Long Shoot	-	-	0	-	0	-	0	-	0
		A47 Long Shoot	A5 Watling Street (NW) A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
2	Aldi / Petrol Pump	A5 Watling Street (NW)	Aldi PFS A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
		Aldi	PFS A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
		PFS	A5 Watling Street (NW) Aldi	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (SE) Aldi	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) Aldi	-	-	77	-	77	-	77	-	77
			PFS	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
3	Jacknell Road / A47	A47 N	Jacknell Road A47 S	-	-	0	-	0	-	0	-	0
		A47 S	Jacknell Road A47 N	-	-	1	-	1	-	1	-	1
		Jacknell Road	A47 S A47 N	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
4	Dodwells Roundabout	A5 Watling Street (NW)	A47 Dodwells Road B4866 Coventry Road A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
		A47 Dodwells Road	A5 Watling Street (NW) B4866 Coventry Road A5 Watling Street (SE)	-	-	1	-	12	-	11	-	12
		B4866 Coventry Road	A5 Watling Street (NW) A47 Dodwells Road A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) A47 Dodwells Road B4666 Coventry Road	-	-	68	-	69	-	68	-	69
				-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	B4866 Coventry Road (W) Harrowbrook Road	-	-	6	-	6	-	6	-	6
		Harrowbrook Road	B4666 Coventry Road (E) B4666 Coventry Road (W)	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road (W)	Harrowbrook Road B4666 Coventry Road (E)	-	-	2	-	2	-	2	-	2
				-	-	0	-	0	-	0	-	0
6	A5 / Development Site Access	A5 W	A5 E Development Site	-	-	-	-	11	-	-	-	11
		A5 E	Development Site A5 W	-	-	-	-	1	-	-	-	1
			A5 W	-	-	-	-	0	-	-	-	0
		Development Site	A5 W A5 E	-	-	-	-	69	-	-	-	69
				-	-	-	-	1	-	-	-	1

Time Period >>	AM
Vehicle Type >>	MIRA Heavies

Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Junction No.	Junction Name	From	To	AM Peak (07:15-08:15)								
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2023 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	-	-	14	-	14	-	14	-	14
		A47 Long Shoot	A47 Long Shoot	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW)	-	-	18	-	18	-	18	-	18
2	Aldi / Petrol Pump	A47 Long Shoot	A5 Watling Street (NW)	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
		Aldi	Aldi	-	-	0	-	0	-	0	-	0
		PFS	PFS	-	-	0	-	0	-	0	-	0
		A5 Watling Street (NW)	A5 Watling Street (SE)	-	-	14	-	13	-	13	-	14
		A5 Watling Street (SE)	A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
		A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	0	-	0	-	0	-	0
3	Jacknell Road / A47	Aldi	Aldi	-	-	0	-	0	-	0	-	0
		PFS	PFS	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
4	Jacknell Road	A47 N	Jacknell Road	-	-	0	-	0	-	0	-	0
		A47 S	A47 S	-	-	8	-	8	-	8	-	8
		A47 N	A47 N	-	-	0	-	0	-	0	-	0
5	Dodwells Roundabout	A47 S	Jacknell Road	-	-	0	-	0	-	0	-	0
		A47 N	A47 N	-	-	5	-	5	-	5	-	5
		A47 S	A47 S	-	-	0	-	0	-	0	-	0
		A47 N	A47 N	-	-	0	-	0	-	0	-	0
		A5 Watling Street (NW)	A47 Dodwells Road	-	-	5	-	5	-	5	-	5
		B4866 Coventry Road	B4866 Coventry Road	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	-	-	9	-	9	-	9	-	9
6	Harrowbrooks Coventry Road	A47 Dodwells Road	A47 Dodwells Road	-	-	8	-	8	-	8	-	8
		B4866 Coventry Road	B4866 Coventry Road	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
7	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
8	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	10	-	10	-	10	-	10
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
9	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
10	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
11	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
12	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
13	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
14	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
15	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
16	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
17	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
18	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
19	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
20	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
21	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
22	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
23	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
24	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
25	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
26	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
27	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
28	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
29	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
30	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
31	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
32	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
33	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
34	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
35	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
36	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
37	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
38	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
39	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
40	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
41	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
42	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
43	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
44	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
45	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
46	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0	-	0	-	0	-	0
47	Harrowbrook Road	A5 Watling Street (NW)	A5 Watling Street (NW)	-	-	1	-	1	-	1	-	1
		A47 Dodwells Road	A47 Dodwells Road	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road	B4666 Coventry Road	-	-	0						

Time Period >>	PM
Vehicle Type >>	All Vehicles

		Scenario 1Scenario 2Scenario 3Scenario 4Scenario 5Scenario 6Scenario 7Scenario 8										
Junction No.	Junction Name	From	To	PM Peak (16:00-17:00)								
				PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	534	696	752	694	750	685	739	685	739
			A47 Long Shoot	58	58	58	58	58	53	53	53	53
		A5 Watling Street (SE)	A5 Watling Street (NW)	685	698	714	695	713	705	721	701	717
			A47 Long Shoot	693	652	649	680	678	727	725	738	738
2	Aldi / Petrol Pump	A5 Watling Street (NW)	A5 Watling Street (NW)	110	110	110	110	110	110	110	110	110
			A5 Watling Street (SE)	708	708	707	705	705	716	715	718	718
		Aldi	Aldi	52	52	52	52	52	51	51	52	52
			PFS	35	34	34	34	34	34	35	34	33
		Aldi	A5 Watling Street (SE)	1154	1317	1372	1313	1367	1313	1367	1316	1369
			PFS	4	4	4	4	4	4	4	4	4
		PFS	A5 Watling Street (SE)	85	84	84	84	84	83	83	83	84
			A5 Watling Street (NW)	9	10	9	9	8	9	9	8	8
		A5 Watling Street (SE)	Aldi	46	0	0	0	0	0	0	0	0
			A5 Watling Street (SE)	30	29	29	29	29	30	29	29	28
3	Jacknell Road / A47	A47 N	Jacknell Road	31	32	32	32	32	33	33	33	34
			A47 S	550	517	522	520	525	508	514	498	503
		A47 S	Jacknell Road	34	37	37	38	38	36	36	37	37
			A47 N	544	581	580	631	632	549	550	587	587
		Jacknell Road	A47 S	97	96	96	99	99	99	99	98	98
			A47 N	146	146	146	151	151	174	174	174	174
4	Dodwells Roundabout	A5 Watling Street (NW)	A47 Dodwells Road	379	361	361	365	364	337	339	352	352
			B4866 Coventry Road	404	455	457	448	450	470	473	457	459
		A47 Dodwells Road	A5 Watling Street (SE)	446	572	623	572	623	575	626	577	628
			A5 Watling Street (NW)	434	355	360	362	368	350	354	340	344
		B4866 Coventry Road	B4866 Coventry Road	83	85	85	85	85	86	86	86	86
			A5 Watling Street (SE)	125	169	169	166	166	169	168	167	167
		B4866 Coventry Road	A5 Watling Street (NW)	539	554	555	526	526	552	553	531	533
			A47 Dodwells Road	92	116	116	117	117	121	121	114	114
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	A5 Watling Street (SE)	46	37	37	34	34	35	35	33	33
			A5 Watling Street (NW)	417	450	461	498	510	541	553	583	594
		Harrowbrook Road	A47 Dodwells Road	108	142	142	189	189	127	127	160	160
			B4666 Coventry Road	17	19	19	39	39	21	21	40	40
		B4666 Coventry Road (W)	B4866 Coventry Road (W)	515	542	544	513	513	529	530	502	503
			Harrowbrook Road	52	52	52	52	52	52	52	49	49
6	A5 / Development Site Access	A5 W	B4666 Coventry Road (E)	139	131	131	131	131	120	120	122	122
			B4666 Coventry Road (W)	167	171	170	169	169	184	184	183	183
		A5 E	Harrowbrook Road	35	36	37	37	38	39	39	39	40
			B4666 Coventry Road (E)	473	526	526	538	539	542	543	546	548
		Development Site	A5 E	-	-	-	832	881	-	-	838	888
			Development Site	-	-	-	25	26	-	-	25	26

Time Period >>	PM
Vehicle Type >>	Base Lights

				Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8			
Junction No.	Junction Name	From	To	PM Peak (16:00-17:00)										
				PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA		
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE)	474	469	468	470	469	476	474	477	475		
			A47 Long Shoot	53	52	52	53	53	52	52	52	52		
		A5 Watling Street (SE)	A5 Watling Street (NW)	607	578	577	567	567	547	546	534	534		
			A47 Long Shoot	672	614	612	618	616	612	611	602	602		
		A47 Long Shoot	A5 Watling Street (NW)	103	102	102	103	102	102	102	102	102		
			A5 Watling Street (SE)	676	652	652	652	653	617	617	627	627		
		A5 Watling Street (NW)	Aldi	52	52	52	52	52	51	51	52	52		
			PFS	35	34	34	34	34	34	35	34	33		
2	Aldi / Petrol Pump	A5 Watling Street (NW)	A5 Watling Street (SE)	1061	1035	1034	1037	1035	1006	1005	1018	1014		
			PFS	4	4	4	4	4	4	4	4	4		
		Aldi	A5 Watling Street (SE)	85	84	84	84	84	83	83	83	84		
			PFS	9	10	9	9	8	9	9	8	8		
		A5 Watling Street (SE)	Aldi	0	0	0	0	0	0	0	0	0		
			PFS	30	29	29	29	29	30	29	29	28		
		A5 Watling Street (SE)	A5 Watling Street (NW)	1274	1183	1182	1175	1175	1150	1150	1130	1128		
			Aldi	55	55	54	55	55	55	55	55	55		
3	Jacknell Road / A47	A47 N	Jacknell Road	28	28	28	28	28	28	28	28	28		
			A47 S	509	424	424	430	429	412	413	404	404		
		A47 S	Jacknell Road	26	26	26	26	26	25	25	26	26		
			A47 N	512	486	485	488	489	458	458	445	445		
		Jacknell Road	A47 S	91	87	87	90	89	89	89	89	89		
			A47 N	141	141	141	141	141	141	141	141	141		
		4	Dodwells Roundabout	A5 Watling Street (NW)	A47 Dodwells Road	349	321	320	324	323	292	293	303	303
					B4866 Coventry Road	392	391	390	391	391	392	392	392	392
A47 Dodwells Road	A5 Watling Street (SE)			400	403	401	402	400	400	399	400	399		
	B4866 Coventry Road			404	318	318	326	326	312	311	303	302		
B4866 Coventry Road	B4866 Coventry Road			83	83	83	83	83	81	81	81	81		
	A5 Watling Street (SE)			105	106	106	106	106	106	106	105	106		
A5 Watling Street (SE)	A5 Watling Street (NW)			528	522	522	510	509	497	497	485	486		
	A47 Dodwells Road			92	92	92	92	92	92	92	91	91		
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	A5 Watling Street (SE)	46	37	37	33	33	35	35	32	32		
			A5 Watling Street (NW)	365	365	364	364	364	364	364	365	364		
		Harrowbrook Road	A47 Dodwells Road	98	99	99	99	99	99	99	99	77	77	
			B4666 Coventry Road	17	16	16	16	16	17	17	17	17	17	
		B4666 Coventry Road (W)	B4866 Coventry Road (W)	504	495	495	478	477	462	461	449	449		
			Harrowbrook Road	43	43	43	43	43	43	43	40	40		
		B4666 Coventry Road (W)	B4666 Coventry Road (E)	134	131	131	131	131	120	120	122	122		
			B4666 Coventry Road (W)	167	163	162	162	162	167	167	166	166		
6	A5 / Development Site Access	A5 W	Harrowbrook Road	35	34	34	34	34	34	34	34	34		
			B4666 Coventry Road (E)	460	459	457	459	459	459	458	458	458		
		A5 E	Development Site	-	-	-	546	545	-	-	545	544		
			Development Site	-	-	-	0	0	-	-	0	0		
		Development Site	A5 W	-	-	-	488	488	-	-	466	466		
			A5 E	-	-	-	0	0	-	-	0	0		
		Development Site	A5 W	-	-	-	0	0	-	-	0	0		
			A5 E	-	-	-	-	-	-	-	-	-		

Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
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Time Period >>	PM
Vehicle Type >>	MIRA Lights

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Junction No.	Junction Name	From	To	PM Peak (16:00-17:00)								
				PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE) A47 Long Shoot	-	-	57	-	58	-	57	-	57
		A5 Watling Street (SE)	A5 Watling Street (NW) A47 Long Shoot	-	-	10	-	10	-	10	-	9
		A47 Long Shoot	A5 Watling Street (NW) A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
2	Aldi / Petrol Pump	A5 Watling Street (NW)	Aldi PFS A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
				-	-	56	-	57	-	56	-	57
		Aldi	PFS A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		PFS	A5 Watling Street (NW) Aldi	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) Aldi PFS	-	-	10	-	10	-	10	-	10
3	Jacknell Road / A47	A47 N	Jacknell Road A47 S	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		A47 S	Jacknell Road A47 N	-	-	1	-	1	-	1	-	1
		Jacknell Road	A47 S A47 N	-	-	0	-	0	-	0	-	0
4	Dodwells Roundabout	A5 Watling Street (NW)	A47 Dodwells Road B4866 Coventry Road A5 Watling Street (SE)	-	-	1	-	1	-	1	-	1
				-	-	3	-	3	-	3	-	3
				-	-	52	-	53	-	52	-	53
		A47 Dodwells Road	A5 Watling Street (NW) B4866 Coventry Road A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		B4866 Coventry Road	A5 Watling Street (NW) A47 Dodwells Road A5 Watling Street (SE)	-	-	1	-	1	-	1	-	1
				-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) A47 Dodwells Road B4666 Coventry Road	-	-	9	-	9	-	9	-	9
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	B4866 Coventry Road (W) Harrowbrook Road	-	-	1	-	1	-	1	-	1
				-	-	0	-	0	-	0	-	0
		Harrowbrook Road	B4666 Coventry Road (E) B4666 Coventry Road (W)	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road (W)	Harrowbrook Road B4666 Coventry Road (E)	-	-	1	-	1	-	1	-	1
6	A5 / Development Site Access	A5 W	A5 E Development Site	-	-	-	-	51	-	-	-	51
				-	-	-	-	1	-	-	-	1
		A5 E	Development Site A5 W	-	-	-	-	0	-	-	-	0
				-	-	-	-	9	-	-	-	9
		Development Site	A5 W A5 E	-	-	-	-	0	-	-	-	0

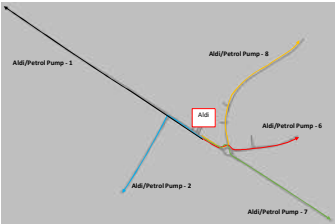
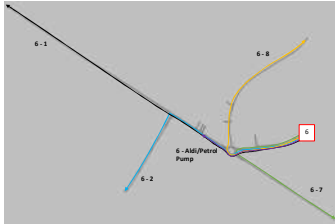
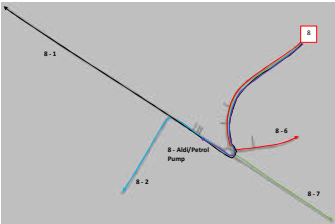
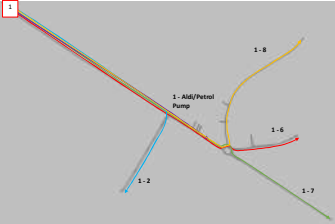
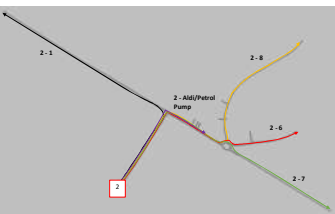
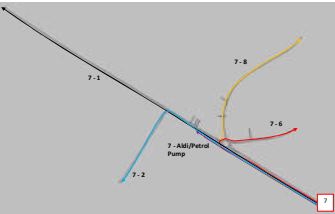
Time Period >>	PM
Vehicle Type >>	MIRA Heavies

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Junction No.	Junction Name	From	To	PM Peak (16:00-17:00)								
				PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA
1	Long Shoot	A5 Watling Street (NW)	A5 Watling Street (SE) A47 Long Shoot	-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) A47 Long Shoot	-	-	8	-	8	-	8	-	8
		A47 Long Shoot	A5 Watling Street (NW) A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
2	Aldi / Petrol Pump	A5 Watling Street (NW)	Aldi PFS A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		Aldi	PFS A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		PFS	A5 Watling Street (NW) Aldi A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) Aldi PFS	-	-	8	-	8	-	8	-	8
				-	-	0	-	0	-	0	-	0
3	Jacknell Road / A47	A47 N	Jacknell Road A47 S	-	-	0	-	0	-	0	-	0
				-	-	5	-	5	-	5	-	5
		A47 S	Jacknell Road A47 N	-	-	0	-	0	-	0	-	0
		Jacknell Road	A47 S A47 N	-	-	0	-	0	-	0	-	0
4	Dodwells Roundabout	A5 Watling Street (NW)	A47 Dodwells Road B4866 Coventry Road A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		A47 Dodwells Road	A5 Watling Street (NW) B4866 Coventry Road A5 Watling Street (SE)	-	-	5	-	5	-	5	-	5
				-	-	0	-	0	-	0	-	0
		B4866 Coventry Road	A5 Watling Street (NW) A47 Dodwells Road A5 Watling Street (SE)	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		A5 Watling Street (SE)	A5 Watling Street (NW) A47 Dodwells Road B4666 Coventry Road	-	-	3	-	3	-	3	-	3
				-	-	0	-	0	-	0	-	0
5	Harrowbrooks Road / B4666 Coventry Road	B4666 Coventry Road (E)	B4866 Coventry Road (W) Harrowbrook Road	-	-	0	-	0	-	0	-	0
				-	-	0	-	0	-	0	-	0
		Harrowbrook Road	B4666 Coventry Road (E) B4666 Coventry Road (W)	-	-	0	-	0	-	0	-	0
		B4666 Coventry Road (W)	Harrowbrook Road B4666 Coventry Road (E)	-	-	0	-	0	-	0	-	0
6	A5 / Development Site Access	A5 W	A5 E Development Site	-	-	-	-	0	-	-	-	0
				-	-	-	-	0	-	-	-	0
		A5 E	Development Site A5 W	-	-	-	-	3	-	-	-	3
		Development Site	A5 W A5 E	-	-	-	-	0	-	-	-	0

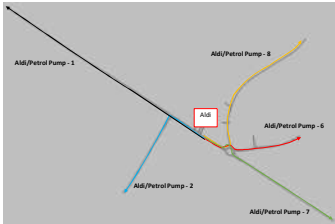
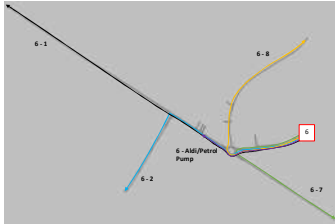
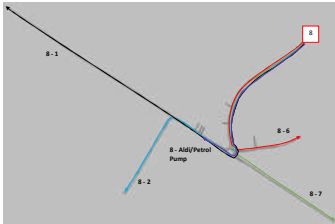
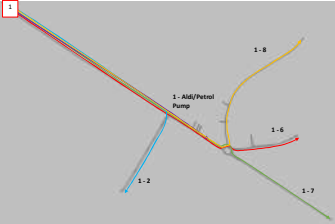
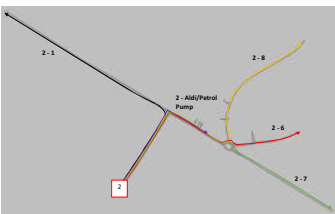
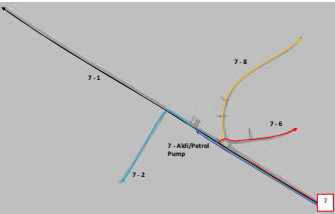
Time Period >>	AM
Vehicle Type	All Vehicles

Journey Times by Segment (s)			Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	Difference				
No.	JT Segment	Description	AM Base	AM 2023 Ref	AM Peak (07:00-09:00)						2023				
					AM 2023 Ref + MIRA	AM 2023 Ref + PMF	AM 2023 Ref + PMF + MIRA	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PMF	AM 2023 Ref + PMF + MIRA	Ref-MIRA v Ref	Ref-PMF v Ref	Ref-MIRA v Ref	Ref-PMF v Ref
1	7 - 1	A5 Watling Street SE to A5 Watling Street NW	205	208	279	286	298	267	279	285	288	4%	4%	4%	5%
2	7 - 2	A5 Watling Street SE to A47 The Long Shoot	201	204	230	234	235	205	210	213	213	3%	3%	2%	4%
3	7 - 8	A5 Watling Street SE to A47 Dodwells Road	216	218	222	227	218	221	228	228	2%	0%	1%	0%	0%
4	7 - 6	A5 Watling Street SE to B4666 Coventry Road	117	118	162	168	168	118	118	167	167	2%	0%	0%	0%
5	7 - Add/Petrol Pump	A5 Watling Street SE to Add/Petrol Pump	102	106	112	127	134	106	112	127	135	6%	5%	5%	7%
6	2 - 1	A47 The Long Shoot to A5 Watling Street NW	134	131	108	104	201	109	207	107	208	4%	4%	4%	5%
7	2 - 8	A47 The Long Shoot to A47 Dodwells Road	104	101	105	103	100	108	108	104	109	3%	3%	3%	4%
8	2 - 6	A47 The Long Shoot to B4666 Coventry Road	211	243	253	248	218	254	265	252	266	4%	4%	4%	6%
9	2 - 7	A47 The Long Shoot to A5 Watling Street SE	153	159	149	146	173	184	152	187	140	6%	8%	12%	11%
10	2 - Add/Petrol Pump	A47 The Long Shoot to Add/Petrol Pump	155	147	156	153	163	158	168	156	170	6%	6%	7%	9%
11	1 - 8	A5 Watling Street NE to A47 Dodwells Road	339	336	339	339	348	345	354	346	353	1%	3%	2%	2%
12	1 - 6	A5 Watling Street NE to B4666 Coventry Road	266	262	267	266	273	270	279	269	280	2%	3%	3%	4%
13	1 - 7	A5 Watling Street NE to A5 Watling Street SE	345	351	363	363	385	395	437	440	446	4%	6%	10%	9%
14	1 - 2	A5 Watling Street NE to A47 The Long Shoot	188	188	189	188	182	186	191	185	193	1%	3%	3%	4%
15	1 - Add/Petrol Pump	A5 Watling Street NE to Add/Petrol Pump	171	168	172	172	179	175	183	176	185	2%	4%	5%	5%
16	8 - 7	A47 Dodwells Road to A5 Watling Street SE	282	295	303	306	327	357	369	371	455	3%	7%	9%	17%
17	8 - 6	A47 Dodwells Road to B4666 Coventry Road	197	203	202	206	212	208	231	213	273	-1%	3%	1%	18%
18	8 - 2	A47 Dodwells Road to A47 The Long Shoot	296	301	305	311	323	321	327	330	373	1%	4%	2%	12%
19	8 - Add/Petrol Pump	A47 Dodwells Road to Add/Petrol Pump	195	200	204	210	223	221	227	231	275	2%	6%	3%	16%
20	8 - 1	A47 Dodwells Road to A5 Watling Street NW	356	360	369	371	385	381	391	389	438	3%	4%	3%	12%
21	6 - 7	B4666 Coventry Road to A5 Watling Street SE	197	209	224	222	248	258	296	274	307	7%	12%	15%	12%
22	6 - 2	B4666 Coventry Road to A47 The Long Shoot	207	212	218	220	230	209	215	217	228	3%	4%	3%	5%
23	6 - 1	B4666 Coventry Road to A5 Watling Street NW	267	272	283	280	294	270	280	278	292	4%	5%	4%	5%
24	6 - 8	B4666 Coventry Road to A47 Dodwells Road	242	243	250	249	251	245	246	247	249	3%	1%	0%	1%
25	6 - Add/Petrol Pump	B4666 Coventry Road to Add/Petrol Pump	107	112	118	120	130	110	114	118	127	6%	9%	4%	8%
26	Add/Petrol Pump - 1	Add/Petrol Pump to A47 The Long Shoot	89	100	100	100	100	89	100	89	100	0%	0%	1%	1%
27	Add/Petrol Pump - 1	Add/Petrol Pump to A5 Watling Street NW	162	162	166	160	164	162	167	159	164	3%	2%	3%	3%
28	Add/Petrol Pump - 6	Add/Petrol Pump to A47 Dodwells Road	167	166	167	165	167	168	169	167	166	0%	1%	0%	0%
29	Add/Petrol Pump - 6	Add/Petrol Pump to B4666 Coventry Road	97	95	96	95	96	97	97	96	97	1%	1%	0%	1%
30	Add/Petrol Pump - 7	Add/Petrol Pump to A5 Watling Street SE	176	183	192	192	207	222	255	235	263	5%	1%	10%	12%



Time Period >>	PM
Vehicle Type	All Vehicles

Journey Times by Segment (s)			Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	Difference				
No.	JT Segment	Description	PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PMF	PM 2023 Ref + PMF + MIRA	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PMF	PM 2023 Ref + PMF + MIRA	2023 Ref-MIRA v Ref	2023 v Ref-PMF	2023 Ref-MIRA v Ref	2023 v Ref-PMF
1	7 - 1	A5 Watling Street SE to A5 Watling Street NW	208	209	270	288	288	273	274	290	295	0%	0%	0%	2%
2	7 - 2	A5 Watling Street SE to A47 The Long Shoot	200	199	198	217	218	204	205	211	221	-1%	1%	1%	2%
3	7 - 8	A5 Watling Street SE to A47 Dodwells Road	213	221	222	232	232	221	223	230	231	0%	0%	0%	1%
4	7 - 6	A5 Watling Street SE to B4666 Coventry Road	213	213	213	214	214	213	214	216	215	0%	0%	0%	1%
5	7 - Add/Petrol Pump	A5 Watling Street SE to Add/Petrol Pump	105	105	106	126	126	109	111	129	132	0%	1%	1%	3%
6	2 - 1	A47 The Long Shoot to A5 Watling Street NW	191	195	198	195	197	197	198	196	199	1%	1%	1%	2%
7	2 - 8	A47 The Long Shoot to A47 Dodwells Road	319	308	311	309	314	307	312	307	311	1%	2%	2%	3%
8	2 - 6	A47 The Long Shoot to B4666 Coventry Road	236	232	237	234	239	231	237	232	240	2%	2%	3%	4%
9	2 - 7	A47 The Long Shoot to A5 Watling Street SE	277	278	284	283	288	276	283	279	288	2%	2%	3%	3%
10	2 - Add/Petrol Pump	A47 The Long Shoot to Add/Petrol Pump	136	143	147	143	148	142	147	142	149	3%	3%	3%	5%
11	1 - 8	A5 Watling Street NE to A47 Dodwells Road	340	328	334	330	337	327	334	331	334	2%	2%	2%	1%
12	1 - 6	A5 Watling Street NE to B4666 Coventry Road	265	255	259	258	264	254	260	255	263	2%	2%	2%	3%
13	1 - 7	A5 Watling Street NE to A5 Watling Street SE	299	302	307	307	314	302	306	306	314	2%	2%	1%	3%
14	1 - 2	A5 Watling Street NE to A47 The Long Shoot	181	184	188	187	190	187	183	187	187	2%	4%	0%	2%
15	1 - Add/Petrol Pump	A5 Watling Street NE to Add/Petrol Pump	161	165	170	166	172	166	169	165	172	3%	4%	2%	4%
16	8 - 7	A47 Dodwells Road to A5 Watling Street SE	236	263	266	266	267	261	271	263	263	1%	1%	4%	1%
17	8 - 6	A47 Dodwells Road to B4666 Coventry Road	190	211	211	211	209	209	215	208	210	0%	-1%	3%	1%
18	8 - 2	A47 Dodwells Road to A47 The Long Shoot	291	307	309	314	315	308	317	315	319	1%	0%	2%	2%
19	8 - Add/Petrol Pump	A47 Dodwells Road to Add/Petrol Pump	194	210	212	217	218	210	219	218	222	1%	0%	1%	2%
20	8 - 1	A47 Dodwells Road to A5 Watling Street NW	352	370	373	378	380	370	380	379	383	1%	0%	3%	1%
21	6 - 7	B4666 Coventry Road to A5 Watling Street SE	160	170	174	177	177	175	176	175	182	2%	0%	2%	3%
22	6 - 2	B4666 Coventry Road to A47 The Long Shoot	230	212	213	218	220	216	220	227	233	0%	1%	2%	3%
23	6 - 1	B4666 Coventry Road to A5 Watling Street NW	275	278	279	285	285	281	284	291	296	0%	0%	1%	2%
24	6 - 8	B4666 Coventry Road to A47 Dodwells Road	248	256	259	256	256	261	263	264	264	1%	0%	1%	1%
25	6 - Add/Petrol Pump	B4666 Coventry Road to Add/Petrol Pump	115	117	118	123	124	120	123	120	125	1%	1%	3%	4%
26	Add/Petrol Pump - 2	Add/Petrol Pump to A47 The Long Shoot	96	95	95	95	95	96	96	96	96	0%	0%	0%	0%
27	Add/Petrol Pump - 1	Add/Petrol Pump to A5 Watling Street NW	162	162	163	162	163	163	162	162	162	0%	0%	0%	0%
28	Add/Petrol Pump - 6	Add/Petrol Pump to A47 Dodwells Road	162	165	165	166	167	164	166	165	166	0%	1%	1%	0%
29	Add/Petrol Pump - 8	Add/Petrol Pump to B4666 Coventry Road	101	89	89	91	91	89	91	90	91	0%	0%	1%	1%
30	Add/Petrol Pump - 7	Add/Petrol Pump to A5 Watling Street SE	137	136	137	140	141	135	137	140	142	1%	1%	0%	2%

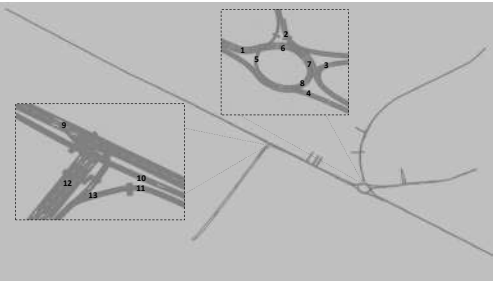


Time Period >>	AM
Queue Type>>	Free

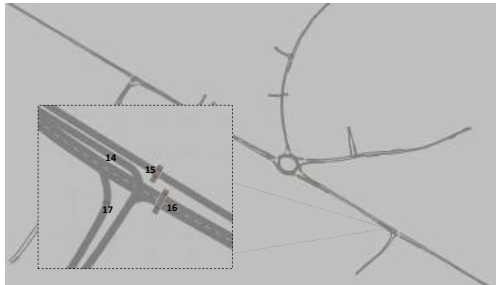
Metres per vehicle 6

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Queue Lengths (metres)														AM Peak (07:15-08:15)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	AM Peak (07:15-08:15)										Difference													
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2023 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref											
1	Dodwells Roundabout	1	A5 Watling Street NW	196	200	157	105	222	226	352	117	180	-43	118	126	63											
		2	A47 Dodwells Road	174	189	189	220	270	381	401	392	835	0	50	20	442											
		3	B4666 Coventry Road	64	80	85	77	92	73	68	76	79	4	15	-6	3											
		4	A5 Watling Street SE	72	93	95	58	65	90	94	56	64	2	7	4	8											
		5	West Circulatory	62	72	79	68	75	65	86	71	68	7	7	21	-3											
		6	North Circulatory	53	51	52	51	51	52	53	54	52	1	0	1	-2											
		7	North-East Circulatory	57	58	60	59	61	58	59	59	61	2	2	0	1											
		8	South-East Circulatory	42	42	41	41	44	42	46	41	43	1	3	4	2											
2	Long Shoot	9	A5 Watling Street NW	168	175	207	196	282	227	286	220	326	31	86	58	105											
		10	A5 Watling Street SE (ahead)	357	238	439	277	392	234	532	203	443	201	115	299	240											
		11	A5 Watling Street SE (left turn before signals)	29	34	35	38	29	32	27	33	22	1	-10	-5	-11											
		12	A47 The Long Shoot	341	193	245	258	303	305	379	332	404	13	45	74	72											
3	Development Site	13	A5 Watling Street SE (left turn give way)	31	30	29	29	29	29	28	29	31	0	0	-1	1											
		14	A5 W (right turn)	-	-	-	35	37	-	-	38	35	-	3	-	-3											
		15	A5 W (ahead)	-	-	-	64	58	-	-	59	58	-	-6	5	3											
		16	A5 E	-	-	-	51	56	-	-	47	49	-	3	-	3											
		17	Development Site	-	-	-	33	34	-	-	33	34	-	0	-	0											



Queue Lengths (Vehs)																
Junction No.	Junction Description	Queue Marker No.	Location	AM Peak (07:15-08:15)										Difference		
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA	2023 Ref+PHF+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	33	33	26	17	37	38	59	20	30	-7	25	21	11
		2	A47 Dodwells Road	29	31	31	37	45	63	67	65	139	0	8	3	74
		3	B4666 Coventry Road	11	13	14	13	15	12	11	13	13	1	3	-1	0
		4	A5 Watling Street SE	12	15	16	10	11	15	16	9	11	0	1	1	1
		5	West Circulatory	10	12	13	11	12	11	14	12	11	1	1	3	-1
		6	North Circulatory	9	9	9	8	8	9	9	9	9	0	0	0	0
		7	North-East Circulatory	10	10	10	10	10	10	10	10	10	0	0	0	0
		8	South-East Circulatory	7	7	7	7	7	7	8	7	7	0	0	1	0
2	Long Shoot	9	A5 Watling Street NW	28	29	34	33	47	38	48	37	54	5	14	10	18
		10	A5 Watling Street SE (ahead)	60	40	72	46	65	29	89	34	74	33	19	50	40
		11	A5 Watling Street SE (left turn before signals)	5	6	6	6	5	5	4	6	4	0	-2	-1	-2
		12	A47 The Long Shoot	57	32	41	43	50	51	63	55	67	9	7	12	12
3	Development Site	13	A5 Watling Street SE (left turn give way)	5	5	5	5	5	5	5	5	5	0	0	0	0
		14	A5 W (right turn)	-	-	-	6	6	-	-	6	6	0	0	0	-1
		15	A5 W (ahead)	-	-	-	11	10	-	-	10	16	0	-1	0	7
		16	A5 E	-	-	-	9	9	-	-	8	8	0	1	0	0
		17	Development Site	-	-	-	6	6	-	-	6	6	0	0	0	0

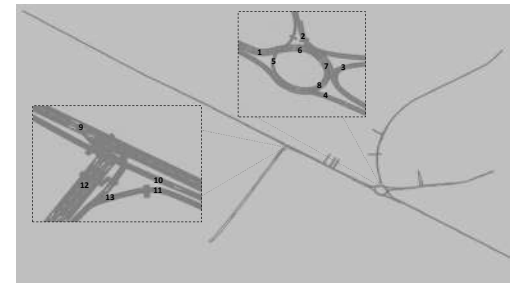


Time Period >>	AM
Queue Type>>	Average

Metres per vehicle 6

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Queue Lengths (metres)				AM Peak (07:15-08:15)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	AM Peak (07:15-08:15)									Difference				
				AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2023 Ref + PHF + MIRA + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2023 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	28	30	29	19	40	35	79	22	30	0	21	44	8	
		2	A47 Dodwells Road	23	30	29	18	53	92	98	104	261	0	14	6	147	
		3	B4666 Coventry Road	14	17	19	18	20	16	16	17	18	1	3	0	2	
		4	A5 Watling Street SE	10	13	16	9	10	13	15	9	10	3	1	2	1	
		5	West Circulatory	5	6	7	5	5	5	6	4	4	1	0	1	0	
		6	North Circulatory	4	4	4	6	6	4	4	6	6	0	0	0	0	
		7	North-East Circulatory	6	6	6	6	6	6	6	6	6	0	1	0	0	
		8	South-East Circulatory	2	2	2	2	3	2	2	2	3	0	1	0	1	
2	Long Shoot	9	A5 Watling Street NW	19	19	23	25	37	28	40	30	47	4	12	13	17	
		10	A5 Watling Street SE (ahead)	29	22	65	27	83	25	93	19	108	43	57	68	89	
		11	A5 Watling Street SE (left turn before signals)	0	0	0	0	0	0	0	0	0	0	0	0	0	
		12	A47 The Long Shoot	41	25	35	33	43	40	57	38	60	10	10	18	22	
		13	A5 Watling Street SE (left turn give way)	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	Development Site	14	A5 W (right turn)	-	-	-	3	3	-	-	3	3	0	0	0	0	
		15	A5 W (ahead)	-	-	-	1	1	-	-	1	5	0	0	0	4	
		16	A5 E	-	-	-	4	4	-	-	4	4	1	1	1	1	
		17	Development Site	-	-	-	2	2	-	-	2	2	0	0	0	0	



Queue Lengths (Vehs)				AM Peak (07:15-08:15)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	AM Base	AM 2023 Ref	AM 2023 Ref + MIRA	AM 2023 Ref + PHF	AM 2023 Ref + PHF + MIRA	AM 2031 Ref	AM 2031 Ref + MIRA	AM 2031 Ref + PHF	AM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2023 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	5	5	5	3	7	6	13	4	5	0	7	1	1	
		2	A47 Dodwells Road	4	5	5	6	9	15	16	17	43	0	2	1	26	
		3	B4666 Coventry Road	2	3	3	3	3	3	3	3	3	0	0	0	0	
		4	A5 Watling Street SE	2	2	3	1	2	2	3	1	2	1	0	0	0	0
		5	West Circulatory	1	1	1	1	1	1	1	1	1	0	0	0	0	0
		6	North Circulatory	1	1	1	1	1	1	1	1	1	0	0	0	0	0
		7	North-East Circulatory	1	1	1	1	1	1	1	1	1	0	0	0	0	0
		8	South-East Circulatory	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Long Shoot	9	A5 Watling Street NW	3	3	4	4	6	5	7	5	8	1	2	2	3	
		10	A5 Watling Street SE (ahead)	5	4	11	4	14	4	15	3	18	7	9	11	15	
		11	A5 Watling Street SE (left turn before signals)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		12	A47 The Long Shoot	7	4	6	6	7	7	10	6	10	2	2	3	4	
		13	A5 Watling Street SE (left turn give way)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Development Site	14	A5 W (right turn)	-	-	-	0	0	-	-	0	0	0	0	0	0	
		15	A5 W (ahead)	-	-	-	1	1	-	-	1	1	0	0	0	1	
		16	A5 E	-	-	-	1	1	-	-	1	1	0	0	0	0	
		17	Development Site	-	-	-	0	0	-	-	0	0	0	0	0	0	

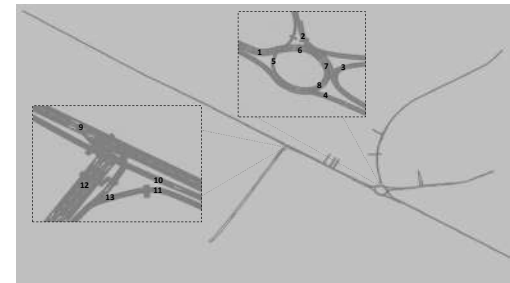


Time Period >>	PM
Queue Type>>	Max

Metres per vehicle 6

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

Queue Lengths (metres)				PM Peak (16:00-17:00)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2023 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	382	112	161	285	259	106	174	110	235	49	-25	67	125	
		2	A47 Dodwells Road	135	217	220	236	235	208	249	200	213	3	-11	-41	14	
		3	B4666 Coventry Road	98	126	128	115	108	131	156	142	166	2	-7	25	24	
		4	A5 Watling Street SE	72	83	86	61	57	93	105	63	65	3	-4	12	2	
		5	West Circulatory	44	71	76	84	86	76	77	83	76	5	2	1	-7	
		6	North Circulatory	52	49	49	52	50	52	53	51	52	0	-2	0	1	
		7	North-East Circulatory	58	58	60	58	60	57	59	59	59	2	2	2	-1	
		8	South-East Circulatory	46	44	46	44	44	46	45	46	46	2	0	-1	0	
2	Long Shoot	9	A5 Watling Street NW	136	179	235	204	272	192	220	194	257	55	69	27	63	
		10	A5 Watling Street SE (ahead)	192	246	162	192	194	166	233	150	201	84	3	67	51	
		11	A5 Watling Street SE (left turn before signals)	28	12	18	18	15	28	20	19	20	6	-3	-8	0	
		12	A47 The Long Shoot	102	115	145	153	177	140	166	146	205	30	24	26	58	
		13	A5 Watling Street SE (left turn give way)	26	25	29	27	27	29	26	26	27	4	0	-3	1	
3	Development Site	14	A5 W (right turn)	-	-	-	16	17	-	-	17	15		1		-2	
		15	A5 W (ahead)	-	-	-	84	89	-	-	93	95		5		3	
		16	A5 E	-	-	-	45	44	-	-	46	50		-1		4	
		17	Development Site	-	-	-	52	52	-	-	51	51		0		0	



Queue Lengths (Vehs)				PM Peak (16:00-17:00)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2023 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	64	19	27	47	43	18	29	18	39	8	-	11	-1	
		2	A47 Dodwells Road	22	36	37	39	39	35	41	33	36	0	0	7	2	
		3	B4666 Coventry Road	16	21	21	19	18	22	26	24	28	0	-1	4	4	
		4	A5 Watling Street SE	12	14	14	10	10	16	18	10	11	1	-1	0	0	
		5	West Circulatory	7	12	13	14	14	13	13	14	13	1	0	0	-1	
		6	North Circulatory	9	8	8	9	8	9	9	8	9	0	0	0	0	
		7	North-East Circulatory	10	10	10	10	10	10	10	10	10	0	0	0	0	
		8	South-East Circulatory	8	7	8	7	7	8	7	8	8	0	0	0	0	
2	Long Shoot	9	A5 Watling Street NW	23	30	39	34	45	32	37	32	43	9	11	5	11	
		10	A5 Watling Street SE (ahead)	32	41	27	32	32	28	39	25	34	3	0	11	9	
		11	A5 Watling Street SE (left turn before signals)	5	2	3	3	2	5	3	3	3	1	-1	-1	0	
		12	A47 The Long Shoot	17	19	24	25	29	23	28	24	34	5	4	4	10	
		13	A5 Watling Street SE (left turn give way)	4	4	5	4	4	5	4	4	5	1	0	0	0	
3	Development Site	14	A5 W (right turn)	-	-	-	3	3	-	-	3	3	0	0	0	0	
		15	A5 W (ahead)	-	-	-	14	15	-	-	15	16	0	1	0	1	
		16	A5 E	-	-	-	7	7	-	-	8	8	0	0	0	1	
		17	Development Site	-	-	-	9	9	-	-	8	8	0	0	0	0	

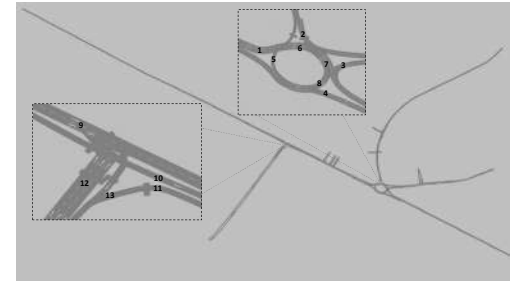


Time Period >>	PM
Queue Type>>	Average

Metres per vehicle 6

Scenario 1 Scenario 2 Scenario 3 Scenario 4 Scenario 5 Scenario 6 Scenario 7 Scenario 8

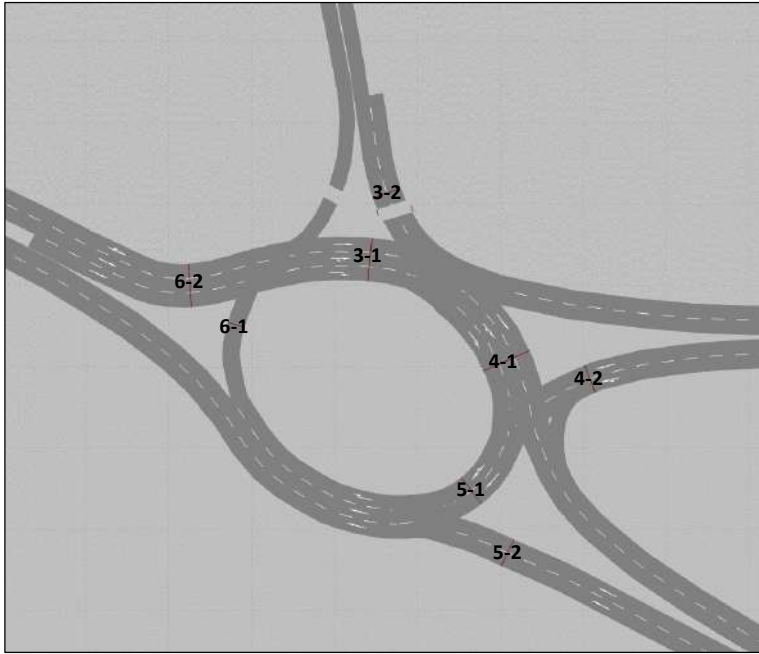
Queue Lengths (metres)				PM Peak (16:00-17:00)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2023 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	65	21	29	33	40	21	24	21	36	8	7	3	15	
		2	A47 Dodwells Road	13	42	45	45	44	40	53	39	41	3	0	13	2	
		3	B4666 Coventry Road	23	27	27	25	25	27	30	30	34	0	0	2	4	
		4	A5 Watling Street SE	9	11	11	10	10	13	14	11	12	0	0	1	1	
		5	West Circulatory	4	9	9	8	8	9	9	7	7	0	0	0	0	
		6	North Circulatory	3	3	3	6	6	3	3	6	6	0	0	0	1	
		7	North-East Circulatory	7	6	6	6	6	6	6	6	6	0	0	0	0	
		8	South-East Circulatory	3	2	2	2	2	2	3	3	4	0	0	0	0	
2	Long Shoot	9	A5 Watling Street NW	11	19	27	22	34	20	25	20	31	8	13	5	11	
		10	A5 Watling Street SE (ahead)	18	25	18	23	21	18	36	18	19	-7	-2	18	2	
		11	A5 Watling Street SE (left turn before signals)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		12	A47 The Long Shoot	20	26	29	26	31	26	29	27	33	3	4	3	6	0
		13	A5 Watling Street SE (left turn give way)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Development Site	14	A5 W (right turn)	-	-	-	0	0	-	-	0	0	0	0	0	0	
		15	A5 W (ahead)	-	-	-	1	1	-	-	1	1	0	0	0	0	
		16	A5 E	-	-	-	3	3	-	-	3	3	0	0	0	0	
		17	Development Site	-	-	-	6	6	-	-	6	6	0	0	0	0	



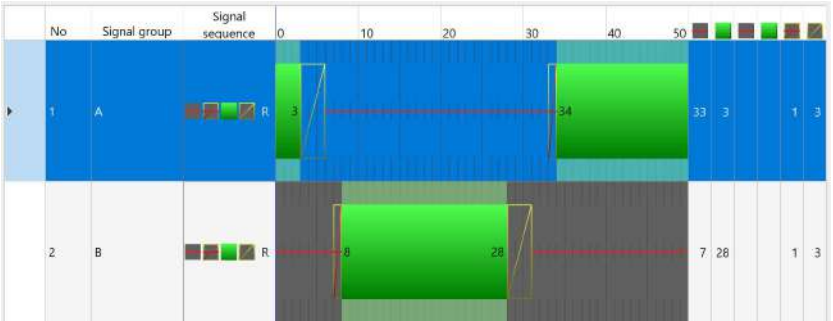
Queue Lengths (Vehs)				PM Peak (16:00-17:00)										Difference			
Junction No.	Junction Description	Queue Marker No.	Location	PM Base	PM 2023 Ref	PM 2023 Ref + MIRA	PM 2023 Ref + PHF	PM 2023 Ref + PHF + MIRA	PM 2031 Ref	PM 2031 Ref + MIRA	PM 2031 Ref + PHF	PM 2031 Ref + PHF + MIRA	2023 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	2031 Ref+MIRA v Ref	2031 Ref+PHF+MIRA v Ref	
1	Dodwells Roundabout	1	A5 Watling Street NW	11	4	5	6	7	3	4	3	6	1	2	0	1	
		2	A47 Dodwells Road	2	7	7	7	7	7	9	6	7	0	0	2	0	
		3	B4666 Coventry Road	3	4	4	4	4	4	5	5	5	6	0	0	0	1
		4	A5 Watling Street SE	1	2	2	2	2	2	2	2	2	2	0	0	0	0
		5	West Circulatory	1	1	1	1	1	1	1	1	1	1	0	0	0	0
		6	North Circulatory	0	0	0	1	1	0	1	1	1	1	0	0	0	0
		7	North-East Circulatory	1	1	1	1	1	1	1	1	1	1	0	0	0	0
		8	South-East Circulatory	0	0	0	0	0	0	0	0	1	1	0	0	0	0
2	Long Shoot	9	A5 Watling Street NW	2	3	5	4	6	3	4	3	5	1	2	1	2	
		10	A5 Watling Street SE (ahead)	3	4	3	4	4	3	6	3	3	-1	0	3	0	
		11	A5 Watling Street SE (left turn before signals)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		12	A47 The Long Shoot	3	4	5	4	5	4	5	4	5	1	1	0	1	0
		13	A5 Watling Street SE (left turn give way)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Development Site	14	A5 W (right turn)	-	-	-	0	0	-	-	0	0	0	0	0	0	
		15	A5 W (ahead)	-	-	-	0	0	-	-	0	0	0	0	0	0	0
		16	A5 E	-	-	-	0	1	-	-	1	1	0	0	0	0	0
		17	Development Site	-	-	-	1	1	-	-	1	1	0	0	0	0	0



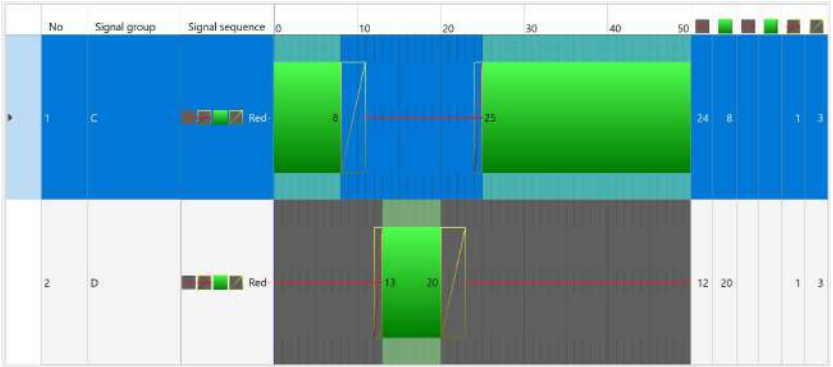
APPENDIX 13



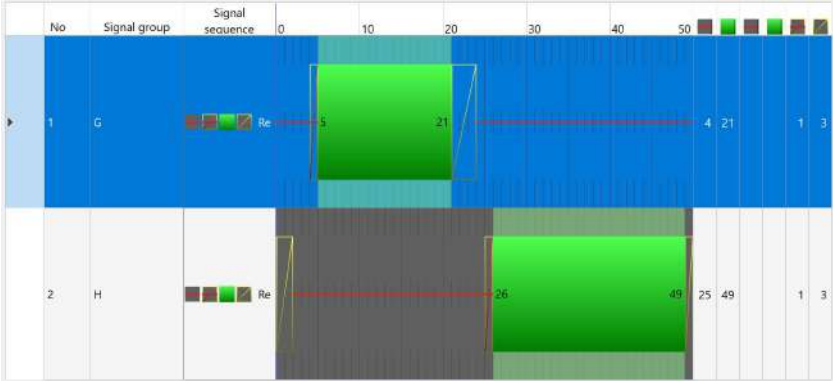
Before (Both 2031 Ref + MIRA and 2031 Ref + PHF + MIRA)
Signal Controller 3



Signal Controller 4

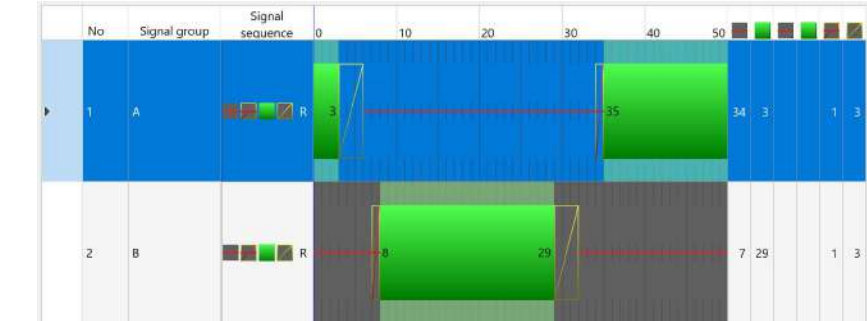


Signal Controller 6

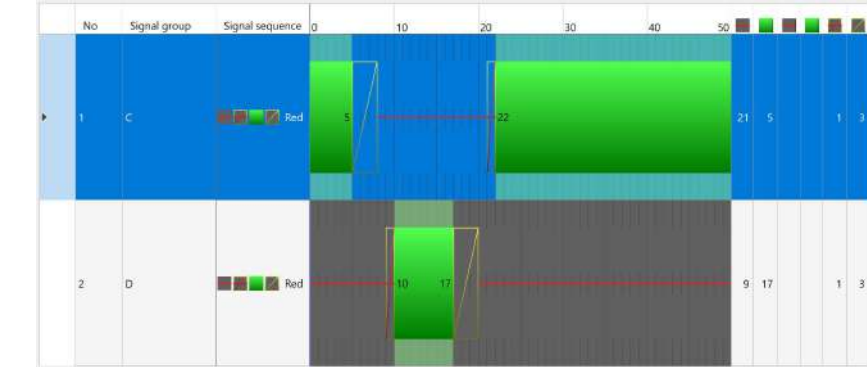


2031 Ref + MIRA DS
Signal Controller 3
Same as before

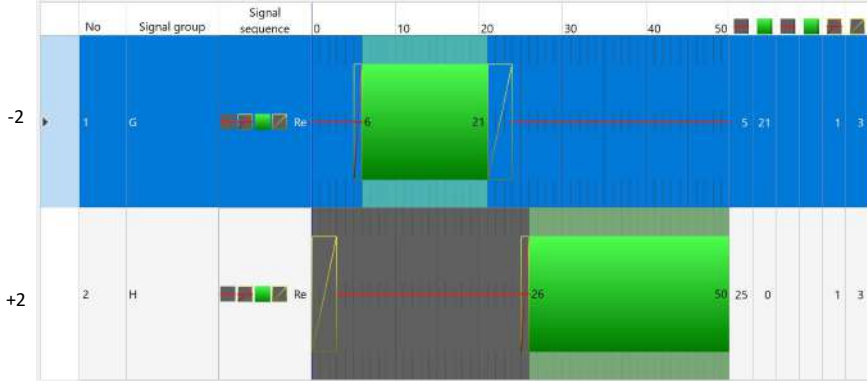
2031 Ref + PHF + MIRA DS
Adj Signal Controller 3



Signal Controller 4



Signal Controller 6



Appendix 14

General

No Vissim modelling report has been provided alongside the Vissim models. Could information be provided regarding the calculation of the flows/routing used in the Vissim models. Please provide if available.

MIRA demands were taken from the MIRA scenario of the PRTM, as agreed with LCC and provided by AECOM (see attached PDFs). As there is no route choice within the model, assignment is controlled by the matrices. All other trips relating to base, background and Padge Hall Farm are unchanged from the modelling provided and used as the foundation for this testing.

For PM Scenarios 7 & 10 ("PM 2031 Ref + MIRA DS" & "PM 2031 Ref + PHF + MIRA DS"): Within the Excel results, Journey Time and Network Statistics outputs are missing/have not been recorded. Within the Vissim models, these scenarios are missing and thus cannot be checked. Please provide these two missing Vissim scenarios.

The DS in this instance refers to signal optimisation that was only necessary for the AM With Development sceannrios. The results for scenarios 7 and 10 are therefore equal to the results for scenarios 6 and 9.

After re-running the Vissim scenarios ourselves, the results we obtain match closely to those in the report & excel for all except one scenario:
- For AM Scenario 10 (AM 2031 Ref + PHF + MIRA DS), we find that our 10th seed run for journey times are 14% slower than yours. However, the average of all runs show only a 1% difference. Please review run 10 results/provide justification.
- It is accepted due to PCMOVA that our re-run results will not necessarily match your results exactly.

As noted replication of results with PCMOVA included within the modelling is not guaranteed. However considering the impact on the reported average exhibits only a 1% difference we consider this to be a non-issue.

Scenarios were only run for 10, not 20 seed runs. Please provide justification for why 20 runs were not used.

Paragraph 8.1.1 of the Base model LMVR (RIS 1 Stage 2 AS Dodwells to Long Shoot Improvement Scheme VISSIM Local Model Validation Report, January 2020) states that 10 runs were used. We therefore maintained this approach for the future year scenarios. To ensure that 10 runs remains sufficient for the future year scenarios we have carried out a variance test using a normal t-distribution based on the formula to the right. The maximum error of the estimate is assumed to be 1% of the mean. 3 separate network statistics have been considered for this variance test; average delay per vehicle, total travel time of all vehicles, and number of completed trips. In all instances 10 runs is considered more than sufficient to produce reliable results.

$$N_r \geq \frac{s^2 \pm n/2}{e^2}$$

S^2 = variance (based on trial runs)
 $2 \alpha/2$ = threshold value for a 100(1- α) percent confidence interval
 n_r = number of runs required
 e = maximum error of the estimate

For Information: The model is consistent with previous modelling we have audited, however it should be noted that a stopline is missing on the northern arm exit of Dodwells Roundabout, and that there is no pedestrian demand in the model which most notably affects the LT into The Longshoot A47. Should pedestrian demand increase significantly in the future, its effect on traffic would not be captured by the model.

We note the comments, however this was omitted from the Base.

Relatively frequently this error message occurred: "Unusual signal change at SC 1, signal group 3: red -> green" Please resolve this error or provide a justification.

This is likely a minimum green violation caused by the MOVA configuration at the start of the simulation. This will have no bearing on the operation of the signals following start up.

Parking Lot 17 has a small number of unreleased vehicles (between 0 and 30 vehicles). Please review matrices/volumes as needed. If significant numbers of vehicles are unreleased, link lengths should be increased so that the full extent of the queuing can be seen in the model.

As stated the number of unreleased vehicles is low and insignificant. Unreleased demand is a model output in and of itself and should be considered alongside all other model outputs to form a view on model performance. We do not agree that link lengths should be revised for future year modelling as this impacts release profiles and creates a disconnect with the Base.

Consider removing Priority Rule No. 16. This priority rule has the potential to cause unrealistic queuing on the A5 north-westbound. I think in reality what would happen, is that vehicles turning right out of the A47 would leave a gap for those travelling north-westbound on the A5.

Priority rule No. 16 is present within the Base modelling. As per the above comment we do not agree with revising the network for the future year as there is no reason why behaviour at this location would differ in the future year compared with the calibrated and validated Base model provided as the basis for this testing.

Appendix 15

Figure 1 2031 Without Development AM

Key: 10 Total Vehicles 10 HGVs

MILESTONE

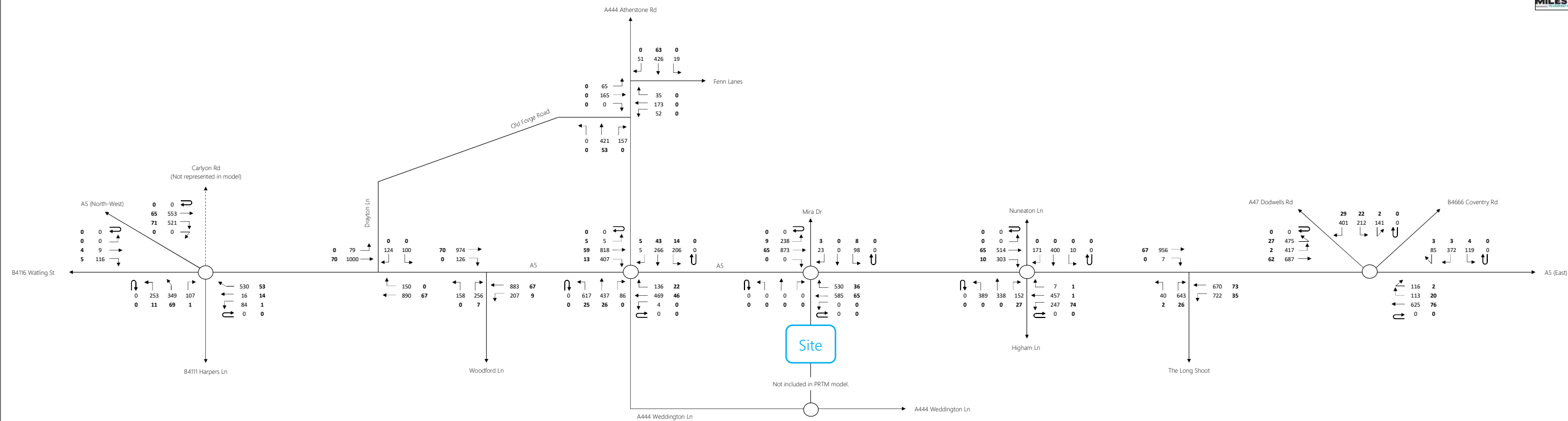


Figure 2 2031 Without Development PM

Key: 10 Total Vehicles 10 HGVs

MILESTONE

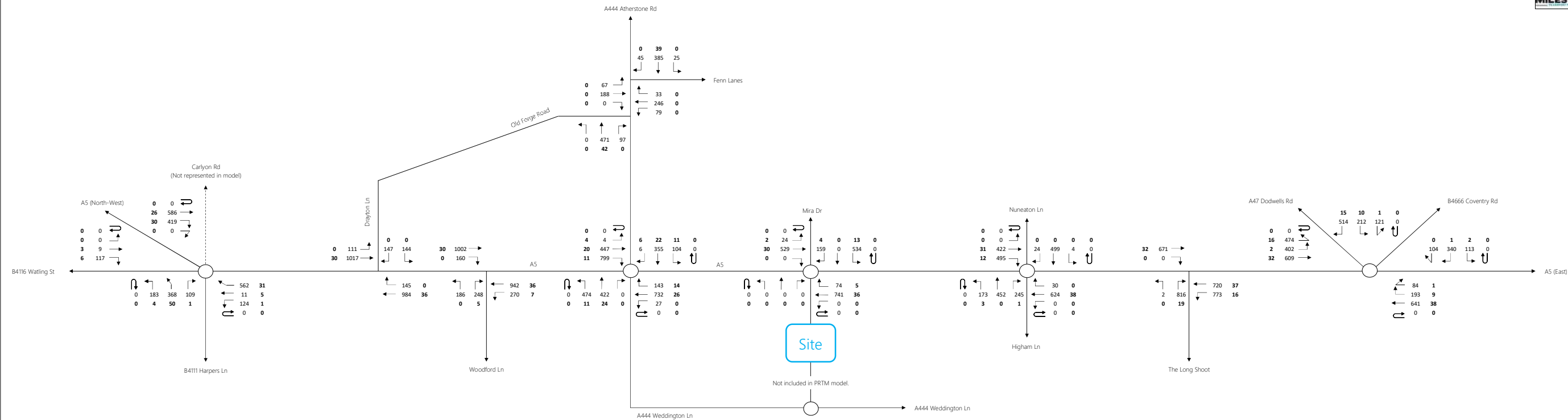


Figure 5 2031 With Development AM

Key: 10 Total Vehicles 10 HGVs

MILESTONE

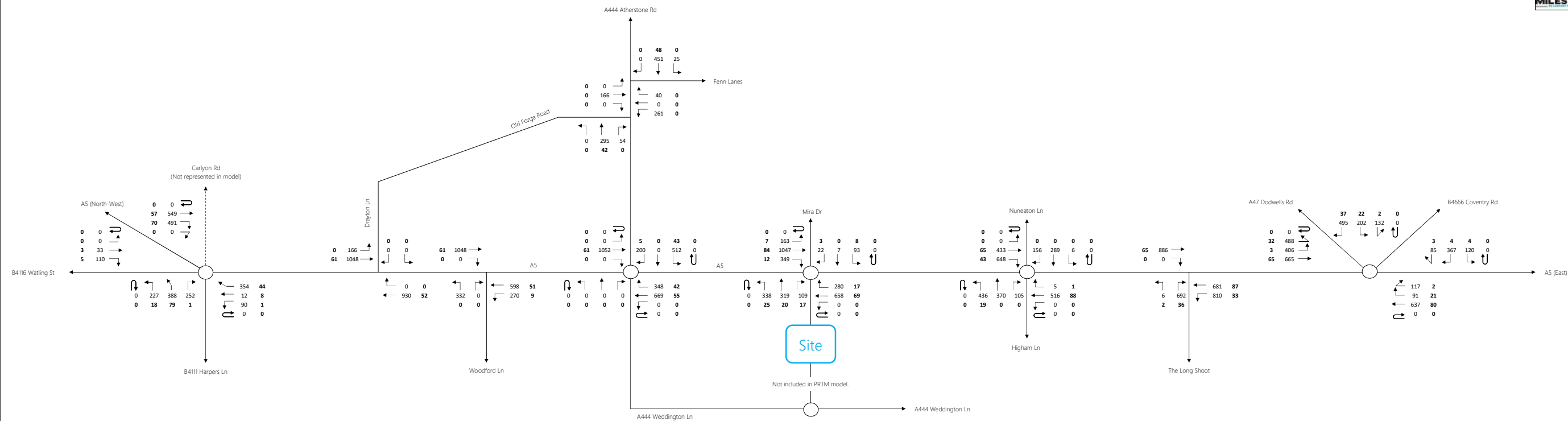


Figure 6 2031 With Development PM

Key: 10 Total Vehicles 10 HGVs

MILESTONE

