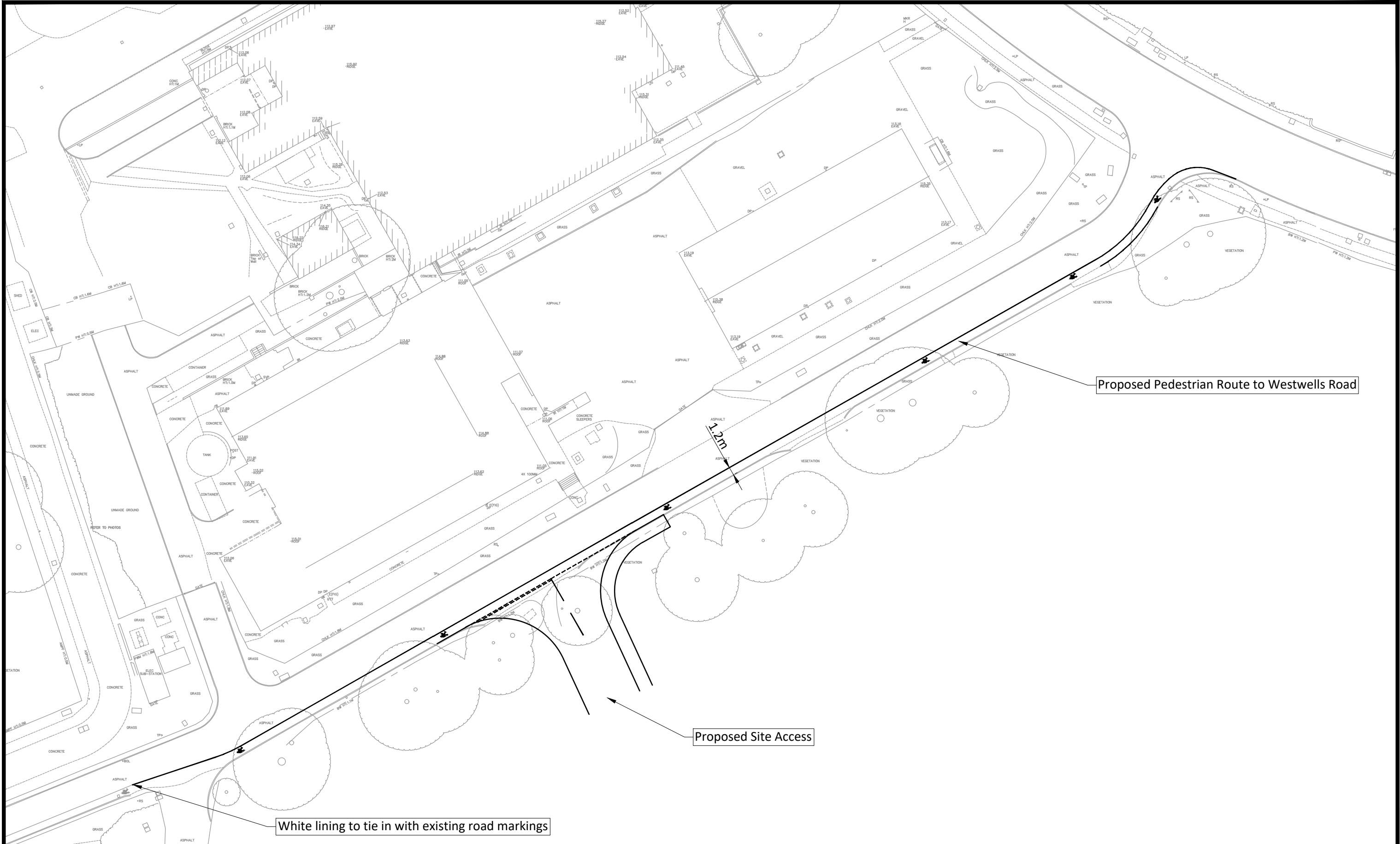
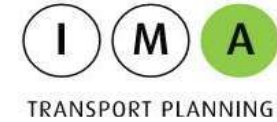




I M A TRANSPORT PLANNING 11 KINGSMEAD SQUARE BATH BA1 2AB T: 01225 444 011 www.ima-tp.com	PROJECT:	TITLE:	- PLAN 5 - Proposed Pedestrian Improvement on Rowans Lane		SCALE: (A3)	CHECKED:	APPROVED:	
					1:500			
					CAD FILE:	DESIGN/DRAWN:	DATE:	
					IMA-22-188-009.dwg	SN	Aug-2023	
					PROJECT No:	DRAWING No:	REV:	
					IMA-22-188	009		

Appendix 1

For and on behalf of:



CORSHAM

Wednesday 11 September 2019

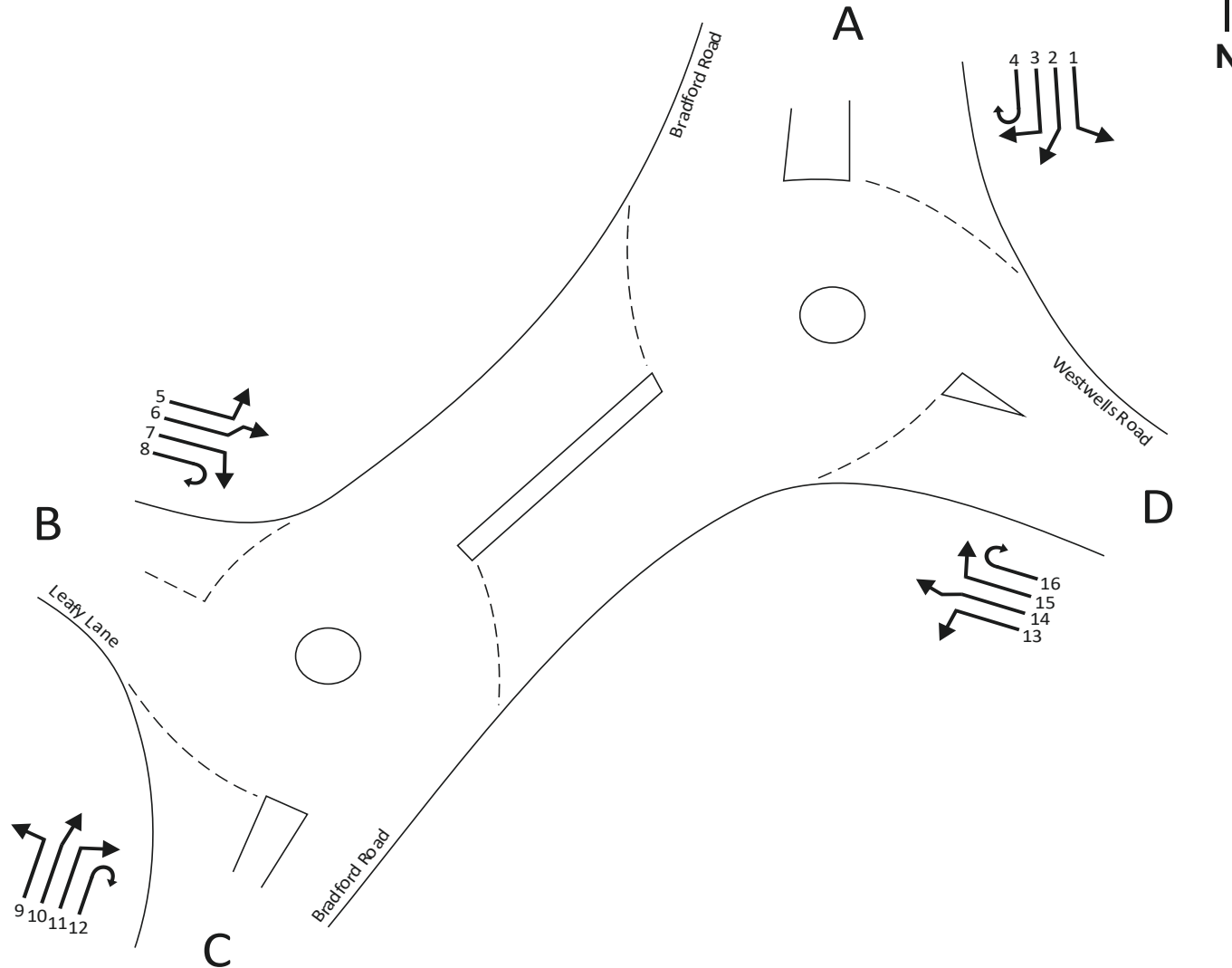
0700-0930

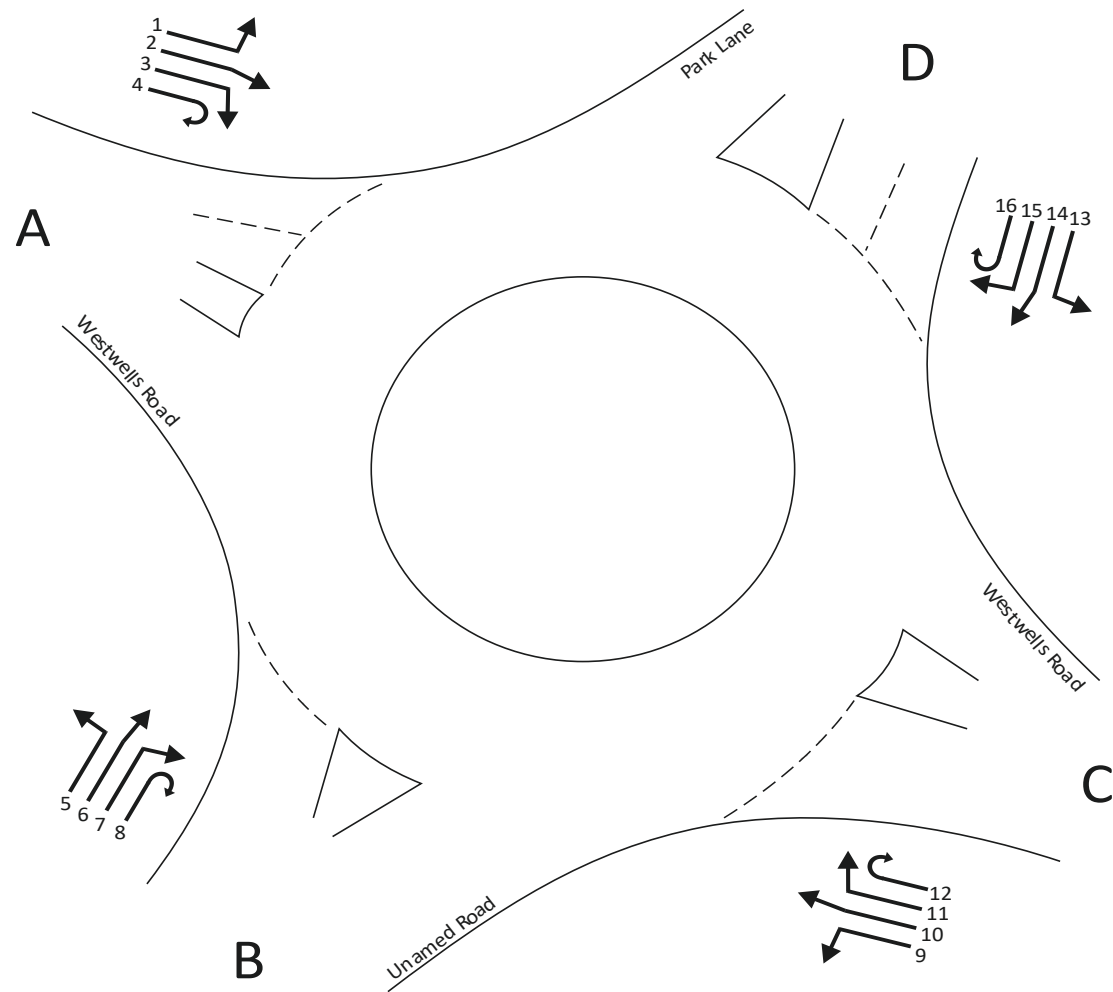
1600-1800

Drawing N°: 24519 - 01

Site: 1

Location: Bradford Road /
Westwells Road /
Leafy Lane





For and on behalf of:



CORSHAM

Wednesday 11 September 2019

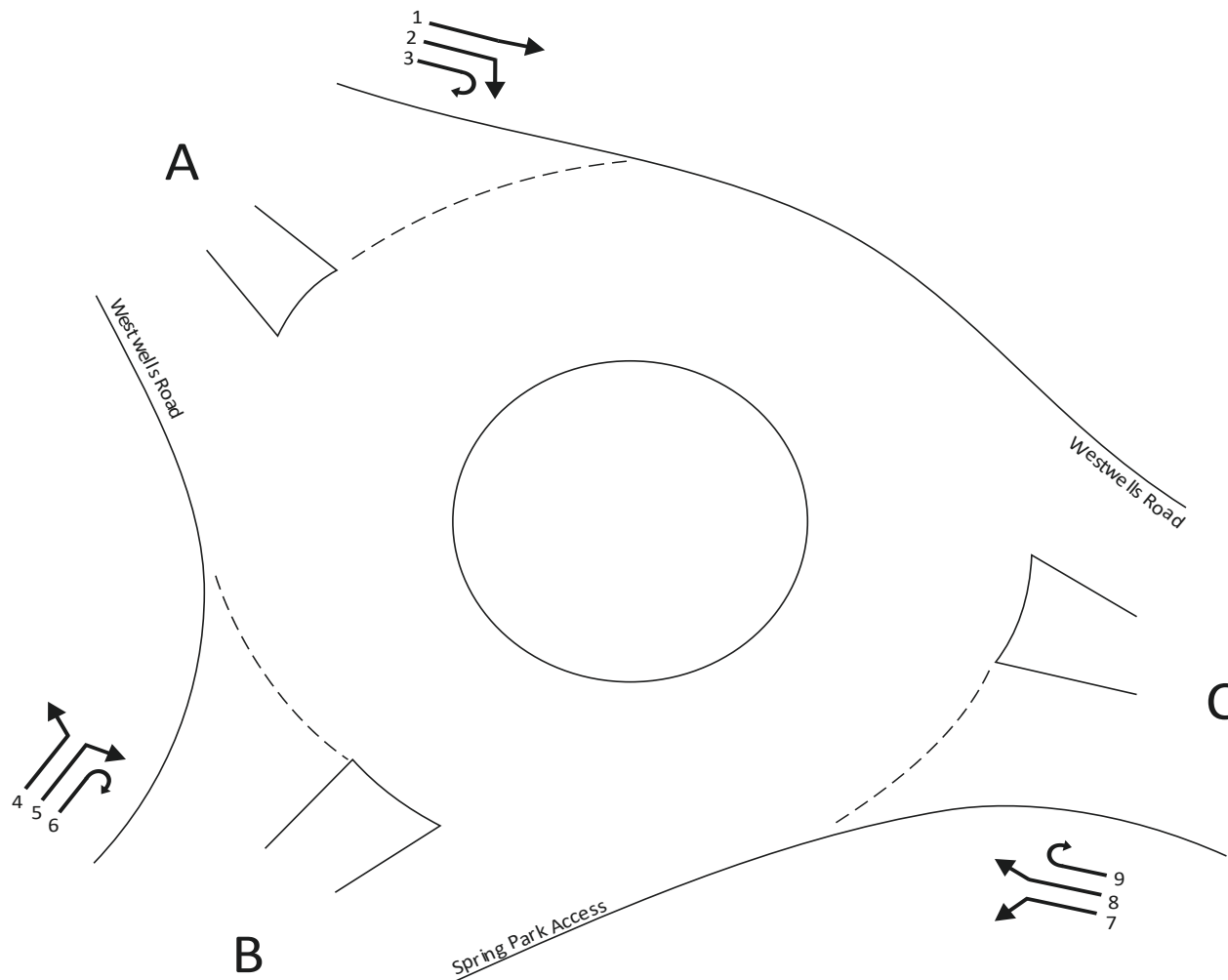
0700-0930

1600-1800

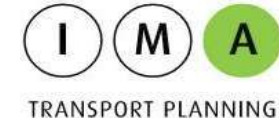
Drawing N°: 24519 - 02

Site: 2

Location: Westwells Road /
Unnamed Road /
Park Lane



For and on behalf of:



CORSHAM

Wednesday 11 September 2019

0700-0930

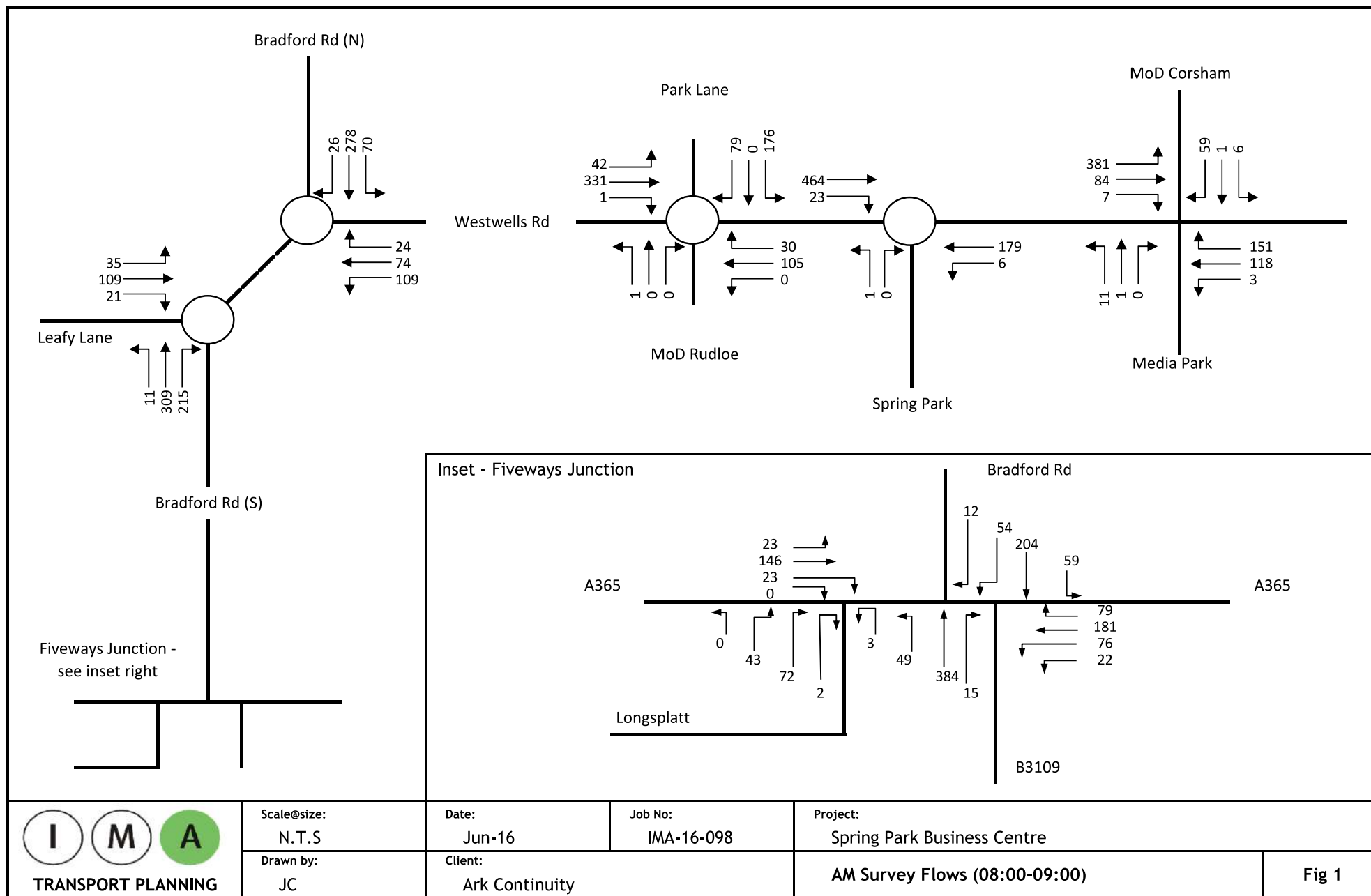
1600-1800

Drawing N°: 24519 - 03

Site: 3

Location: Westwells Road /
Spring Park Access

Appendix 2



TRANSPORT PLANNING

Scale@size:
N.T.S

Drawn by:
JC

Date:
Jun-16

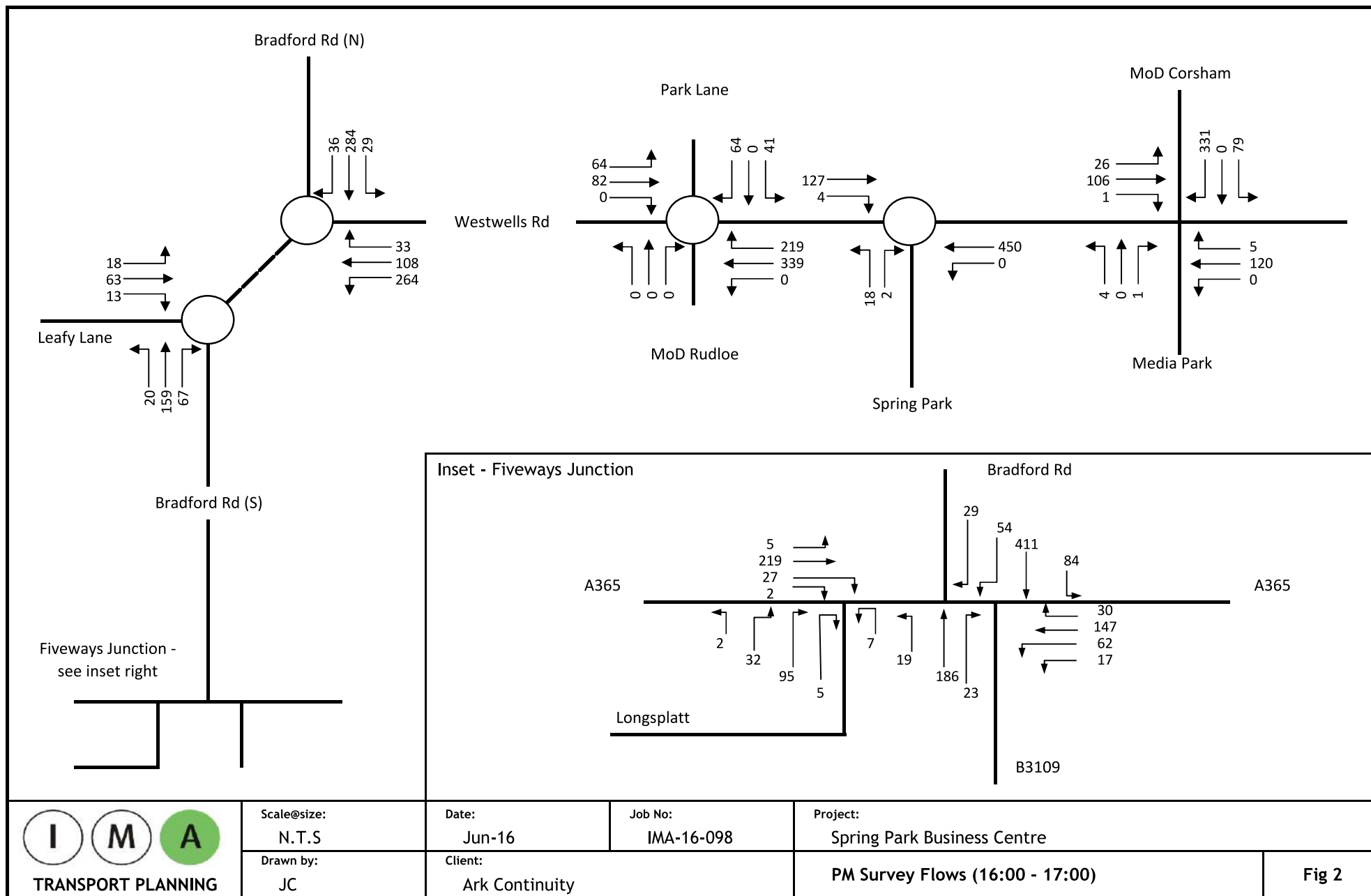
Client:
Ark Continuity

Job No:
IMA-16-098

Project:
Spring Park Business Centre

AM Survey Flows (08:00-09:00)

Fig 1



TRANSPORT PLANNING

Scale@size:
N.T.S

Drawn by:
JC

Date:
Jun-16

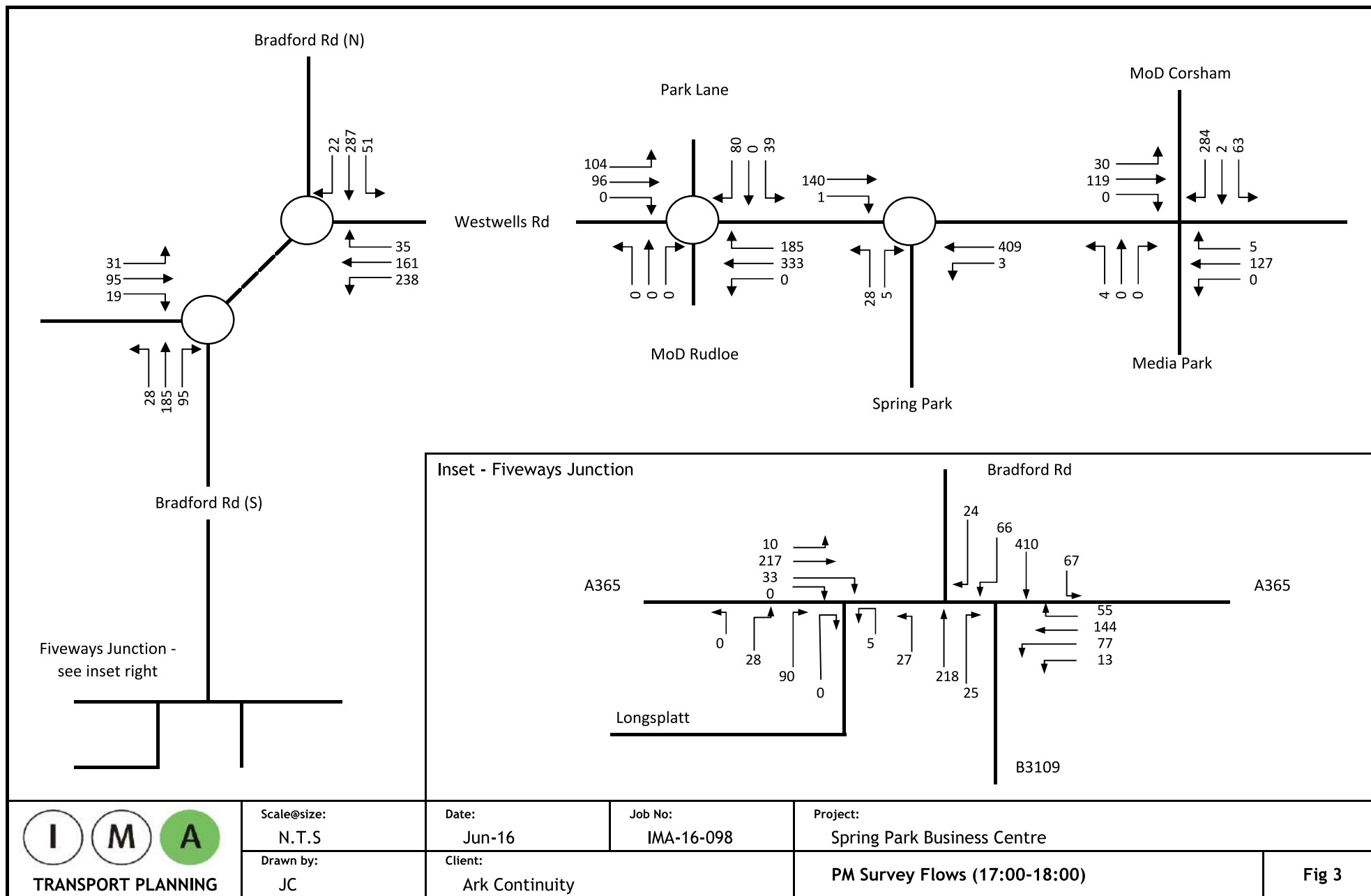
Client:
Ark Continuity

Job No:
IMA-16-098

Project:
Spring Park Business Centre

PM Survey Flows (16:00 - 17:00)

Fig 2

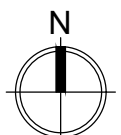


Appendix 3



Disclaimer:
Subject to survey.

Notes:



0m 20 40 60 80m
1:1000 @ A1

Rev: Notes: Date: Dwn: Iss:
P1 Planning Issue 07/05/2024 RS HA

KEY

- Applicant Ownership Boundary
- Proposed Site Boundary 7.37 hectares (to be verified)
- Campus Entrance
- Overhead Line
- Inner security fence
- Outer Campus fence
- Diverted PROWs
- Existing PROWs
- Retaining Structure

- 1a - Visitors car parking (8 spaces)
- 1b - Staff car parking (38 spaces)
- Visitor Reception Centre
- Substation compound
- Water treatment plant
- HV/LV Switchroom
- Generators
- Splitter buildings
- Service Yard
- Ingress gate
- Egress gate
- Fire Suppression Plant/Tank
- Energy Centre AHU
- LV Switchroom Transformers
- Emergency Pedestrian Access Gate
- Cycle Shelter (10 cycles)
- Data Centre
- Trees to be removed for Health & Safety reasons to be replaced with new trees

- P6 - DC01 4 Floors (G, 1st, 2nd & 3rd)
Approx height +18.3m to top of roof mounted plant
+15.4m high to building parapet
4 x data halls / floor @ 0.75MW each - 3MW / floor
IT Load 12MW
- P6 - DC02 3 Floors (G, 1st & 2nd)
Approx height +14.5m to top of roof mounted plant
+11.6m high to building eaves
4 x data halls / floor @ 0.75MW each - 3MW / floor
IT Load 9MW

hale
ARCHITECTURE
22c Leathermarket Street, London, SE1 3HP
Client:

ARK
DATA CENTRES

Issue Purpose:
PLANNING

Project:
**Land South of Westwells Road,
Spring Park, Corsham**

Drawing Title:
Proposed Masterplan

Project No: 22077	Scale @ A1: 1:1000	Revision: P1
Drawing No: HAL-SPP6-SW-XX-DR-A-000006		

Appendix 4

Junctions 9	
ARCADY 9 - Roundabout Module	
Version: 9.5.1.7462 © Copyright TRL Limited, 2019	
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk	
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution	

Filename: Westwills Dbl Mini_v2-0.j9

Path: P:\2022\IMA-22-188 Spring Park Expansion - P6\Assessments\Westwills Dbl Mini

Report generation date: 30/06/2023 16:52:46

-
- »Flows - 2019 Survey, AM
 - »Flows - 2019 Survey, PM
 - »Flows - 2028 Baseline, AM
 - »Flows - 2028 Baseline, PM
 - »Flows - 2028 with Development, AM
 - »Flows - 2028 with Development, PM
 - »Flows - Sensitivity Test, AM
 - »Flows - Sensitivity Test, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity
	Flows - 2019 Survey									
1 - Bradford-Leafy Junction - A - Linked Arm	D1	0.8	5.12	0.44	29 % [1 - Bradford-Leafy Junction - C - Leafy Lane]	D2	1.8	7.99	0.64	30 % [2 - Bradford-Westwells Junction - B - Westwells Road]
1 - Bradford-Leafy Junction - B - Bradford Road (S)		1.9	11.35	0.66			0.7	6.81	0.40	
1 - Bradford-Leafy Junction - C - Leafy Lane		0.7	13.87	0.42			0.4	8.01	0.27	
2 - Bradford-Westwells Junction - A - Bradford Road (N)		0.8	6.86	0.45			0.7	5.75	0.40	
2 - Bradford-Westwells Junction - B - Westwells Road		0.4	6.25	0.29			1.6	11.54	0.61	
2 - Bradford-Westwells Junction - C - Linked Arm		1.4	6.69	0.59			0.6	4.33	0.36	
	Flows - 2028 Baseline									
1 - Bradford-Leafy Junction - A - Linked Arm	D3	1.2	6.34	0.55	7 % [1 - Bradford-Leafy Junction - C - Leafy Lane]	D4	3.2	12.12	0.77	4 % [2 - Bradford-Westwells Junction - B - Westwells Road]
1 - Bradford-Leafy Junction - B - Bradford Road (S)		3.7	19.37	0.80			0.9	8.17	0.48	
1 - Bradford-Leafy Junction - C - Leafy Lane		1.6	24.61	0.63			0.6	10.06	0.39	
2 - Bradford-Westwells Junction - A - Bradford Road (N)		1.4	9.82	0.59			0.9	6.82	0.47	
2 - Bradford-Westwells Junction - B - Westwells Road		0.8	8.14	0.44			4.5	25.93	0.83	
2 - Bradford-Westwells Junction - C - Linked Arm		2.4	9.52	0.71			0.8	5.17	0.45	
	Flows - 2028 with Development									
1 - Bradford-Leafy Junction - A - Linked Arm	D5	1.2	6.26	0.54	5 % [1 - Bradford-Leafy Junction - C - Leafy Lane]	D6	3.4	12.68	0.78	1 % [2 - Bradford-Westwells Junction - B - Westwells Road]
1 - Bradford-Leafy Junction - B - Bradford Road (S)		4.1	20.84	0.81			0.9	8.15	0.48	
1 - Bradford-Leafy Junction - C - Leafy Lane		1.8	27.02	0.65			0.6	9.83	0.37	
2 - Bradford-Westwells Junction - A - Bradford Road (N)		1.6	10.74	0.62			0.9	6.78	0.47	
2 - Bradford-Westwells Junction - B - Westwells Road		0.8	8.10	0.43			5.6	31.69	0.86	
2 - Bradford-Westwells Junction - C - Linked Arm		2.6	10.18	0.73			0.8	5.17	0.45	
	Flows - Sensitivity Test									
1 - Bradford-Leafy Junction - A - Linked Arm	D7	1.2	6.23	0.54	4 % [1 - Bradford-Leafy Junction - C - Leafy Lane]	D8	3.4	12.73	0.78	1 % [2 - Bradford-Westwells Junction - B - Westwells Road]
1 - Bradford-Leafy Junction - B - Bradford Road (S)		4.3	21.63	0.82			0.9	8.19	0.48	
1 - Bradford-Leafy Junction - C - Leafy Lane		1.9	28.28	0.66			0.6	9.87	0.37	
2 - Bradford-Westwells Junction - A - Bradford Road (N)		1.7	11.14	0.63			0.9	6.83	0.47	
2 - Bradford-Westwells Junction - B - Westwells Road		0.7	8.02	0.43			5.7	32.25	0.87	
2 - Bradford-Westwells Junction - C - Linked Arm		2.7	10.43	0.73			0.8	5.19	0.45	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

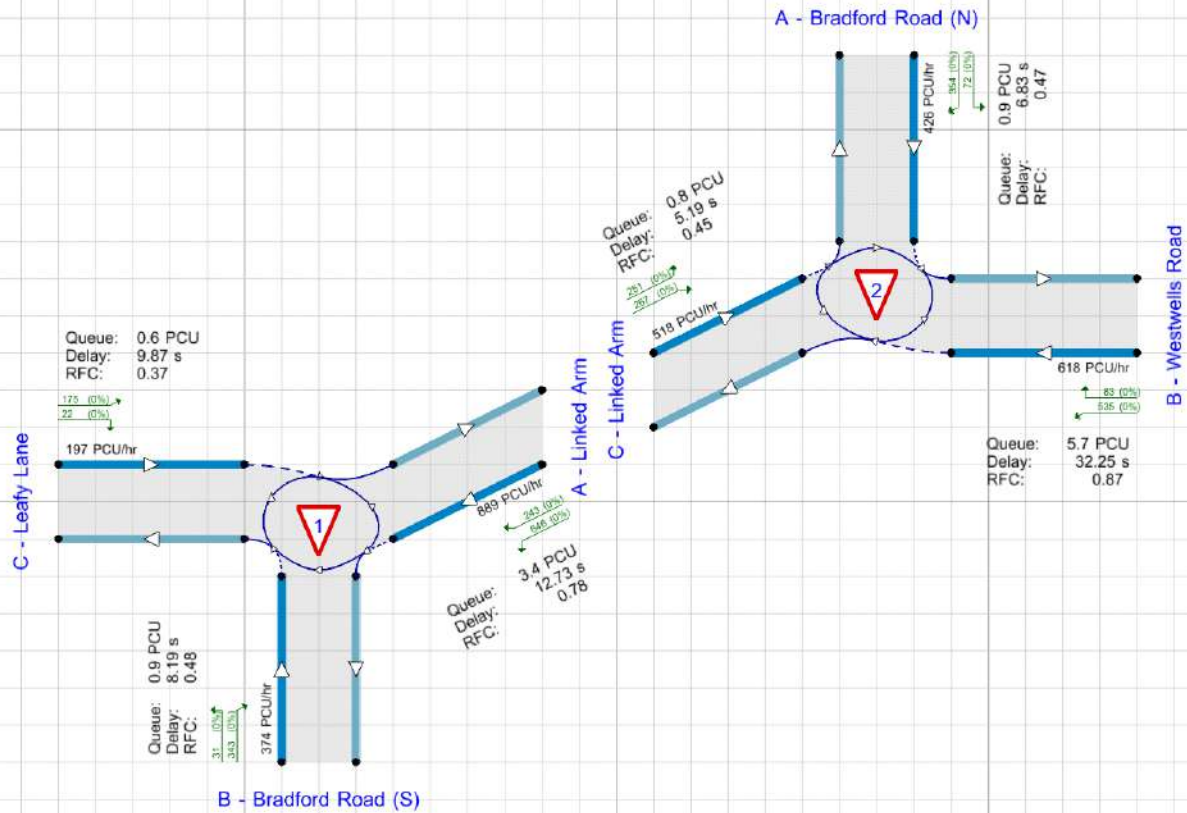
File summary

File Description

Title	Bradford-Leafy Min Rbt
Location	Corsham, Wiltshire
Site number	
Date	13/02/2013
Version	v2
Status	(new file)
Identifier	
Client	Ark Continuity
Jobnumber	IMA-12-096
Enumerator	IMA-TP\Sysadmin
Description	Model of existing double mini roundabout junction between Bradford Road/Leafy Lane and Westwells Road

Units

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



Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75			✓	Delay	0.90	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Survey	AM	ONE HOUR	07:45	09:15	15	✓
D2	2019 Survey	PM	ONE HOUR	16:45	18:15	15	✓
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15	✓
D4	2028 Baseline	PM	ONE HOUR	16:45	18:15	15	✓
D5	2028 with Development	AM	ONE HOUR	07:45	09:15	15	✓
D6	2028 with Development	PM	ONE HOUR	16:45	18:15	15	✓
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15	✓
D8	Sensitivity Test	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

Flows - 2019 Survey, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 86% of the total flow for the roundabout for one or more time segments]
Warning	Mini-roundabout	2 - Bradford-Westwells Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 83% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	9.14	A
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	6.67	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		29	1 - Bradford-Leafy Junction - C - Leafy Lane

Arms

Arms

Junction	Arm	Name	Description
1 - Bradford-Leafy Junction	A	Linked Arm	
	B	Bradford Road (S)	
	C	Leafy Lane	
2 - Bradford-Westwells Junction	A	Bradford Road (N)	
	B	Westwells Road	
	C	Linked Arm	

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Bradford-Leafy Junction	A - Linked Arm	6.00	6.00	6.00	0.0	15.00	14.50	0.0	✓
	B - Bradford Road (S)	3.00	3.00	5.00	6.2	11.00	8.60	0.0	✓
	C - Leafy Lane	2.90	2.90	3.80	1.6	13.20	8.30	0.0	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	3.70	3.70	6.20	10.3	11.30	9.60	0.0	✓
	B - Westwells Road	3.00	3.00	6.20	6.3	13.30	8.10	0.0	
	C - Linked Arm	6.60	6.60	6.60	0.0	13.20	11.30	0.0	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - Bradford-Leafy Junction	A - Linked Arm	0.612	1275
	B - Bradford Road (S)	0.517	989
	C - Leafy Lane	0.599	808
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.561	1161
	B - Westwells Road	0.637	1034
	C - Linked Arm	0.620	1320

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	2019 Survey	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	506	100.000
	B - Bradford Road (S)		ONE HOUR	✓	557	100.000
	C - Leafy Lane		ONE HOUR	✓	171	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	389	100.000
	B - Westwells Road		ONE HOUR	✓	215	100.000
	C - Linked Arm		ONE HOUR	✓	695	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	402	104
	B - Bradford Road (S)	546	0	11
	C - Leafy Lane	149	22	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	73	316
	B - Westwells Road	25	0	190
	C - Linked Arm	358	337	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.44	5.12	0.8	A	464	696
	B - Bradford Road (S)	0.66	11.35	1.9	B	511	767
	C - Leafy Lane	0.42	13.87	0.7	B	157	235
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.45	6.86	0.8	A	357	535
	B - Westwells Road	0.29	6.25	0.4	A	197	296
	C - Linked Arm	0.59	6.69	1.4	A	638	957

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	381	95	16	1265	0.301	379	519	0.0	0.4	4.057	
	B - Bradford Road (S)	419	105	78	949	0.442	416	318	0.0	0.8	6.718	
	C - Leafy Lane	129	32	408	563	0.229	128	86	0.0	0.3	8.238	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	293	73	252	1020	0.287	291	287	0.0	0.4	4.931	
	B - Westwells Road	162	40	237	883	0.183	161	307	0.0	0.2	4.977	
	C - Linked Arm	523	131	19	1309	0.400	521	379	0.0	0.7	4.553	

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	455	114	20	1263	0.360	454	623	0.4	0.6	4.448	
	B - Bradford Road (S)	501	125	93	941	0.532	499	381	0.8	1.1	8.126	
	C - Leafy Lane	154	38	490	515	0.299	153	103	0.3	0.4	9.949	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	350	87	302	992	0.353	349	344	0.4	0.5	5.599	
	B - Westwells Road	193	48	284	853	0.227	193	368	0.2	0.3	5.449	
	C - Linked Arm	625	156	22	1307	0.478	624	454	0.7	0.9	5.265	

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	557	139	24	1260	0.442	556	761	0.6	0.8	5.106
	B - Bradford Road (S)	613	153	114	930	0.659	610	466	1.1	1.9	11.145
	C - Leafy Lane	188	47	598	449	0.419	187	126	0.4	0.7	13.666
2 - Bradford-Westwells Junction	A - Bradford Road (N)	428	107	370	954	0.449	427	421	0.5	0.8	6.824
	B - Westwells Road	237	59	347	813	0.291	236	450	0.3	0.4	6.237
	C - Linked Arm	765	191	27	1303	0.587	763	556	0.9	1.4	6.640

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	557	139	24	1260	0.442	557	765	0.8	0.8	5.118
	B - Bradford Road (S)	613	153	115	930	0.659	613	467	1.9	1.9	11.346
	C - Leafy Lane	188	47	601	448	0.421	188	127	0.7	0.7	13.867
2 - Bradford-Westwells Junction	A - Bradford Road (N)	428	107	371	953	0.449	428	422	0.8	0.8	6.858
	B - Westwells Road	237	59	348	812	0.291	237	451	0.4	0.4	6.252
	C - Linked Arm	765	191	28	1303	0.587	765	557	1.4	1.4	6.688

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	455	114	20	1263	0.360	456	629	0.8	0.6	4.464
	B - Bradford Road (S)	501	125	94	941	0.532	504	382	1.9	1.2	8.291
	C - Leafy Lane	154	38	494	512	0.300	155	104	0.7	0.4	10.110
2 - Bradford-Westwells Junction	A - Bradford Road (N)	350	87	304	991	0.353	351	345	0.8	0.6	5.633
	B - Westwells Road	193	48	285	853	0.227	194	370	0.4	0.3	5.467
	C - Linked Arm	625	156	23	1307	0.478	627	456	1.4	0.9	5.312

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	381	95	17	1265	0.301	381	525	0.6	0.4	4.077
	B - Bradford Road (S)	419	105	78	949	0.442	421	320	1.2	0.8	6.838
	C - Leafy Lane	129	32	412	561	0.230	129	87	0.4	0.3	8.355
2 - Bradford-Westwells Junction	A - Bradford Road (N)	293	73	254	1019	0.288	293	289	0.6	0.4	4.967
	B - Westwells Road	162	40	238	882	0.183	162	309	0.3	0.2	5.003
	C - Linked Arm	523	131	19	1309	0.400	524	382	0.9	0.7	4.594

Flows - 2019 Survey, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 87% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	7.68	A
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	7.36	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		30	2 - Bradford-Westwells Junction - B - Westwells Road

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	2019 Survey	PM	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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	737	100.000
	B - Bradford Road (S)		ONE HOUR	✓	320	100.000
	C - Leafy Lane		ONE HOUR	✓	151	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	375	100.000
	B - Westwells Road		ONE HOUR	✓	451	100.000
	C - Linked Arm		ONE HOUR	✓	422	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	547	190
	B - Bradford Road (S)	291	0	29
	C - Leafy Lane	131	20	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	53	322
	B - Westwells Road	36	0	415
	C - Linked Arm	224	198	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.64	7.99	1.8	A	676	1014
	B - Bradford Road (S)	0.40	6.81	0.7	A	294	440
	C - Leafy Lane	0.27	8.01	0.4	A	139	208
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.40	5.75	0.7	A	344	516
	B - Westwells Road	0.61	11.54	1.6	B	414	621
	C - Linked Arm	0.36	4.33	0.6	A	387	581

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	555	139	15	1266	0.438	552	316	0.0	0.8	5.020	
	B - Bradford Road (S)	241	60	142	916	0.263	239	424	0.0	0.4	5.313	
	C - Leafy Lane	114	28	218	677	0.168	113	164	0.0	0.2	6.368	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	282	71	148	1078	0.262	281	195	0.0	0.4	4.510	
	B - Westwells Road	340	85	241	880	0.386	337	188	0.0	0.6	6.595	
	C - Linked Arm	318	79	27	1304	0.244	316	551	0.0	0.3	3.641	

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	663	166	18	1264	0.524	661	379	0.8	1.1	5.959	
	B - Bradford Road (S)	288	72	170	901	0.319	287	509	0.4	0.5	5.860	
	C - Leafy Lane	136	34	261	651	0.208	136	197	0.2	0.3	6.975	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	337	84	178	1061	0.318	337	233	0.4	0.5	4.963	
	B - Westwells Road	405	101	289	850	0.477	404	225	0.6	0.9	8.060	
	C - Linked Arm	379	95	32	1300	0.292	379	661	0.3	0.4	3.904	

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	811	203	22	1262	0.643	809	464	1.1	1.8	7.900	
	B - Bradford Road (S)	352	88	208	881	0.400	352	622	0.5	0.7	6.783	
	C - Leafy Lane	166	42	320	616	0.270	166	240	0.3	0.4	7.984	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	413	103	218	1039	0.397	412	286	0.5	0.7	5.734	
	B - Westwells Road	497	124	354	809	0.614	494	276	0.9	1.5	11.347	
	C - Linked Arm	465	116	39	1296	0.359	464	808	0.4	0.6	4.324	

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	811	203	22	1262	0.643	811	465	1.8	1.8	7.991	
	B - Bradford Road (S)	352	88	209	881	0.400	352	624	0.7	0.7	6.807	
	C - Leafy Lane	166	42	320	616	0.270	166	241	0.4	0.4	8.006	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	413	103	218	1039	0.397	413	286	0.7	0.7	5.749	
	B - Westwells Road	497	124	355	808	0.614	496	276	1.5	1.6	11.538	
	C - Linked Arm	465	116	40	1296	0.359	465	811	0.6	0.6	4.330	

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	663	166	18	1264	0.524	665	380	1.8	1.1	6.039	
	B - Bradford Road (S)	288	72	171	901	0.319	288	512	0.7	0.5	5.889	
	C - Leafy Lane	136	34	262	651	0.209	136	198	0.4	0.3	7.003	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	337	84	178	1061	0.318	338	234	0.7	0.5	4.983	
	B - Westwells Road	405	101	290	849	0.477	408	226	1.6	0.9	8.207	
	C - Linked Arm	379	95	33	1300	0.292	380	666	0.6	0.4	3.915	

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	555	139	15	1266	0.438	556	318	1.1	0.8	5.081	
	B - Bradford Road (S)	241	60	143	915	0.263	241	428	0.5	0.4	5.345	
	C - Leafy Lane	114	28	219	676	0.168	114	165	0.3	0.2	6.402	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	282	71	149	1078	0.262	283	196	0.5	0.4	4.531	
	B - Westwells Road	340	85	243	879	0.386	341	189	0.9	0.6	6.699	
	C - Linked Arm	318	79	27	1304	0.244	318	556	0.4	0.3	3.656	

Flows - 2028 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 85% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	14.68	B
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	9.34	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		7	1 - Bradford-Leafy Junction - C - Leafy Lane

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	2028 Baseline	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	628	100.000
	B - Bradford Road (S)		ONE HOUR	✓	648	100.000
	C - Leafy Lane		ONE HOUR	✓	221	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	473	100.000
	B - Westwells Road		ONE HOUR	✓	312	100.000
	C - Linked Arm		ONE HOUR	✓	833	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	466	162
	B - Bradford Road (S)	636	0	12
	C - Leafy Lane	197	24	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	119	354
	B - Westwells Road	38	0	274
	C - Linked Arm	389	444	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.55	6.34	1.2	A	576	864
	B - Bradford Road (S)	0.80	19.37	3.7	C	595	892
	C - Leafy Lane	0.63	24.61	1.6	C	203	304
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.59	9.82	1.4	A	434	651
	B - Westwells Road	0.44	8.14	0.8	A	286	429
	C - Linked Arm	0.71	9.52	2.4	A	764	1147

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	473	118	18	1264	0.374	470	621	0.0	0.6	4.521	
	B - Bradford Road (S)	488	122	121	927	0.527	483	367	0.0	1.1	8.048	
	C - Leafy Lane	166	42	475	524	0.318	165	130	0.0	0.5	9.979	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	356	89	332	975	0.365	354	320	0.0	0.6	5.776	
	B - Westwells Road	235	59	265	865	0.271	233	421	0.0	0.4	5.685	
	C - Linked Arm	627	157	28	1303	0.481	623	470	0.0	0.9	5.270	

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	565	141	21	1262	0.447	564	746	0.6	0.8	5.149	
	B - Bradford Road (S)	583	146	145	914	0.637	580	440	1.1	1.7	10.692	
	C - Leafy Lane	199	50	569	467	0.426	198	156	0.5	0.7	13.325	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	425	106	398	938	0.453	424	383	0.6	0.8	6.993	
	B - Westwells Road	280	70	317	832	0.337	280	505	0.4	0.5	6.516	
	C - Linked Arm	749	187	34	1299	0.576	747	563	0.9	1.3	6.500	

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	691	173	26	1259	0.549	690	907	0.8	1.2	6.305	
	B - Bradford Road (S)	713	178	178	897	0.795	706	538	1.7	3.5	18.148	
	C - Leafy Lane	243	61	693	393	0.620	240	191	0.7	1.5	23.129	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	521	130	487	888	0.586	519	468	0.8	1.4	9.677	
	B - Westwells Road	344	86	388	787	0.437	342	617	0.5	0.8	8.083	
	C - Linked Arm	917	229	42	1295	0.708	913	689	1.3	2.3	9.335	

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	691	173	26	1259	0.549	691	916	1.2	1.2	6.342	
	B - Bradford Road (S)	713	178	178	897	0.795	713	539	3.5	3.7	19.371	
	C - Leafy Lane	243	61	700	389	0.626	243	192	1.5	1.6	24.608	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	521	130	489	887	0.587	521	470	1.4	1.4	9.819	
	B - Westwells Road	344	86	390	786	0.437	343	620	0.8	0.8	8.138	
	C - Linked Arm	917	229	42	1295	0.708	917	691	2.3	2.4	9.523	

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	565	141	22	1262	0.447	566	759	1.2	0.8	5.186	
	B - Bradford Road (S)	583	146	146	914	0.638	590	442	3.7	1.8	11.365	
	C - Leafy Lane	199	50	579	461	0.431	202	157	1.6	0.8	14.080	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	425	106	401	936	0.454	427	386	1.4	0.8	7.109	
	B - Westwells Road	280	70	320	830	0.338	281	509	0.8	0.5	6.572	
	C - Linked Arm	749	187	34	1299	0.576	753	567	2.4	1.4	6.638	

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	473	118	18	1264	0.374	474	631	0.8	0.6	4.561
	B - Bradford Road (S)	488	122	122	926	0.527	491	370	1.8	1.1	8.317
	C - Leafy Lane	166	42	481	519	0.320	168	131	0.8	0.5	10.269
2 - Bradford-Westwells Junction	A - Bradford Road (N)	356	89	335	973	0.366	357	322	0.8	0.6	5.852
	B - Westwells Road	235	59	267	864	0.272	235	425	0.5	0.4	5.736
	C - Linked Arm	627	157	29	1303	0.481	629	474	1.4	0.9	5.358

Flows - 2028 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 85% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	10.82	B
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	13.60	B

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		4	2 - Bradford-Westwells Junction - B - Westwells Road

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	2028 Baseline	PM	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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	876	100.000
	B - Bradford Road (S)		ONE HOUR	✓	373	100.000
	C - Leafy Lane		ONE HOUR	✓	204	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	422	100.000
	B - Westwells Road		ONE HOUR	✓	591	100.000
	C - Linked Arm		ONE HOUR	✓	524	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	633	243
	B - Bradford Road (S)	342	0	31
	C - Leafy Lane	182	22	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	68	354
	B - Westwells Road	69	0	522
	C - Linked Arm	251	273	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.77	12.12	3.2	B	804	1206
	B - Bradford Road (S)	0.48	8.17	0.9	A	342	513
	C - Leafy Lane	0.39	10.06	0.6	B	187	281
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.47	6.82	0.9	A	387	581
	B - Westwells Road	0.83	25.93	4.5	D	542	813
	C - Linked Arm	0.45	5.17	0.8	A	481	721

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	659	165	16	1265	0.521	655	392	0.0	1.1	5.862	
	B - Bradford Road (S)	281	70	182	895	0.314	279	490	0.0	0.5	5.825	
	C - Leafy Lane	154	38	256	655	0.235	152	205	0.0	0.3	7.150	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	318	79	205	1046	0.304	316	240	0.0	0.4	4.913	
	B - Westwells Road	445	111	265	865	0.514	441	256	0.0	1.0	8.404	
	C - Linked Arm	394	99	51	1289	0.306	393	654	0.0	0.4	4.012	

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	788	197	20	1263	0.623	785	470	1.1	1.6	7.501	
	B - Bradford Road (S)	335	84	218	877	0.383	335	587	0.5	0.6	6.634	
	C - Leafy Lane	183	46	307	624	0.294	183	246	0.3	0.4	8.154	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	379	95	245	1024	0.371	379	287	0.4	0.6	5.577	
	B - Westwells Road	531	133	318	832	0.639	529	306	1.0	1.7	11.773	
	C - Linked Arm	471	118	62	1282	0.367	471	785	0.4	0.6	4.432	

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	964	241	24	1260	0.765	959	575	1.6	3.1	11.701	
	B - Bradford Road (S)	411	103	266	852	0.482	409	717	0.6	0.9	8.116	
	C - Leafy Lane	225	56	375	583	0.385	224	300	0.4	0.6	10.001	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	465	116	300	993	0.468	463	351	0.6	0.9	6.784	
	B - Westwells Road	651	163	389	786	0.828	641	375	1.7	4.2	23.282	
	C - Linked Arm	577	144	75	1274	0.453	576	955	0.6	0.8	5.149	

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	964	241	24	1260	0.765	964	577	3.1	3.2	12.121	
	B - Bradford Road (S)	411	103	267	851	0.483	411	721	0.9	0.9	8.174	
	C - Leafy Lane	225	56	377	582	0.386	225	302	0.6	0.6	10.063	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	465	116	301	993	0.468	465	352	0.9	0.9	6.817	
	B - Westwells Road	651	163	390	786	0.828	650	375	4.2	4.5	25.931	
	C - Linked Arm	577	144	76	1273	0.453	577	963	0.8	0.8	5.168	

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	788	197	20	1263	0.624	793	473	3.2	1.7	7.760	
	B - Bradford Road (S)	335	84	220	875	0.383	337	593	0.9	0.6	6.693	
	C - Leafy Lane	183	46	309	623	0.294	184	248	0.6	0.4	8.220	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	379	95	246	1023	0.371	380	289	0.9	0.6	5.609	
	B - Westwells Road	531	133	319	831	0.640	542	307	4.5	1.8	12.880	
	C - Linked Arm	471	118	63	1281	0.368	472	798	0.8	0.6	4.453	

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	659	165	17	1265	0.521	662	396	1.7	1.1	5.991	
	B - Bradford Road (S)	281	70	184	894	0.314	281	495	0.6	0.5	5.879	
	C - Leafy Lane	154	38	258	653	0.235	154	207	0.4	0.3	7.219	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	318	79	206	1046	0.304	318	242	0.6	0.4	4.952	
	B - Westwells Road	445	111	267	864	0.515	448	257	1.8	1.1	8.716	
	C - Linked Arm	394	99	52	1288	0.306	395	663	0.6	0.4	4.035	

Flows - 2028 with Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 85% of the total flow for the roundabout for one or more time segments]
Warning	Mini-roundabout	2 - Bradford-Westwells Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 81% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	15.75	C
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	9.95	A

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		5	1 - Bradford-Leafy Junction - C - Leafy Lane

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2028 with Development	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	621	100.000
	B - Bradford Road (S)		ONE HOUR	✓	665	100.000
	C - Leafy Lane		ONE HOUR	✓	223	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	491	100.000
	B - Westwells Road		ONE HOUR	✓	310	100.000
	C - Linked Arm		ONE HOUR	✓	852	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	468	153
	B - Bradford Road (S)	653	0	12
	C - Leafy Lane	199	24	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	137	354
	B - Westwells Road	43	0	267
	C - Linked Arm	389	463	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.54	6.26	1.2	A	570	855
	B - Bradford Road (S)	0.81	20.84	4.1	C	610	915
	C - Leafy Lane	0.65	27.02	1.8	D	205	307
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.62	10.74	1.6	B	451	676
	B - Westwells Road	0.43	8.10	0.8	A	284	427
	C - Linked Arm	0.73	10.18	2.6	B	782	1173

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	468	117	18	1264	0.370	465	635	0.0	0.6	4.493
	B - Bradford Road (S)	501	125	115	930	0.538	496	368	0.0	1.1	8.213
	C - Leafy Lane	168	42	487	516	0.325	166	124	0.0	0.5	10.232
2 - Bradford-Westwells Junction	A - Bradford Road (N)	370	92	346	967	0.382	367	323	0.0	0.6	5.979
	B - Westwells Road	233	58	265	865	0.270	232	449	0.0	0.4	5.671
	C - Linked Arm	641	160	32	1301	0.493	638	464	0.0	1.0	5.399

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	558	140	21	1262	0.442	557	762	0.6	0.8	5.102
	B - Bradford Road (S)	598	149	137	918	0.651	595	442	1.1	1.8	11.048
	C - Leafy Lane	200	50	584	458	0.438	199	148	0.5	0.8	13.873
2 - Bradford-Westwells Junction	A - Bradford Road (N)	441	110	415	928	0.475	440	387	0.6	0.9	7.360
	B - Westwells Road	279	70	317	832	0.335	278	538	0.4	0.5	6.497
	C - Linked Arm	766	191	39	1297	0.591	764	557	1.0	1.4	6.738

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	684	171	26	1259	0.543	682	927	0.8	1.2	6.223
	B - Bradford Road (S)	732	183	168	902	0.811	724	540	1.8	3.9	19.305
	C - Leafy Lane	246	61	711	382	0.643	242	181	0.8	1.7	25.072
2 - Bradford-Westwells Junction	A - Bradford Road (N)	541	135	507	877	0.617	538	473	0.9	1.6	10.542
	B - Westwells Road	341	85	388	787	0.434	340	657	0.5	0.8	8.041
	C - Linked Arm	938	235	47	1291	0.727	934	681	1.4	2.6	9.936

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	684	171	26	1259	0.543	684	937	1.2	1.2	6.257
	B - Bradford Road (S)	732	183	168	902	0.812	731	542	3.9	4.1	20.836
	C - Leafy Lane	246	61	718	377	0.650	245	182	1.7	1.8	27.020
2 - Bradford-Westwells Junction	A - Bradford Road (N)	541	135	510	875	0.618	540	476	1.6	1.6	10.739
	B - Westwells Road	341	85	390	786	0.434	341	660	0.8	0.8	8.098
	C - Linked Arm	938	235	47	1291	0.727	938	684	2.6	2.6	10.176

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	558	140	22	1262	0.442	560	778	1.2	0.8	5.141
	B - Bradford Road (S)	598	149	138	918	0.651	606	444	4.1	1.9	11.849
	C - Leafy Lane	200	50	595	451	0.444	204	149	1.8	0.8	14.802
2 - Bradford-Westwells Junction	A - Bradford Road (N)	441	110	419	926	0.476	444	391	1.6	0.9	7.502
	B - Westwells Road	279	70	320	830	0.336	280	543	0.8	0.5	6.554
	C - Linked Arm	766	191	39	1296	0.591	770	561	2.6	1.5	6.901

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	468	117	18	1264	0.370	468	646	0.8	0.6	4.530
	B - Bradford Road (S)	501	125	115	930	0.539	504	371	1.9	1.2	8.507
	C - Leafy Lane	168	42	495	512	0.328	169	124	0.8	0.5	10.554
2 - Bradford-Westwells Junction	A - Bradford Road (N)	370	92	350	965	0.383	371	326	0.9	0.6	6.071
	B - Westwells Road	233	58	267	864	0.270	234	453	0.5	0.4	5.720
	C - Linked Arm	641	160	32	1300	0.493	643	469	1.5	1.0	5.495

Flows - 2028 with Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 86% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	11.14	B
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	16.11	C

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		1	2 - Bradford-Westwells Junction - B - Westwells Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2028 with Development	PM	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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	888	100.000
	B - Bradford Road (S)		ONE HOUR	✓	372	100.000
	C - Leafy Lane		ONE HOUR	✓	197	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	424	100.000
	B - Westwells Road		ONE HOUR	✓	616	100.000
	C - Linked Arm		ONE HOUR	✓	516	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	645	243
	B - Bradford Road (S)	341	0	31
	C - Leafy Lane	175	22	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	70	354
	B - Westwells Road	82	0	534
	C - Linked Arm	251	265	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.78	12.68	3.4	B	815	1222
	B - Bradford Road (S)	0.48	8.15	0.9	A	341	512
	C - Leafy Lane	0.37	9.83	0.6	A	181	271
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.47	6.78	0.9	A	389	584
	B - Westwells Road	0.86	31.69	5.6	D	565	848
	C - Linked Arm	0.45	5.17	0.8	A	473	710

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	669	167	16	1265	0.528	664	386	0.0	1.1	5.949	
	B - Bradford Road (S)	280	70	182	895	0.313	278	499	0.0	0.5	5.818	
	C - Leafy Lane	148	37	255	655	0.226	147	205	0.0	0.3	7.072	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	319	80	199	1050	0.304	317	249	0.0	0.4	4.900	
	B - Westwells Road	464	116	265	865	0.536	459	251	0.0	1.1	8.775	
	C - Linked Arm	388	97	61	1283	0.303	387	663	0.0	0.4	4.011	

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	798	200	20	1263	0.632	796	463	1.1	1.7	7.668	
	B - Bradford Road (S)	334	84	218	877	0.381	334	598	0.5	0.6	6.622	
	C - Leafy Lane	177	44	306	625	0.284	177	246	0.3	0.4	8.031	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	381	95	238	1028	0.371	381	299	0.4	0.6	5.558	
	B - Westwells Road	554	138	318	832	0.666	551	301	1.1	1.9	12.668	
	C - Linked Arm	464	116	73	1275	0.364	463	795	0.4	0.6	4.432	

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	978	244	24	1260	0.776	971	566	1.7	3.3	12.188	
	B - Bradford Road (S)	410	102	266	852	0.481	408	730	0.6	0.9	8.095	
	C - Leafy Lane	217	54	374	584	0.372	216	300	0.4	0.6	9.777	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	467	117	291	998	0.468	466	364	0.6	0.9	6.749	
	B - Westwells Road	678	170	389	786	0.863	665	368	1.9	5.2	27.210	
	C - Linked Arm	568	142	89	1266	0.449	567	966	0.6	0.8	5.147	

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	978	244	24	1260	0.776	977	568	3.3	3.4	12.678	
	B - Bradford Road (S)	410	102	267	851	0.481	410	734	0.9	0.9	8.154	
	C - Leafy Lane	217	54	375	583	0.372	217	302	0.6	0.6	9.833	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	467	117	292	998	0.468	467	366	0.9	0.9	6.781	
	B - Westwells Road	678	170	390	786	0.863	676	369	5.2	5.6	31.690	
	C - Linked Arm	568	142	90	1265	0.449	568	976	0.8	0.8	5.167	

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	798	200	20	1263	0.632	805	466	3.4	1.8	7.961	
	B - Bradford Road (S)	334	84	220	875	0.382	336	604	0.9	0.6	6.682	
	C - Leafy Lane	177	44	308	624	0.284	178	248	0.6	0.4	8.090	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	381	95	239	1027	0.371	382	302	0.9	0.6	5.592	
	B - Westwells Road	554	138	319	831	0.667	568	302	5.6	2.1	14.375	
	C - Linked Arm	464	116	76	1274	0.364	465	811	0.8	0.6	4.455	

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	669	167	17	1265	0.529	671	389	1.8	1.1	6.087	
	B - Bradford Road (S)	280	70	184	894	0.313	281	504	0.6	0.5	5.872	
	C - Leafy Lane	148	37	257	654	0.227	149	207	0.4	0.3	7.137	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	319	80	200	1049	0.304	320	251	0.6	0.4	4.941	
	B - Westwells Road	464	116	267	864	0.537	467	253	2.1	1.2	9.158	
	C - Linked Arm	388	97	62	1282	0.303	389	672	0.6	0.4	4.035	

Flows - Sensitivity Test, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 85% of the total flow for the roundabout for one or more time segments]
Warning	Mini-roundabout	2 - Bradford-Westwells Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 81% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	16.33	C
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	10.20	B

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		4	1 - Bradford-Leafy Junction - C - Leafy Lane

Traffic Demand

Demand Set Details

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

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

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	619	100.000
	B - Bradford Road (S)		ONE HOUR	✓	671	100.000
	C - Leafy Lane		ONE HOUR	✓	225	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	497	100.000
	B - Westwells Road		ONE HOUR	✓	306	100.000
	C - Linked Arm		ONE HOUR	✓	861	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	466	153
	B - Bradford Road (S)	659	0	12
	C - Leafy Lane	201	24	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	143	354
	B - Westwells Road	41	0	265
	C - Linked Arm	389	472	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.54	6.23	1.2	A	568	852
	B - Bradford Road (S)	0.82	21.63	4.3	C	616	924
	C - Leafy Lane	0.66	28.28	1.9	D	206	310
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.63	11.14	1.7	B	456	684
	B - Westwells Road	0.43	8.02	0.7	A	281	421
	C - Linked Arm	0.73	10.43	2.7	B	790	1185

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	466	117	18	1264	0.369	464	641	0.0	0.6	4.485
	B - Bradford Road (S)	505	126	115	930	0.543	501	367	0.0	1.2	8.295
	C - Leafy Lane	169	42	492	513	0.330	167	124	0.0	0.5	10.352
2 - Bradford-Westwells Junction	A - Bradford Road (N)	374	94	353	963	0.388	372	322	0.0	0.6	6.061
	B - Westwells Road	230	58	265	865	0.266	229	460	0.0	0.4	5.644
	C - Linked Arm	648	162	31	1301	0.498	644	463	0.0	1.0	5.444

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	556	139	21	1262	0.441	556	769	0.6	0.8	5.092
	B - Bradford Road (S)	603	151	137	918	0.657	600	440	1.2	1.9	11.226
	C - Leafy Lane	202	51	590	454	0.445	201	148	0.5	0.8	14.139
2 - Bradford-Westwells Junction	A - Bradford Road (N)	447	112	423	924	0.484	446	386	0.6	0.9	7.510
	B - Westwells Road	275	69	317	832	0.331	275	552	0.4	0.5	6.455
	C - Linked Arm	774	194	37	1298	0.596	772	555	1.0	1.5	6.825

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	682	170	26	1259	0.541	680	935	0.8	1.2	6.199
	B - Bradford Road (S)	739	185	168	902	0.819	730	538	1.9	4.0	19.917
	C - Leafy Lane	248	62	717	378	0.655	244	181	0.8	1.8	26.057
2 - Bradford-Westwells Junction	A - Bradford Road (N)	547	137	517	871	0.628	544	471	0.9	1.6	10.916
	B - Westwells Road	337	84	388	787	0.428	336	674	0.5	0.7	7.963
	C - Linked Arm	948	237	45	1293	0.733	943	679	1.5	2.6	10.165

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	682	170	26	1259	0.541	681	946	1.2	1.2	6.233
	B - Bradford Road (S)	739	185	168	902	0.819	738	539	4.0	4.3	21.629
	C - Leafy Lane	248	62	725	374	0.663	247	182	1.8	1.9	28.284
2 - Bradford-Westwells Junction	A - Bradford Road (N)	547	137	520	870	0.629	547	473	1.6	1.7	11.142
	B - Westwells Road	337	84	390	786	0.429	337	677	0.7	0.7	8.018
	C - Linked Arm	948	237	45	1292	0.733	948	681	2.6	2.7	10.426

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	556	139	22	1262	0.441	558	786	1.2	0.8	5.128
	B - Bradford Road (S)	603	151	138	918	0.657	612	442	4.3	2.0	12.102
	C - Leafy Lane	202	51	601	448	0.452	206	149	1.9	0.8	15.167
2 - Bradford-Westwells Junction	A - Bradford Road (N)	447	112	427	922	0.485	450	389	1.7	1.0	7.668
	B - Westwells Road	275	69	320	830	0.331	276	556	0.7	0.5	6.509
	C - Linked Arm	774	194	37	1298	0.597	779	559	2.7	1.5	7.003

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)
1 - Bradford-Leafy Junction	A - Linked Arm	466	117	18	1264	0.369	467	652	0.8	0.6	4.520
	B - Bradford Road (S)	505	126	115	930	0.543	508	370	2.0	1.2	8.605
	C - Leafy Lane	169	42	499	509	0.333	171	124	0.8	0.5	10.694
2 - Bradford-Westwells Junction	A - Bradford Road (N)	374	94	356	961	0.389	375	325	1.0	0.6	6.159
	B - Westwells Road	230	58	267	864	0.267	231	464	0.5	0.4	5.693
	C - Linked Arm	648	162	31	1301	0.498	650	467	1.5	1.0	5.545

Flows - Sensitivity Test, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Bradford-Leafy Junction	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and B have 86% of the total flow for the roundabout for one or more time segments]
Warning	Linked Roundabout	1 - Bradford-Leafy Junction - A - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Linked Roundabout	2 - Bradford-Westwells Junction - C - Linked Arm	Linked arm is using backward compatibility exit restriction mode. See User Guide for details.
Warning	Vehicle Mix	1 - Bradford-Leafy Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - Bradford-Westwells Junction	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Bradford-Leafy Junction	Mini-roundabout		A, B, C	11.18	B
2	Bradford-Westwells Junction	Mini-roundabout		A, B, C	16.34	C

Junction Network Options

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	Normal/unknown		1	2 - Bradford-Westwells Junction - B - Westwells Road

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	Sensitivity Test	PM	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)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Bradford-Leafy Junction	A - Linked Arm		ONE HOUR	✓	889	100.000
	B - Bradford Road (S)		ONE HOUR	✓	374	100.000
	C - Leafy Lane		ONE HOUR	✓	197	100.000
2 - Bradford-Westwells Junction	A - Bradford Road (N)		ONE HOUR	✓	426	100.000
	B - Westwells Road		ONE HOUR	✓	618	100.000
	C - Linked Arm		ONE HOUR	✓	518	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	646	243
	B - Bradford Road (S)	343	0	31
	C - Leafy Lane	175	22	0

Demand (PCU/hr)

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	72	354
	B - Westwells Road	83	0	535
	C - Linked Arm	251	267	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Bradford-Leafy Junction

	To			
		A - Linked Arm	B - Bradford Road (S)	C - Leafy Lane
From	A - Linked Arm	0	0	0
	B - Bradford Road (S)	0	0	0
	C - Leafy Lane	0	0	0

Heavy Vehicle Percentages

2 - Bradford-Westwells Junction

	To			
		A - Bradford Road (N)	B - Westwells Road	C - Linked Arm
From	A - Bradford Road (N)	0	0	0
	B - Westwells Road	0	0	0
	C - Linked Arm	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Bradford-Leafy Junction	A - Linked Arm	0.78	12.73	3.4	B	816	1224
	B - Bradford Road (S)	0.48	8.19	0.9	A	343	515
	C - Leafy Lane	0.37	9.87	0.6	A	181	271
2 - Bradford-Westwells Junction	A - Bradford Road (N)	0.47	6.83	0.9	A	391	586
	B - Westwells Road	0.87	32.25	5.7	D	567	851
	C - Linked Arm	0.45	5.19	0.8	A	475	713

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	669	167	16	1265	0.529	665	387	0.0	1.1	5.954	
	B - Bradford Road (S)	282	70	182	895	0.314	280	500	0.0	0.5	5.832	
	C - Leafy Lane	148	37	257	654	0.227	147	205	0.0	0.3	7.085	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	321	80	200	1049	0.306	319	250	0.0	0.4	4.919	
	B - Westwells Road	465	116	265	865	0.538	461	254	0.0	1.1	8.806	
	C - Linked Arm	390	97	62	1282	0.304	388	664	0.0	0.4	4.020	

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	799	200	20	1263	0.633	797	465	1.1	1.7	7.683	
	B - Bradford Road (S)	336	84	218	877	0.384	336	599	0.5	0.6	6.644	
	C - Leafy Lane	177	44	308	623	0.284	177	246	0.3	0.4	8.050	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	383	96	240	1027	0.373	382	300	0.4	0.6	5.582	
	B - Westwells Road	556	139	318	832	0.668	552	304	1.1	1.9	12.745	
	C - Linked Arm	466	116	74	1274	0.365	465	796	0.4	0.6	4.445	

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	979	245	24	1260	0.777	972	569	1.7	3.3	12.231	
	B - Bradford Road (S)	412	103	266	852	0.483	411	731	0.6	0.9	8.135	
	C - Leafy Lane	217	54	377	582	0.373	216	300	0.4	0.6	9.812	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	469	117	293	997	0.471	468	365	0.6	0.9	6.793	
	B - Westwells Road	680	170	389	786	0.865	667	373	1.9	5.2	27.566	
	C - Linked Arm	570	143	90	1265	0.451	569	966	0.6	0.8	5.168	

17:30 - 17:45

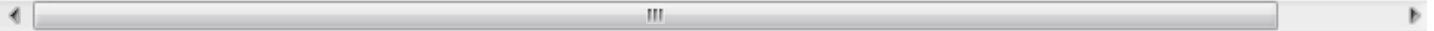
Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	979	245	24	1260	0.777	978	570	3.3	3.4	12.727	
	B - Bradford Road (S)	412	103	267	851	0.484	412	735	0.9	0.9	8.195	
	C - Leafy Lane	217	54	378	582	0.373	217	302	0.6	0.6	9.868	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	469	117	294	996	0.471	469	367	0.9	0.9	6.826	
	B - Westwells Road	680	170	390	786	0.866	678	373	5.2	5.7	32.246	
	C - Linked Arm	570	143	91	1264	0.451	570	977	0.8	0.8	5.189	

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	799	200	20	1263	0.633	806	467	3.4	1.8	7.978	
	B - Bradford Road (S)	336	84	220	875	0.384	337	605	0.9	0.6	6.705	
	C - Leafy Lane	177	44	309	622	0.285	178	248	0.6	0.4	8.110	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	383	96	241	1026	0.373	384	303	0.9	0.6	5.614	
	B - Westwells Road	556	139	319	831	0.669	570	305	5.7	2.1	14.516	
	C - Linked Arm	466	116	77	1273	0.366	467	813	0.8	0.6	4.470	

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	U
1 - Bradford-Leafy Junction	A - Linked Arm	669	167	17	1265	0.529	672	391	1.8	1.1	6.095	
	B - Bradford Road (S)	282	70	184	894	0.315	282	505	0.6	0.5	5.887	
	C - Leafy Lane	148	37	259	653	0.227	149	207	0.4	0.3	7.150	
2 - Bradford-Westwells Junction	A - Bradford Road (N)	321	80	201	1048	0.306	321	252	0.6	0.4	4.955	
	B - Westwells Road	465	116	267	864	0.539	469	256	2.1	1.2	9.197	
	C - Linked Arm	390	97	63	1281	0.304	391	673	0.6	0.4	4.044	



Appendix 5

Junctions 9															
ARCADY 9 - Roundabout Module															
Version: 9.5.1.7462 © Copyright TRL Limited, 2019															
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Filename: Park Lane rbt_v2-0.j9

Path: P:\2022\IMA-22-188 Spring Park Expansion - P6\Assessments\Park Lane Rbt

Report generation date: 30/06/2023 17:17:52

- »2019 Survey, AM
- »2019 Survey, PM
- »2028 Baseline, AM
- »2028 Baseline , PM
- »2028 with Dev, AM
- »2028 with Dev, PM
- »Sensitivity Test, AM
- »Sensitivity Test, PM

Summary of junction performance

	AM								PM							
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2019 Survey															
Arm A	D1	0.2	3.30	0.15	A	4.65	A	120 % [Arm C]	D2	0.7	4.29	0.40	A	4.26	A	120 % [Arm A]
Arm B		0.0	3.72	0.01	A					0.0	4.90	0.04	A			
Arm C		0.7	5.57	0.40	A					0.4	4.83	0.26	A			
Arm D		0.4	4.30	0.28	A					0.1	3.09	0.12	A			
	2028 Baseline															
Arm A	D3	0.3	3.42	0.25	A	5.84	A	55 % [Arm C]	D4	1.2	5.56	0.54	A	5.22	A	67 % [Arm A]
Arm B		0.0	4.13	0.03	A					0.1	5.86	0.06	A			
Arm C		1.3	7.66	0.57	A					0.6	5.55	0.37	A			
Arm D		0.6	5.19	0.37	A					0.2	3.30	0.16	A			
	2028 with Dev															
Arm A	D5	0.3	3.38	0.24	A	6.25	A	48 % [Arm C]	D6	1.3	5.79	0.56	A	5.34	A	62 % [Arm A]
Arm B		0.0	4.10	0.03	A					0.1	6.00	0.06	A			
Arm C		1.5	8.29	0.61	A					0.6	5.48	0.36	A			
Arm D		0.6	5.35	0.37	A					0.2	3.26	0.16	A			
	Sensitivity Test															
Arm A	D7	0.3	3.36	0.23	A	6.44	A	44 % [Arm C]	D8	1.3	5.81	0.56	A	5.37	A	61 % [Arm A]
Arm B		0.0	4.09	0.03	A					0.1	6.02	0.06	A			
Arm C		1.6	8.59	0.62	A					0.6	5.51	0.36	A			
Arm D		0.6	5.42	0.37	A					0.2	3.27	0.16	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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Spring Park Business Centre
Location	Corsham
Site number	
Date	03/10/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	IMA-19-137
Enumerator	IMA-TP\TRL
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Survey	AM	ONE HOUR	07:45	09:15	15	✓
D2	2019 Survey	PM	ONE HOUR	16:45	18:15	15	✓
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15	✓
D4	2028 Baseline	PM	ONE HOUR	16:45	18:15	15	✓
D5	2028 with Dev	AM	ONE HOUR	07:45	09:15	15	✓
D6	2028 with Dev	PM	ONE HOUR	16:45	18:15	15	✓
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15	✓
D8	Sensitivity Test	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

2019 Survey, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	4.65	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	120	Arm C

Arms

Arms

Arm	Name	Description
A	Westwells Road (E)	
B	MoD Rudloe	
C	Westwells Road (W)	
D	Park Lane	

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)	Exit only
A	3.30	5.42	8.1	27.0	32.0	4.0	
B	3.50	3.50	0.0	25.0	32.0	12.0	
C	2.55	5.63	7.7	24.0	32.0	38.0	
D	2.90	6.49	13.8	14.0	32.0	33.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.644	1488
B	0.563	1137
C	0.539	1158
D	0.590	1426

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	2019 Survey	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	198	100.000
B		ONE HOUR	✓	6	100.000
C		ONE HOUR	✓	410	100.000
D		ONE HOUR	✓	305	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	24	124	50
	B	5	0	0	1
	C	340	7	0	63
	D	206	8	91	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	0	12	9
	B	0	0	0	0
	C	4	0	0	5
	D	1	0	8	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.15	3.30	0.2	A	182	273
B	0.01	3.72	0.0	A	6	8
C	0.40	5.57	0.7	A	376	564
D	0.28	4.30	0.4	A	280	420

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	149	37	79	1436	0.104	149	413	0.0	0.1	3.062	A
B	5	1	199	1025	0.004	4	29	0.0	0.0	3.526	A
C	309	77	42	1135	0.272	307	161	0.0	0.4	4.518	A
D	230	57	264	1271	0.181	229	85	0.0	0.2	3.554	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	178	44	95	1426	0.125	178	495	0.1	0.2	3.161	A
B	5	1	238	1003	0.005	5	35	0.0	0.0	3.607	A
C	369	92	50	1130	0.326	368	193	0.4	0.5	4.911	A
D	274	69	316	1240	0.221	274	102	0.2	0.3	3.838	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	218	55	117	1413	0.154	218	606	0.2	0.2	3.303	A
B	7	2	291	973	0.007	7	43	0.0	0.0	3.724	A
C	451	113	62	1124	0.401	451	236	0.5	0.7	5.556	A
D	336	84	387	1198	0.280	335	125	0.3	0.4	4.296	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	218	55	117	1413	0.154	218	607	0.2	0.2	3.303	A
B	7	2	292	973	0.007	7	43	0.0	0.0	3.725	A
C	451	113	62	1124	0.401	451	237	0.7	0.7	5.567	A
D	336	84	388	1197	0.280	336	126	0.4	0.4	4.301	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	178	44	95	1426	0.125	178	496	0.2	0.2	3.162	A
B	5	1	239	1003	0.005	5	35	0.0	0.0	3.611	A
C	369	92	50	1130	0.326	369	194	0.7	0.5	4.927	A
D	274	69	317	1239	0.221	275	103	0.4	0.3	3.846	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	149	37	80	1436	0.104	149	415	0.2	0.1	3.066	A
B	5	1	200	1025	0.004	5	29	0.0	0.0	3.530	A
C	309	77	42	1135	0.272	309	162	0.5	0.4	4.539	A
D	230	57	265	1270	0.181	230	86	0.3	0.2	3.565	A

2019 Survey, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	4.26	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	120	Arm 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	2019 Survey	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	520	100.000
B		ONE HOUR	✓	25	100.000
C		ONE HOUR	✓	251	100.000
D		ONE HOUR	✓	149	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	3	352	165
	B	5	0	10	10
	C	105	0	0	146
	D	60	0	89	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	D	
From	A	0	60	2	0
	B	0	0	0	0
	C	1	0	0	6
	D	0	0	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.40	4.29	0.7	A	477	716
B	0.04	4.90	0.0	A	23	34
C	0.26	4.83	0.4	A	230	345
D	0.12	3.09	0.1	A	137	205

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	391	98	67	1445	0.271	390	127	0.0	0.4	3.462	A
B	19	5	455	881	0.021	19	2	0.0	0.0	4.174	A
C	189	47	135	1085	0.174	188	338	0.0	0.2	4.166	A
D	112	28	82	1377	0.081	112	241	0.0	0.1	2.911	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	467	117	80	1436	0.326	467	153	0.4	0.5	3.770	A
B	22	6	544	831	0.027	22	3	0.0	0.0	4.454	A
C	226	56	162	1070	0.211	225	405	0.2	0.3	4.423	A
D	134	33	99	1368	0.098	134	288	0.1	0.1	2.985	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	573	143	98	1425	0.402	572	187	0.5	0.7	4.284	A
B	28	7	666	762	0.036	27	3	0.0	0.0	4.902	A
C	276	69	198	1051	0.263	276	496	0.3	0.4	4.822	A
D	164	41	121	1355	0.121	164	353	0.1	0.1	3.093	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	573	143	98	1425	0.402	573	187	0.7	0.7	4.291	A
B	28	7	667	761	0.036	28	3	0.0	0.0	4.905	A
C	276	69	198	1051	0.263	276	497	0.4	0.4	4.827	A
D	164	41	121	1355	0.121	164	353	0.1	0.1	3.094	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	467	117	80	1436	0.326	468	153	0.7	0.5	3.779	A
B	22	6	546	830	0.027	23	3	0.0	0.0	4.460	A
C	226	56	162	1070	0.211	226	406	0.4	0.3	4.429	A
D	134	33	99	1368	0.098	134	289	0.1	0.1	2.986	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	391	98	67	1444	0.271	392	128	0.5	0.4	3.474	A
B	19	5	457	880	0.021	19	2	0.0	0.0	4.182	A
C	189	47	136	1084	0.174	189	340	0.3	0.2	4.176	A
D	112	28	83	1377	0.081	112	242	0.1	0.1	2.914	A

2028 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	5.84	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	55	Arm 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
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	312	100.000
B		ONE HOUR	✓	25	100.000
C		ONE HOUR	✓	573	100.000
D		ONE HOUR	✓	364	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	26	201	85
	B	5	0	14	6
	C	485	20	0	68
	D	256	10	98	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.25	3.42	0.3	A	286	429
B	0.03	4.13	0.0	A	23	34
C	0.57	7.66	1.3	A	526	789
D	0.37	5.19	0.6	A	334	501

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	235	59	96	1426	0.165	234	559	0.0	0.2	3.019	A
B	19	5	288	975	0.019	19	42	0.0	0.0	3.764	A
C	431	108	72	1119	0.386	429	235	0.0	0.6	5.199	A
D	274	69	382	1201	0.228	273	119	0.0	0.3	3.874	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	280	70	115	1414	0.198	280	670	0.2	0.2	3.176	A
B	22	6	345	943	0.024	22	50	0.0	0.0	3.911	A
C	515	129	86	1111	0.464	514	281	0.6	0.9	6.020	A
D	327	82	458	1156	0.283	327	143	0.3	0.4	4.339	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	344	86	141	1397	0.246	343	819	0.2	0.3	3.416	A
B	28	7	422	899	0.031	27	62	0.0	0.0	4.129	A
C	631	158	106	1101	0.573	629	344	0.9	1.3	7.601	A
D	401	100	560	1096	0.366	400	175	0.4	0.6	5.169	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	344	86	141	1397	0.246	344	821	0.3	0.3	3.416	A
B	28	7	423	899	0.031	28	62	0.0	0.0	4.130	A
C	631	158	106	1101	0.573	631	345	1.3	1.3	7.659	A
D	401	100	561	1095	0.366	401	175	0.6	0.6	5.186	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	280	70	115	1413	0.198	281	673	0.3	0.2	3.178	A
B	22	6	346	942	0.024	23	50	0.0	0.0	3.914	A
C	515	129	86	1111	0.464	517	282	1.3	0.9	6.079	A
D	327	82	460	1155	0.283	328	143	0.6	0.4	4.358	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	235	59	97	1426	0.165	235	563	0.2	0.2	3.023	A
B	19	5	289	974	0.019	19	42	0.0	0.0	3.770	A
C	431	108	72	1119	0.386	432	236	0.9	0.6	5.252	A
D	274	69	385	1199	0.229	274	120	0.4	0.3	3.895	A

2028 Baseline , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	5.22	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	67	Arm 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	2028 Baseline	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	692	100.000
B		ONE HOUR	✓	33	100.000
C		ONE HOUR	✓	341	100.000
D		ONE HOUR	✓	192	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	3	481	208
	B	5	0	17	11
	C	173	11	0	157
	D	92	4	96	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.54	5.56	1.2	A	635	952
B	0.06	5.86	0.1	A	30	46
C	0.37	5.55	0.6	A	313	469
D	0.16	3.30	0.2	A	176	264

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	521	130	83	1434	0.363	519	203	0.0	0.6	3.924	A
B	25	6	588	806	0.031	25	13	0.0	0.0	4.610	A
C	257	64	168	1067	0.241	255	445	0.0	0.3	4.430	A
D	145	36	142	1342	0.108	144	282	0.0	0.1	3.002	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	622	156	100	1423	0.437	621	243	0.6	0.8	4.483	A
B	30	7	705	740	0.040	30	16	0.0	0.0	5.067	A
C	307	77	201	1049	0.292	306	533	0.3	0.4	4.844	A
D	173	43	170	1326	0.130	172	338	0.1	0.1	3.121	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	762	190	122	1409	0.541	760	297	0.8	1.2	5.536	A
B	37	9	863	651	0.056	36	20	0.0	0.1	5.855	A
C	375	94	247	1025	0.366	375	653	0.4	0.6	5.533	A
D	211	53	208	1303	0.162	211	413	0.1	0.2	3.296	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	762	190	122	1409	0.541	762	298	1.2	1.2	5.563	A
B	37	9	864	650	0.056	37	20	0.1	0.1	5.864	A
C	375	94	247	1024	0.366	375	654	0.6	0.6	5.546	A
D	211	53	209	1303	0.162	211	414	0.2	0.2	3.296	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	622	156	100	1423	0.437	624	243	1.2	0.8	4.510	A
B	30	7	707	739	0.040	30	16	0.1	0.0	5.080	A
C	307	77	202	1049	0.292	307	535	0.6	0.4	4.859	A
D	173	43	171	1325	0.130	173	339	0.2	0.2	3.122	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	521	130	84	1434	0.363	522	204	0.8	0.6	3.950	A
B	25	6	592	804	0.031	25	14	0.0	0.0	4.624	A
C	257	64	169	1066	0.241	257	448	0.4	0.3	4.450	A
D	145	36	143	1342	0.108	145	284	0.2	0.1	3.006	A

2028 with Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	6.25	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	48	Arm 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
D5	2028 with Dev	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	301	100.000
B		ONE HOUR	✓	25	100.000
C		ONE HOUR	✓	610	100.000
D		ONE HOUR	✓	361	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	26	199	76
	B	5	0	14	6
	C	522	20	0	68
	D	253	10	98	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.24	3.38	0.3	A	276	414
B	0.03	4.10	0.0	A	23	35
C	0.61	8.29	1.5	A	560	840
D	0.37	5.35	0.6	A	331	497

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	227	57	96	1426	0.159	226	584	0.0	0.2	2.998	A
B	19	5	280	980	0.020	19	42	0.0	0.0	3.747	A
C	459	115	66	1122	0.409	456	233	0.0	0.7	5.386	A
D	272	68	410	1184	0.229	271	112	0.0	0.3	3.935	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	271	68	115	1414	0.191	270	700	0.2	0.2	3.148	A
B	23	6	335	948	0.024	23	50	0.0	0.0	3.889	A
C	548	137	78	1115	0.492	547	279	0.7	1.0	6.326	A
D	325	81	491	1136	0.286	324	135	0.3	0.4	4.430	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	331	83	141	1397	0.237	331	857	0.2	0.3	3.377	A
B	28	7	410	906	0.031	28	62	0.0	0.0	4.099	A
C	672	168	96	1106	0.607	669	342	1.0	1.5	8.206	A
D	397	99	601	1072	0.371	397	165	0.4	0.6	5.328	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	331	83	141	1397	0.237	331	859	0.3	0.3	3.377	A
B	28	7	411	906	0.031	28	62	0.0	0.0	4.100	A
C	672	168	96	1106	0.607	672	342	1.5	1.5	8.287	A
D	397	99	603	1071	0.371	397	165	0.6	0.6	5.348	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	271	68	115	1413	0.191	271	704	0.3	0.2	3.153	A
B	23	6	336	948	0.024	23	50	0.0	0.0	3.891	A
C	548	137	79	1115	0.492	551	280	1.5	1.0	6.402	A
D	325	81	494	1135	0.286	325	135	0.6	0.4	4.451	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	227	57	97	1426	0.159	227	589	0.2	0.2	3.005	A
B	19	5	281	979	0.020	19	42	0.0	0.0	3.750	A
C	459	115	66	1122	0.409	460	234	1.0	0.7	5.450	A
D	272	68	413	1182	0.230	272	113	0.4	0.3	3.958	A

2028 with Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	5.34	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	62	Arm A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2028 with Dev	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	715	100.000
B		ONE HOUR	✓	33	100.000
C		ONE HOUR	✓	335	100.000
D		ONE HOUR	✓	185	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	3	507	205
	B	5	0	17	11
	C	167	11	0	157
	D	85	4	96	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.56	5.79	1.3	A	656	984
B	0.06	6.00	0.1	A	30	46
C	0.36	5.48	0.6	A	307	461
D	0.16	3.26	0.2	A	170	255

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	538	135	83	1434	0.375	536	193	0.0	0.6	3.998	A
B	25	6	606	796	0.031	25	13	0.0	0.0	4.668	A
C	252	63	166	1068	0.236	251	465	0.0	0.3	4.399	A
D	139	35	137	1345	0.104	139	280	0.0	0.1	2.984	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	643	161	100	1423	0.452	642	231	0.6	0.8	4.601	A
B	30	7	725	729	0.041	30	16	0.0	0.0	5.151	A
C	301	75	199	1050	0.287	301	556	0.3	0.4	4.800	A
D	166	42	165	1329	0.125	166	335	0.1	0.1	3.095	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	787	197	122	1409	0.559	785	283	0.8	1.2	5.757	A
B	37	9	888	637	0.057	36	20	0.0	0.1	5.993	A
C	369	92	243	1027	0.359	368	681	0.4	0.6	5.464	A
D	204	51	202	1307	0.156	204	410	0.1	0.2	3.261	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	787	197	122	1409	0.559	787	283	1.2	1.3	5.789	A
B	37	9	890	636	0.057	37	20	0.1	0.1	6.003	A
C	369	92	244	1026	0.359	369	682	0.6	0.6	5.475	A
D	204	51	202	1307	0.156	204	411	0.2	0.2	3.262	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	643	161	100	1423	0.452	644	232	1.3	0.8	4.633	A
B	30	7	728	727	0.041	30	16	0.1	0.0	5.166	A
C	301	75	200	1050	0.287	302	558	0.6	0.4	4.814	A
D	166	42	165	1329	0.125	166	336	0.2	0.1	3.099	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	538	135	84	1434	0.375	539	194	0.8	0.6	4.029	A
B	25	6	609	794	0.031	25	14	0.0	0.0	4.681	A
C	252	63	167	1068	0.236	253	467	0.4	0.3	4.420	A
D	139	35	138	1345	0.104	139	281	0.1	0.1	2.989	A

Sensitivity Test, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	6.44	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	44	Arm 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
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	297	100.000
B		ONE HOUR	✓	25	100.000
C		ONE HOUR	✓	624	100.000
D		ONE HOUR	✓	361	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	26	195	76
	B	5	0	14	6
	C	536	20	0	68
	D	253	10	98	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.23	3.36	0.3	A	273	409
B	0.03	4.09	0.0	A	23	35
C	0.62	8.59	1.6	A	573	859
D	0.37	5.42	0.6	A	331	497

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	224	56	96	1426	0.157	223	595	0.0	0.2	2.991	A
B	19	5	277	981	0.019	19	42	0.0	0.0	3.740	A
C	470	117	66	1122	0.419	467	230	0.0	0.7	5.471	A
D	272	68	420	1178	0.231	271	112	0.0	0.3	3.961	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	267	67	115	1414	0.189	267	713	0.2	0.2	3.138	A
B	23	6	331	950	0.024	23	50	0.0	0.0	3.880	A
C	561	140	78	1115	0.503	560	276	0.7	1.0	6.468	A
D	325	81	504	1129	0.287	324	135	0.3	0.4	4.471	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	327	82	141	1397	0.234	327	872	0.2	0.3	3.363	A
B	28	7	406	909	0.031	28	62	0.0	0.0	4.087	A
C	687	172	96	1106	0.621	685	338	1.0	1.6	8.497	A
D	397	99	616	1063	0.374	397	165	0.4	0.6	5.400	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	327	82	141	1397	0.234	327	875	0.3	0.3	3.363	A
B	28	7	406	908	0.031	28	62	0.0	0.0	4.088	A
C	687	172	96	1106	0.621	687	338	1.6	1.6	8.592	A
D	397	99	618	1061	0.374	397	165	0.6	0.6	5.421	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	267	67	115	1413	0.189	267	717	0.3	0.2	3.141	A
B	23	6	332	950	0.024	23	50	0.0	0.0	3.882	A
C	561	140	79	1115	0.503	563	276	1.6	1.0	6.550	A
D	325	81	507	1127	0.288	325	135	0.6	0.4	4.493	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	224	56	97	1426	0.157	224	599	0.2	0.2	2.995	A
B	19	5	278	980	0.019	19	42	0.0	0.0	3.746	A
C	470	117	66	1122	0.419	471	231	1.0	0.7	5.540	A
D	272	68	424	1176	0.231	272	113	0.4	0.3	3.984	A

Sensitivity Test, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Park Lane	Standard Roundabout		A, B, C, D	5.37	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	61	Arm A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	Sensitivity Test	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	717	100.000
B		ONE HOUR	✓	33	100.000
C		ONE HOUR	✓	339	100.000
D		ONE HOUR	✓	185	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	3	509	205
	B	5	0	17	11
	C	171	11	0	157
	D	85	4	96	0

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.56	5.81	1.3	A	658	987
B	0.06	6.02	0.1	A	30	46
C	0.36	5.51	0.6	A	311	467
D	0.16	3.27	0.2	A	170	255

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	540	135	83	1434	0.376	537	196	0.0	0.6	4.005	A
B	25	6	607	795	0.031	25	13	0.0	0.0	4.673	A
C	255	64	166	1068	0.239	254	466	0.0	0.3	4.415	A
D	139	35	140	1343	0.104	139	280	0.0	0.1	2.989	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	645	161	100	1423	0.453	644	235	0.6	0.8	4.612	A
B	30	7	727	728	0.041	30	16	0.0	0.0	5.159	A
C	305	76	199	1050	0.290	304	558	0.3	0.4	4.823	A
D	166	42	168	1327	0.125	166	335	0.1	0.1	3.101	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	789	197	122	1409	0.560	788	287	0.8	1.3	5.777	A
B	37	9	890	636	0.057	36	20	0.0	0.1	6.005	A
C	373	93	243	1027	0.364	373	683	0.4	0.6	5.499	A
D	204	51	206	1305	0.156	204	410	0.1	0.2	3.269	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	789	197	122	1409	0.560	789	288	1.3	1.3	5.810	A
B	37	9	892	635	0.058	37	20	0.1	0.1	6.015	A
C	373	93	244	1026	0.364	373	685	0.6	0.6	5.512	A
D	204	51	206	1304	0.156	204	411	0.2	0.2	3.269	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	645	161	100	1423	0.453	646	235	1.3	0.8	4.642	A
B	30	7	730	726	0.041	30	16	0.1	0.0	5.171	A
C	305	76	200	1050	0.290	305	560	0.6	0.4	4.839	A
D	166	42	169	1327	0.125	166	336	0.2	0.1	3.103	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	540	135	84	1434	0.376	541	197	0.8	0.6	4.034	A
B	25	6	611	793	0.031	25	14	0.0	0.0	4.686	A
C	255	64	167	1068	0.239	256	469	0.4	0.3	4.436	A
D	139	35	141	1343	0.104	139	281	0.1	0.1	2.991	A

Appendix 6

Junctions 9															
ARCADY 9 - Roundabout Module															
Version: 9.5.1.7462															
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Filename: Spring Park Rdbt_v2-0.j9

Path: P:\2022\IMA-22-188 Spring Park Expansion - P6\Assessments\Site Access

Report generation date: 30/06/2023 17:24:10

- »2019 Survey, AM
- »2019 Survey, PM
- »2028 Baseline, AM
- »2028 Baseline, PM
- »2028 with Development, AM
- »2028 with Development, PM
- »Sensitivity Test, AM
- »Sensitivity Test, PM

Summary of junction performance

	AM								PM							
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2019 Survey															
Arm A	D1	0.2	2.97	0.14	A	2.65	A	298 % [Arm C]	D2	0.4	3.36	0.29	A	2.97	A	226 % [Arm A]
Arm B		0.0	4.30	0.01	A					0.0	2.97	0.03	A			
Arm C		0.3	2.45	0.24	A					0.1	2.06	0.10	A			
	2028 Baseline															
Arm A	D3	0.2	3.07	0.19	A	2.82	A	195 % [Arm C]	D4	0.5	3.55	0.33	A	3.10	A	178 % [Arm A]
Arm B		0.0	2.69	0.02	A					0.1	3.31	0.11	A			
Arm C		0.5	2.72	0.32	A					0.2	2.12	0.13	A			
	2028 with Development															
Arm A	D5	0.2	3.04	0.18	A	2.86	A	179 % [Arm C]	D6	0.5	3.63	0.35	A	3.18	A	166 % [Arm A]
Arm B		0.0	2.68	0.02	A					0.1	3.35	0.11	A			
Arm C		0.5	2.80	0.34	A					0.1	2.10	0.12	A			
	Sensitivity Test															
Arm A	D7	0.2	3.03	0.18	A	2.88	A	172 % [Arm C]	D8	0.5	3.64	0.35	A	3.18	A	165 % [Arm A]
Arm B		0.0	2.67	0.02	A					0.1	3.36	0.11	A			
Arm C		0.5	2.84	0.35	A					0.1	2.11	0.13	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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Spring Park Rdbt.
Location	Corsham
Site number	
Date	04/10/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	IMA-19-137
Enumerator	IMA-TP\TRL
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Survey	AM	ONE HOUR	07:45	09:15	15	✓
D2	2019 Survey	PM	ONE HOUR	16:45	18:15	15	✓
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15	✓
D4	2028 Baseline	PM	ONE HOUR	16:45	18:15	15	✓
D5	2028 with Development	AM	ONE HOUR	07:45	09:15	15	✓
D6	2028 with Development	PM	ONE HOUR	16:45	18:15	15	✓
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15	✓
D8	Sensitivity Test	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

2019 Survey, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	2.65	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	298	Arm C

Arms

Arms

Arm	Name	Description
A	Westwells Road (E)	
B	Spring Park	
C	Westwells Road (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	4.45	6.07	7.1	15.0	30.0	42.0	
B	3.69	6.36	12.5	15.0	30.0	39.0	
C	4.75	6.79	9.4	15.0	30.0	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.607	1537
B	0.607	1523
C	0.739	1963

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	2019 Survey	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	198	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	425	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	12	186
	B	9	0	5
	C	383	42	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	43	5
	B	60	0	75
	C	1	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.14	2.97	0.2	A	182	273
B	0.01	4.30	0.0	A	13	19
C	0.24	2.45	0.3	A	390	585

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	149	37	32	1518	0.098	149	294	0.0	0.1	2.805	A
B	11	3	140	1438	0.007	10	41	0.0	0.0	4.162	A
C	320	80	7	1958	0.163	319	143	0.0	0.2	2.224	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	178	44	38	1514	0.118	178	352	0.1	0.1	2.874	A
B	13	3	167	1421	0.009	13	49	0.0	0.0	4.217	A
C	382	96	8	1957	0.195	382	172	0.2	0.2	2.315	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	218	55	46	1509	0.144	218	431	0.1	0.2	2.974	A
B	15	4	205	1398	0.011	15	59	0.0	0.0	4.295	A
C	468	117	10	1955	0.239	468	210	0.2	0.3	2.450	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	218	55	46	1509	0.144	218	432	0.2	0.2	2.974	A
B	15	4	205	1398	0.011	15	59	0.0	0.0	4.296	A
C	468	117	10	1955	0.239	468	210	0.3	0.3	2.450	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	178	44	38	1514	0.118	178	353	0.2	0.1	2.877	A
B	13	3	167	1421	0.009	13	49	0.0	0.0	4.220	A
C	382	96	8	1957	0.195	382	172	0.3	0.2	2.317	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	149	37	32	1518	0.098	149	295	0.1	0.1	2.806	A
B	11	3	140	1438	0.007	11	41	0.0	0.0	4.165	A
C	320	80	7	1958	0.163	320	144	0.2	0.2	2.226	A

2019 Survey, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	2.97	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	226	Arm 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	2019 Survey	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	403	100.000
B		ONE HOUR	✓	39	100.000
C		ONE HOUR	✓	174	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	2	401
	B	5	0	34
	C	170	4	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	2
	B	0	0	0
	C	1	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.29	3.36	0.4	A	370	555
B	0.03	2.97	0.0	A	36	54
C	0.10	2.06	0.1	A	160	239

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	303	76	3	1535	0.198	302	131	0.0	0.3	2.975	A
B	29	7	301	1340	0.022	29	5	0.0	0.0	2.746	A
C	131	33	4	1960	0.067	131	326	0.0	0.1	1.989	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	362	91	4	1535	0.236	362	157	0.3	0.3	3.130	A
B	35	9	360	1304	0.027	35	5	0.0	0.0	2.836	A
C	156	39	4	1959	0.080	156	391	0.1	0.1	2.017	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	444	111	4	1535	0.289	443	193	0.3	0.4	3.365	A
B	43	11	441	1255	0.034	43	7	0.0	0.0	2.969	A
C	192	48	6	1959	0.098	191	479	0.1	0.1	2.058	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	444	111	4	1535	0.289	444	193	0.4	0.4	3.365	A
B	43	11	442	1255	0.034	43	7	0.0	0.0	2.970	A
C	192	48	6	1959	0.098	192	479	0.1	0.1	2.058	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	362	91	4	1535	0.236	363	157	0.4	0.3	3.134	A
B	35	9	361	1304	0.027	35	5	0.0	0.0	2.837	A
C	156	39	4	1959	0.080	157	391	0.1	0.1	2.019	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	303	76	3	1535	0.198	304	132	0.3	0.3	2.983	A
B	29	7	302	1339	0.022	29	5	0.0	0.0	2.749	A
C	131	33	4	1960	0.067	131	328	0.1	0.1	1.989	A

2028 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	2.82	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	195	Arm 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
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	251	100.000
B		ONE HOUR	✓	31	100.000
C		ONE HOUR	✓	574	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	23	228
	B	11	0	20
	C	441	133	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.19	3.07	0.2	A	230	345
B	0.02	2.69	0.0	A	28	43
C	0.32	2.72	0.5	A	527	790

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	189	47	100	1477	0.128	188	339	0.0	0.1	2.793	A
B	23	6	171	1419	0.016	23	117	0.0	0.0	2.579	A
C	432	108	8	1957	0.221	431	186	0.0	0.3	2.359	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	226	56	120	1465	0.154	225	406	0.1	0.2	2.904	A
B	28	7	205	1398	0.020	28	140	0.0	0.0	2.626	A
C	516	129	10	1955	0.264	516	223	0.3	0.4	2.500	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	276	69	147	1448	0.191	276	497	0.2	0.2	3.070	A
B	34	9	251	1370	0.025	34	172	0.0	0.0	2.693	A
C	632	158	12	1954	0.324	632	273	0.4	0.5	2.723	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	276	69	147	1448	0.191	276	498	0.2	0.2	3.071	A
B	34	9	251	1370	0.025	34	172	0.0	0.0	2.693	A
C	632	158	12	1954	0.324	632	273	0.5	0.5	2.723	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	226	56	120	1464	0.154	226	407	0.2	0.2	2.908	A
B	28	7	205	1398	0.020	28	140	0.0	0.0	2.626	A
C	516	129	10	1955	0.264	517	223	0.5	0.4	2.504	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	189	47	100	1476	0.128	189	341	0.2	0.1	2.798	A
B	23	6	172	1418	0.016	23	118	0.0	0.0	2.582	A
C	432	108	8	1957	0.221	433	187	0.4	0.3	2.362	A

2028 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	178	Arm 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	2028 Baseline	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	461	100.000
B		ONE HOUR	✓	118	100.000
C		ONE HOUR	✓	233	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	4	457
	B	13	0	105
	C	210	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.33	3.55	0.5	A	423	635
B	0.11	3.31	0.1	A	108	162
C	0.13	2.12	0.2	A	214	321

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	347	87	18	1527	0.227	346	167	0.0	0.3	3.046	A
B	89	22	343	1315	0.068	89	21	0.0	0.1	2.936	A
C	176	44	10	1956	0.090	175	422	0.0	0.1	2.022	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	415	104	21	1524	0.272	414	200	0.3	0.4	3.242	A
B	106	27	411	1274	0.083	106	25	0.1	0.1	3.083	A
C	210	52	12	1954	0.107	210	505	0.1	0.1	2.063	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	508	127	26	1522	0.334	507	245	0.4	0.5	3.547	A
B	130	32	503	1218	0.107	130	30	0.1	0.1	3.309	A
C	257	64	14	1952	0.132	257	618	0.1	0.2	2.123	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	508	127	26	1522	0.334	508	246	0.5	0.5	3.549	A
B	130	32	503	1217	0.107	130	30	0.1	0.1	3.309	A
C	257	64	14	1952	0.132	257	619	0.2	0.2	2.123	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	415	104	21	1524	0.272	415	201	0.5	0.4	3.248	A
B	106	27	411	1273	0.083	106	25	0.1	0.1	3.084	A
C	210	52	12	1954	0.107	210	506	0.2	0.1	2.065	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	347	87	18	1527	0.227	347	168	0.4	0.3	3.055	A
B	89	22	344	1314	0.068	89	21	0.1	0.1	2.941	A
C	176	44	10	1956	0.090	176	423	0.1	0.1	2.024	A

2028 with Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	2.86	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	179	Arm 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
D5	2028 with Development	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	241	100.000
B		ONE HOUR	✓	31	100.000
C		ONE HOUR	✓	608	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	23	218
	B	11	0	20
	C	475	133	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.18	3.04	0.2	A	221	332
B	0.02	2.68	0.0	A	28	43
C	0.34	2.80	0.5	A	558	837

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	181	45	100	1477	0.123	181	365	0.0	0.1	2.776	A
B	23	6	164	1423	0.016	23	117	0.0	0.0	2.570	A
C	458	114	8	1957	0.234	457	179	0.0	0.3	2.397	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	217	54	120	1465	0.148	216	437	0.1	0.2	2.883	A
B	28	7	196	1404	0.020	28	140	0.0	0.0	2.615	A
C	547	137	10	1955	0.280	546	214	0.3	0.4	2.554	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	265	66	147	1448	0.183	265	535	0.2	0.2	3.042	A
B	34	9	240	1377	0.025	34	172	0.0	0.0	2.680	A
C	670	167	12	1954	0.343	669	262	0.4	0.5	2.800	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	265	66	147	1448	0.183	265	535	0.2	0.2	3.042	A
B	34	9	240	1377	0.025	34	172	0.0	0.0	2.680	A
C	670	167	12	1954	0.343	670	262	0.5	0.5	2.802	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	217	54	120	1464	0.148	217	437	0.2	0.2	2.887	A
B	28	7	196	1404	0.020	28	140	0.0	0.0	2.618	A
C	547	137	10	1955	0.280	547	214	0.5	0.4	2.558	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	181	45	100	1476	0.123	182	366	0.2	0.1	2.782	A
B	23	6	164	1423	0.016	23	118	0.0	0.0	2.571	A
C	458	114	8	1957	0.234	458	179	0.4	0.3	2.402	A

2028 with Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.18	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	166	Arm A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2028 with Development	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	482	100.000
B		ONE HOUR	✓	118	100.000
C		ONE HOUR	✓	220	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	4	478
	B	13	0	105
	C	197	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.35	3.63	0.5	A	442	664
B	0.11	3.35	0.1	A	108	162
C	0.12	2.10	0.1	A	202	303

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	363	91	18	1527	0.238	362	158	0.0	0.3	3.088	A
B	89	22	359	1305	0.068	89	21	0.0	0.1	2.959	A
C	166	41	10	1956	0.085	165	437	0.0	0.1	2.011	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	433	108	21	1524	0.284	433	189	0.3	0.4	3.298	A
B	106	27	429	1262	0.084	106	25	0.1	0.1	3.113	A
C	198	50	12	1954	0.101	198	524	0.1	0.1	2.049	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	531	133	26	1522	0.349	530	231	0.4	0.5	3.629	A
B	130	32	526	1204	0.108	130	30	0.1	0.1	3.352	A
C	243	61	14	1952	0.124	242	641	0.1	0.1	2.105	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	531	133	26	1522	0.349	531	231	0.5	0.5	3.632	A
B	130	32	526	1203	0.108	130	30	0.1	0.1	3.353	A
C	243	61	14	1952	0.124	243	642	0.1	0.1	2.105	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	433	108	21	1524	0.284	434	189	0.5	0.4	3.302	A
B	106	27	430	1262	0.084	106	25	0.1	0.1	3.118	A
C	198	50	12	1954	0.101	198	525	0.1	0.1	2.051	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	363	91	18	1527	0.238	363	158	0.4	0.3	3.097	A
B	89	22	360	1304	0.068	89	21	0.1	0.1	2.964	A
C	166	41	10	1956	0.085	166	439	0.1	0.1	2.013	A

Sensitivity Test, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	2.88	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	172	Arm 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
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	236	100.000
B		ONE HOUR	✓	31	100.000
C		ONE HOUR	✓	623	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	23	213
	B	11	0	20
	C	490	133	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.18	3.03	0.2	A	216	325
B	0.02	2.67	0.0	A	28	43
C	0.35	2.84	0.5	A	572	858

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	178	44	100	1477	0.120	177	376	0.0	0.1	2.768	A
B	23	6	160	1426	0.016	23	117	0.0	0.0	2.566	A
C	469	117	8	1957	0.240	468	175	0.0	0.3	2.415	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	212	53	120	1465	0.145	212	450	0.1	0.2	2.873	A
B	28	7	191	1407	0.020	28	140	0.0	0.0	2.610	A
C	560	140	10	1955	0.286	560	209	0.3	0.4	2.579	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	260	65	147	1448	0.179	260	551	0.2	0.2	3.028	A
B	34	9	234	1380	0.025	34	172	0.0	0.0	2.673	A
C	686	172	12	1954	0.351	686	256	0.4	0.5	2.836	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	260	65	147	1448	0.179	260	552	0.2	0.2	3.028	A
B	34	9	235	1380	0.025	34	172	0.0	0.0	2.673	A
C	686	172	12	1954	0.351	686	257	0.5	0.5	2.839	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	212	53	120	1464	0.145	212	451	0.2	0.2	2.876	A
B	28	7	192	1406	0.020	28	140	0.0	0.0	2.611	A
C	560	140	10	1955	0.286	561	210	0.5	0.4	2.581	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	178	44	100	1476	0.120	178	377	0.2	0.1	2.771	A
B	23	6	160	1425	0.016	23	118	0.0	0.0	2.567	A
C	469	117	8	1957	0.240	470	176	0.4	0.3	2.420	A

Sensitivity Test, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.18	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	165	Arm A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	Sensitivity Test	PM	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	484	100.000
B		ONE HOUR	✓	118	100.000
C		ONE HOUR	✓	224	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	4	480
	B	13	0	105
	C	201	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.35	3.64	0.5	A	444	666
B	0.11	3.36	0.1	A	108	162
C	0.13	2.11	0.1	A	206	309

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	364	91	18	1527	0.239	363	161	0.0	0.3	3.092	A
B	89	22	360	1304	0.068	89	21	0.0	0.1	2.961	A
C	169	42	10	1956	0.086	168	439	0.0	0.1	2.014	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	435	109	21	1524	0.286	435	192	0.3	0.4	3.304	A
B	106	27	431	1261	0.084	106	25	0.1	0.1	3.116	A
C	202	50	12	1954	0.103	202	525	0.1	0.1	2.053	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	533	133	26	1522	0.350	533	235	0.4	0.5	3.637	A
B	130	32	528	1202	0.108	130	30	0.1	0.1	3.356	A
C	247	62	14	1952	0.127	247	643	0.1	0.1	2.110	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	533	133	26	1522	0.350	533	236	0.5	0.5	3.640	A
B	130	32	528	1202	0.108	130	30	0.1	0.1	3.357	A
C	247	62	14	1952	0.127	247	644	0.1	0.1	2.110	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	435	109	21	1524	0.286	436	192	0.5	0.4	3.310	A
B	106	27	432	1260	0.084	106	25	0.1	0.1	3.120	A
C	202	50	12	1954	0.103	202	527	0.1	0.1	2.054	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	364	91	18	1527	0.239	365	161	0.4	0.3	3.101	A
B	89	22	362	1303	0.068	89	21	0.1	0.1	2.966	A
C	169	42	10	1956	0.086	169	441	0.1	0.1	2.016	A

Appendix 7

Junctions 9														
PICADY 9 - Priority Intersection Module														
Version: 9.5.1.7462 © Copyright TRL Limited, 2019														
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Filename: Rowan Lane Priority_v2-0.j9

Path: P:\2022\IMA-22-188 Spring Park Expansion - P6\Assessments\Rowan Lane

Report generation date: 30/06/2023 17:29:26

- »2019 Survey, AM
- »2019 Survey, PM
- »2028 Baseline, AM
- »2028 Baseline, PM
- »2028 with Development, AM
- »2028 with Development, PM
- »Sensitivity Test, AM
- »Sensitivity Test, PM

Summary of junction performance

	AM							PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
	2019 Survey													
Stream B-C	D1	0.0	5.83	0.02	A	1.05	360 % [Stream C-AB]	D2	0.1	5.90	0.07	A	0.96	436 % [Stream B-A]
Stream B-A		0.0	7.39	0.00	A				0.0	7.20	0.02	A		
Stream C-AB		0.1	6.29	0.09	A				0.0	5.30	0.02	A		
	2028 Baseline													
Stream B-C	D3	0.1	6.23	0.06	A	1.55	248 % [Stream B-A]	D4	0.1	6.16	0.09	A	1.34	292 % [Stream B-A]
Stream B-A		0.0	8.01	0.04	A				0.0	7.68	0.04	A		
Stream C-AB		0.2	6.34	0.12	A				0.1	5.37	0.06	A		
	2028 with Development													
Stream B-C	D5	0.0	6.06	0.04	A	1.82	186 % [Stream C-AB]	D6	0.1	6.39	0.13	A	1.39	296 % [Stream B-A]
Stream B-A		0.0	7.96	0.01	A				0.0	7.51	0.03	A		
Stream C-AB		0.3	6.94	0.19	A				0.0	5.25	0.03	A		
	Sensitivity Test													
Stream B-C	D7	0.0	6.01	0.04	A	2.03	161 % [Stream C-AB]	D8	0.1	6.40	0.13	A	1.46	291 % [Stream B-A]
Stream B-A		0.0	8.06	0.01	A				0.0	7.54	0.03	A		
Stream C-AB		0.4	7.23	0.22	A				0.1	5.29	0.04	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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	12/05/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	IMA-TP\TRL
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2019 Survey	AM	ONE HOUR	07:45	09:15	15
D2	2019 Survey	PM	ONE HOUR	16:45	18:15	15
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15
D4	2028 Baseline	PM	ONE HOUR	16:45	18:15	15
D5	2028 with Development	AM	ONE HOUR	07:45	09:15	15
D6	2028 with Development	PM	ONE HOUR	16:45	18:15	15
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15
D8	Sensitivity Test	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2019 Survey, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.05	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	360	Stream C-AB

Arms

Arms

Arm	Name	Description	Arm type
A	Westwells Road (S)		Major
B	Rowan Lane		Minor
C	Westwells Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Westwells Road (N)	7.22			59.0	✓	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	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 - Rowan Lane	One lane plus flare	9.43	3.76	3.11	3.09	3.07	✓	1.00	34	48

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	586	0.101	0.255	0.161	0.365
B-C	694	0.101	0.255	-	-
C-B	608	0.223	0.223	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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)
D1	2019 Survey	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	226	100.000
B - Rowan Lane		✓	15	100.000
C - Westwells Road (N)		✓	142	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	12	214
	B - Rowan Lane	2	0	13
	C - Westwells Road (N)	100	42	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	5.83	0.0	A
B-A	0.00	7.39	0.0	A
C-AB	0.09	6.29	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	10	651	0.015	10	0.0	5.609	A
B-A	2	520	0.003	1	0.0	6.943	A
C-AB	36	622	0.058	36	0.1	6.141	A
C-A	71			71			
A-B	9			9			
A-C	161			161			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	643	0.018	12	0.0	5.699	A
B-A	2	507	0.004	2	0.0	7.124	A
C-AB	44	625	0.071	44	0.1	6.201	A
C-A	84			84			
A-B	11			11			
A-C	192			192			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	632	0.023	14	0.0	5.829	A
B-A	2	489	0.005	2	0.0	7.388	A
C-AB	56	629	0.089	56	0.1	6.283	A
C-A	100			100			
A-B	13			13			
A-C	236			236			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	632	0.023	14	0.0	5.829	A
B-A	2	489	0.005	2	0.0	7.388	A
C-AB	56	629	0.089	56	0.1	6.288	A
C-A	100			100			
A-B	13			13			
A-C	236			236			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	643	0.018	12	0.0	5.700	A
B-A	2	507	0.004	2	0.0	7.125	A
C-AB	44	625	0.071	44	0.1	6.207	A
C-A	83			83			
A-B	11			11			
A-C	192			192			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	10	651	0.015	10	0.0	5.612	A
B-A	2	520	0.003	2	0.0	6.948	A
C-AB	36	622	0.058	36	0.1	6.151	A
C-A	71			71			
A-B	9			9			
A-C	161			161			

2019 Survey, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.96	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	436	Stream B-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)
D2	2019 Survey	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	128	100.000
B - Rowan Lane		✓	51	100.000
C - Westwells Road (N)		✓	203	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	1	127
	B - Rowan Lane	11	0	40
	C - Westwells Road (N)	196	7	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	5.90	0.1	A
B-A	0.02	7.20	0.0	A
C-AB	0.02	5.30	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	667	0.045	30	0.0	5.651	A
B-A	8	535	0.015	8	0.0	6.828	A
C-AB	7	686	0.010	7	0.0	5.298	A
C-A	146			146			
A-B	0.75			0.75			
A-C	96			96			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	662	0.054	36	0.1	5.754	A
B-A	10	526	0.019	10	0.0	6.979	A
C-AB	8	702	0.012	8	0.0	5.192	A
C-A	174			174			
A-B	0.90			0.90			
A-C	114			114			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	654	0.067	44	0.1	5.899	A
B-A	12	512	0.024	12	0.0	7.198	A
C-AB	11	723	0.015	11	0.0	5.053	A
C-A	213			213			
A-B	1			1			
A-C	140			140			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	654	0.067	44	0.1	5.899	A
B-A	12	512	0.024	12	0.0	7.198	A
C-AB	11	723	0.015	11	0.0	5.055	A
C-A	213			213			
A-B	1			1			
A-C	140			140			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	662	0.054	36	0.1	5.757	A
B-A	10	526	0.019	10	0.0	6.982	A
C-AB	8	702	0.012	8	0.0	5.192	A
C-A	174			174			
A-B	0.90			0.90			
A-C	114			114			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	667	0.045	30	0.0	5.654	A
B-A	8	535	0.015	8	0.0	6.829	A
C-AB	7	686	0.010	7	0.0	5.300	A
C-A	146			146			
A-B	0.75			0.75			
A-C	96			96			

2028 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.55	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	248	Stream B-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)
D3	2028 Baseline	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	266	100.000
B - Rowan Lane		✓	53	100.000
C - Westwells Road (N)		✓	183	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	19	247
	B - Rowan Lane	18	0	35
	C - Westwells Road (N)	130	53	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.23	0.1	A
B-A	0.04	8.01	0.0	A
C-AB	0.12	6.34	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	641	0.041	26	0.0	5.856	A
B-A	14	506	0.027	13	0.0	7.301	A
C-AB	47	631	0.075	47	0.1	6.164	A
C-A	91			91			
A-B	14			14			
A-C	186			186			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	630	0.050	31	0.1	6.011	A
B-A	16	491	0.033	16	0.0	7.583	A
C-AB	58	636	0.092	58	0.1	6.236	A
C-A	106			106			
A-B	17			17			
A-C	222			222			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	39	616	0.063	38	0.1	6.235	A
B-A	20	469	0.042	20	0.0	8.005	A
C-AB	75	643	0.117	75	0.2	6.341	A
C-A	126			126			
A-B	21			21			
A-C	272			272			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	39	616	0.063	39	0.1	6.235	A
B-A	20	469	0.042	20	0.0	8.006	A
C-AB	75	643	0.117	75	0.2	6.344	A
C-A	126			126			
A-B	21			21			
A-C	272			272			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	630	0.050	32	0.1	6.014	A
B-A	16	491	0.033	16	0.0	7.589	A
C-AB	59	636	0.092	59	0.1	6.244	A
C-A	106			106			
A-B	17			17			
A-C	222			222			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	641	0.041	26	0.0	5.860	A
B-A	14	506	0.027	14	0.0	7.307	A
C-AB	47	631	0.075	47	0.1	6.176	A
C-A	90			90			
A-B	14			14			
A-C	186			186			

2028 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.34	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	292	Stream B-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)
D4	2028 Baseline	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	170	100.000
B - Rowan Lane		✓	71	100.000
C - Westwells Road (N)		✓	254	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	15	155
	B - Rowan Lane	19	0	52
	C - Westwells Road (N)	228	26	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	6.16	0.1	A
B-A	0.04	7.68	0.0	A
C-AB	0.06	5.37	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	39	658	0.059	39	0.1	5.808	A
B-A	14	520	0.028	14	0.0	7.115	A
C-AB	26	696	0.037	25	0.1	5.367	A
C-A	165			165			
A-B	11			11			
A-C	117			117			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	651	0.072	47	0.1	5.953	A
B-A	17	507	0.034	17	0.0	7.345	A
C-AB	32	714	0.045	32	0.1	5.283	A
C-A	196			196			
A-B	14			14			
A-C	139			139			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	57	642	0.089	57	0.1	6.159	A
B-A	21	489	0.043	21	0.0	7.684	A
C-AB	43	738	0.058	43	0.1	5.174	A
C-A	236			236			
A-B	17			17			
A-C	171			171			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	57	642	0.089	57	0.1	6.159	A
B-A	21	489	0.043	21	0.0	7.685	A
C-AB	43	738	0.058	43	0.1	5.175	A
C-A	236			236			
A-B	17			17			
A-C	171			171			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	651	0.072	47	0.1	5.957	A
B-A	17	507	0.034	17	0.0	7.347	A
C-AB	32	714	0.045	32	0.1	5.287	A
C-A	196			196			
A-B	14			14			
A-C	139			139			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	39	658	0.059	39	0.1	5.816	A
B-A	14	520	0.028	14	0.0	7.123	A
C-AB	26	696	0.037	26	0.1	5.373	A
C-A	165			165			
A-B	11			11			
A-C	117			117			

2028 with Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.82	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	186	Stream C-AB

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)
D5	2028 with Development	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	265	100.000
B - Rowan Lane		✓	28	100.000
C - Westwells Road (N)		✓	217	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	18	247
	B - Rowan Lane	3	0	25
	C - Westwells Road (N)	130	87	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	6.06	0.0	A
B-A	0.01	7.96	0.0	A
C-AB	0.19	6.94	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	644	0.029	19	0.0	5.753	A
B-A	2	497	0.005	2	0.0	7.275	A
C-AB	78	631	0.124	77	0.2	6.497	A
C-A	86			86			
A-B	14			14			
A-C	186			186			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	635	0.035	22	0.0	5.878	A
B-A	3	480	0.006	3	0.0	7.548	A
C-AB	96	636	0.152	96	0.2	6.673	A
C-A	99			99			
A-B	16			16			
A-C	222			222			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	621	0.044	27	0.0	6.060	A
B-A	3	456	0.007	3	0.0	7.957	A
C-AB	124	643	0.193	124	0.3	6.935	A
C-A	115			115			
A-B	20			20			
A-C	272			272			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	621	0.044	28	0.0	6.060	A
B-A	3	456	0.007	3	0.0	7.958	A
C-AB	124	643	0.193	124	0.3	6.944	A
C-A	115			115			
A-B	20			20			
A-C	272			272			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	635	0.035	23	0.0	5.879	A
B-A	3	479	0.006	3	0.0	7.554	A
C-AB	97	636	0.152	97	0.2	6.684	A
C-A	99			99			
A-B	16			16			
A-C	222			222			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	644	0.029	19	0.0	5.754	A
B-A	2	497	0.005	2	0.0	7.283	A
C-AB	78	631	0.124	78	0.2	6.520	A
C-A	86			86			
A-B	14			14			
A-C	186			186			

2028 with Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.39	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	296	Stream B-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)
D6	2028 with Development	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	157	100.000
B - Rowan Lane		✓	89	100.000
C - Westwells Road (N)		✓	240	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	2	155
	B - Rowan Lane	15	0	74
	C - Westwells Road (N)	228	12	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	6.39	0.1	A
B-A	0.03	7.51	0.0	A
C-AB	0.03	5.25	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	660	0.084	55	0.1	5.945	A
B-A	11	525	0.022	11	0.0	7.013	A
C-AB	12	698	0.017	12	0.0	5.247	A
C-A	169			169			
A-B	1			1			
A-C	117			117			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	654	0.102	66	0.1	6.128	A
B-A	13	512	0.026	13	0.0	7.213	A
C-AB	15	716	0.021	15	0.0	5.136	A
C-A	201			201			
A-B	1			1			
A-C	139			139			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	645	0.126	81	0.1	6.388	A
B-A	17	496	0.033	16	0.0	7.511	A
C-AB	20	741	0.027	20	0.0	4.991	A
C-A	244			244			
A-B	2			2			
A-C	171			171			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	645	0.126	81	0.1	6.391	A
B-A	17	496	0.033	17	0.0	7.511	A
C-AB	20	741	0.027	20	0.0	4.993	A
C-A	244			244			
A-B	2			2			
A-C	171			171			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	654	0.102	67	0.1	6.134	A
B-A	13	512	0.026	14	0.0	7.214	A
C-AB	15	716	0.021	15	0.0	5.136	A
C-A	201			201			
A-B	1			1			
A-C	139			139			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	660	0.084	56	0.1	5.956	A
B-A	11	524	0.022	11	0.0	7.014	A
C-AB	12	698	0.017	12	0.0	5.248	A
C-A	169			169			
A-B	1			1			
A-C	117			117			

Sensitivity Test, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.03	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	161	Stream C-AB

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)
D7	Sensitivity Test	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	266	100.000
B - Rowan Lane		✓	23	100.000
C - Westwells Road (N)		✓	232	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	19	247
	B - Rowan Lane	3	0	20
	C - Westwells Road (N)	130	102	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	6.01	0.0	A
B-A	0.01	8.06	0.0	A
C-AB	0.22	7.23	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	644	0.023	15	0.0	5.720	A
B-A	2	493	0.005	2	0.0	7.335	A
C-AB	91	631	0.144	90	0.2	6.651	A
C-A	84			84			
A-B	14			14			
A-C	186			186			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	635	0.028	18	0.0	5.836	A
B-A	3	475	0.006	3	0.0	7.625	A
C-AB	112	636	0.177	112	0.3	6.878	A
C-A	96			96			
A-B	17			17			
A-C	222			222			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	621	0.035	22	0.0	6.005	A
B-A	3	450	0.007	3	0.0	8.062	A
C-AB	145	643	0.225	144	0.4	7.220	A
C-A	111			111			
A-B	21			21			
A-C	272			272			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	621	0.035	22	0.0	6.006	A
B-A	3	450	0.007	3	0.0	8.064	A
C-AB	145	643	0.225	145	0.4	7.232	A
C-A	111			111			
A-B	21			21			
A-C	272			272			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	635	0.028	18	0.0	5.837	A
B-A	3	475	0.006	3	0.0	7.632	A
C-AB	112	636	0.177	113	0.3	6.894	A
C-A	96			96			
A-B	17			17			
A-C	222			222			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	644	0.023	15	0.0	5.723	A
B-A	2	493	0.005	2	0.0	7.340	A
C-AB	91	631	0.144	91	0.2	6.676	A
C-A	84			84			
A-B	14			14			
A-C	186			186			

Sensitivity Test, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Rowan Lane - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.46	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	291	Stream B-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)
D8	Sensitivity Test	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Westwells Road (S)		✓	157	100.000
B - Rowan Lane		✓	90	100.000
C - Westwells Road (N)		✓	245	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	2	155
	B - Rowan Lane	15	0	75
	C - Westwells Road (N)	228	17	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Westwells Road (S)	B - Rowan Lane	C - Westwells Road (N)
From	A - Westwells Road (S)	0	0	0
	B - Rowan Lane	0	0	0
	C - Westwells Road (N)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	6.40	0.1	A
B-A	0.03	7.54	0.0	A
C-AB	0.04	5.29	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	660	0.086	56	0.1	5.953	A
B-A	11	523	0.022	11	0.0	7.031	A
C-AB	17	698	0.024	16	0.0	5.282	A
C-A	168			168			
A-B	2			2			
A-C	117			117			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	654	0.103	67	0.1	6.138	A
B-A	13	511	0.026	13	0.0	7.236	A
C-AB	21	716	0.029	21	0.0	5.178	A
C-A	199			199			
A-B	2			2			
A-C	139			139			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	83	645	0.128	82	0.1	6.401	A
B-A	17	494	0.033	16	0.0	7.541	A
C-AB	28	741	0.037	28	0.1	5.044	A
C-A	242			242			
A-B	2			2			
A-C	171			171			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	83	645	0.128	83	0.1	6.404	A
B-A	17	494	0.033	17	0.0	7.541	A
C-AB	28	741	0.037	28	0.1	5.047	A
C-A	242			242			
A-B	2			2			
A-C	171			171			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	654	0.103	68	0.1	6.141	A
B-A	13	511	0.026	14	0.0	7.237	A
C-AB	21	716	0.029	21	0.0	5.181	A
C-A	199			199			
A-B	2			2			
A-C	139			139			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	660	0.086	57	0.1	5.964	A
B-A	11	523	0.022	11	0.0	7.032	A
C-AB	17	698	0.024	17	0.0	5.285	A
C-A	168			168			
A-B	2			2			
A-C	117			117			

Appendix 8

Job Name: **Spring Park Travel Plan** Job N^o: **IMA-22-188**Date: **April 2024** Client: **Ark Data Centres**

Travel Plan Statement - Spring Park Expansion

1 Introduction

- 1.1 This Travel Plan Statement has been prepared to support a planning application that seeks permission for erection of a new data centre, which will form an extension of the Spring Park site in Corsham, Wiltshire.
- 1.2 This Travel Plan Statement follows a similar format to the Travel Statements produced for some of Ark's other buildings on the Spring Park site.
- 1.3 This Travel Plan Statement is written such that sections of it can be distributed by Ark Data Centres (the site occupiers) to make staff aware of the ways in which they can, or will be able to access the site on foot, by bus or by cycle. The benefits of car sharing are also set-out. This Travel Plan Statement also sets out the measures Ark will seek to put in place to facilitate and make staff aware of any travel opportunities.
- 1.4 The proposed development is for a data centre, essentially a storage area for computers. As a result, they have minimal staffing needs. Typical, staffing levels are:
- Day - 5 staff comprising: 2 Engineers, 1 contract administrator, 1 security manager and 1 security staff
- Night - 2 staff comprising: 1 engineer and 1 security staff

2 Site and Surroundings - Description

- 2.1 The site is known as Spring Park in Corsham. It lies roughly 2.5km southwest of Corsham town centre. The location of the site is shown on Plan 1. Access to the site is via a priority junction with Rowan Lane, which in turn connects to the local highway network at priority junction with Westwells Road, which runs in a southeast to northwest direction along the site's eastern boundary.
- 2.2 To the southeast of Westwells Road lies the village of Westwells. To the northwest, Westwells Road meets Park Lane (from the northeast) at a roundabout, with Park Lane being the minor arm. Park Lane head in a north-easterly direction towards Corsham town centre, meeting up with the A4 some 1.8km distant.
- 2.3 Some 250m further north, lies a double mini roundabout junction at which Westwells Road connects with the B3109 (which forms the north-eastern and southern arms. Leafy Lane connects into the roundabouts from the east. The double mini-roundabout is known as the Leafy Lane roundabout.
- 2.4 To the northeast, the B3109 provides access to the A4, linking in turn with Chippenham (to the east) and Bath (to the west). To the south it heads towards Melksham, Trowbridge and Bradford on Avon, but is also to reach Bath by this route via Box or Bathford. Leafy Lane joins with the A4 to the west.
- 2.5 Plan 1 shows the surrounding roads in more detail.

3 Non-Car Access

Access by Foot

- 3.1 It is proposed that a footway would be provided on the eastern side of the vehicular access and a new footway would also be provided along the southern side of Rowan Lane which would connect to the existing footway on Westwells Road. A secondary pedestrian access will be provided from Westwells Road but this will only be used for emergency access which will connect to the staff parking area. Both pedestrian accesses will be gated.
- 3.2 Crossing facilities on Westwells Road are integrated into the site access junction and the Park Lane/Westwells Road roundabout to the north. The facilities take the form of central splitter islands allowing pedestrians to cross on an arm-by-arm basis.
- 3.3 Looking beyond Westwells Road, for pedestrians heading northeast on Park Lane, towards Katherine Park, there is a footway/cycleway on the south-eastern side of Park Lane (constructed as part of the original Spring Park permission). This footway/cycleway allows for convenient access to the northeast and towards Corsham town centre.
- 3.4 At the Leafy Lane double mini-roundabout junction, dropped kerb crossing points are provided on all arms and splitter islands on the B3019 Bradford Road arms allows pedestrians to cross one half of the road at a time.

Access by Cycle

- 3.5 Travel by cycle is most likely to occur to/from Corsham itself, this being the nearest main town. The majority of Corsham lies within an easy cycle of the site.
- 3.6 Plan 2 shows the locations of existing cycle routes in and around Corsham, with these routes being a mixture of on road, and traffic free-routes. This plan reproduces the information shown on the Corsham Cycle/Walking routes map prepared by North Wiltshire District Council.
- 3.7 Access by bicycle to the site is via the main vehicular access from Rowan Lane, which in turn is from Westwells Road.
- 3.8 Cycle lanes are provided on both sides of Westwells Roads between the Park Lane roundabout and its junction with Westwells, these cycle lanes are largely on-carriageway way but sections of shared pedestrian/cycleway allow cyclists to by-pass the Park Lane and Spring Park Roundabouts.
- 3.9 To the south east of the site a short length (approx. 250m) of on carriageway cycle lane exists between the existing site access and the junction between Westwells Road/Westwells.
- 3.10 To the north west of the site is a 1.3km length of shared footway/cycleway that runs the length of Park Lane between its junction with Westwells Road and Freestone Way. The shared footway/cycleway is, for the most part, some 3.0m in width though it does narrow to 1.8m in places. This section of footway/cycleway was provided as part of the highway works associated with the Spring Park development.
- 3.11 At Freestone Way, cyclists would link into the cycleways and identified 'quiet streets' that run through the Katherine Park housing estate that route towards the centre of Corsham.

3.12 More information on cycling in general around Wiltshire can be found at;

www.betterbybike.info

www.connectingwiltshire.co.uk/getting-around/cycling/

3.13 Two key sources of information on cycle routes/cycle mapping are;

www.betterbybike.info/maps-and-rides/regional-cycle-maps

www.sustrans.org.uk

3.14 The nearest cycle retailers are located in the centre of Chippenham:

Cycology Bikes
20 New Rd
Chippenham
SN15 1HJ
(01249 461997)

Halfords
Unit 1, Hathaway Retail Park,
Old Road, Foundry Lane
Chippenham,
Wiltshire
SN15 1JG
(01249 445040)

Access by Bus

3.15 The stops nearest the site are shown on Plan 2. The closest bus stop is 'Basil Hill Barracks' on Westwells Road which is located in front of the site, approximately 225m on foot from the Rowan Lane site access. The stop serves the number 10 bus route. This service is operated by Faresaver, and runs 6 days a week. It is a local loop service effectively running from the centre of Corsham, past the site and back to Corsham.

3.16 The service operates from around 07:30 until 18:00 on a weekday, with an hourly frequency. On a Saturday, the service runs from around 08:30 until 12:30, again with an hourly frequency.

3.17 In addition to the bus stop on Westwells Road, there are also stops on Leafy Lane, the 'Rudloe Fiveways' stops, which are approximately 1km distant from the site to the north. The stops are served by the X31 Bath to Chippenham (via Box/Rudloe/Corsham) service.

3.18 The X31 runs 7 days a week, with a typical 20-minute weekday frequency, 30-minute Saturday frequency and 120-minute Sunday frequency.

3.19 The first weekday service runs around 06:30, and the last around 22:30. A journey from Bath to the site would take around 40 minutes, and from Chippenham to the site around 20 minutes. The X31 also provides connections from the site to both Chippenham and Bath Spa railway stations.

3.20 Current timetable information for the services above can be viewed at the traveline website:

www.traveline.info

4 The Promotion and Encouragement of Non-Car Travel

- 4.1 Ark Data Centres is committed to promoting staff travel to their site by non-car modes where this is a realistically achievable option. Ark Data Centres will achieve this by making staff aware of their travel options, so encouraging a shift towards more sustainable transport modes.

Awareness

- 4.2 The first key step in ensuring that the Travel Statement will be effective is by making staff aware of Ark Data Centres preference for travel by non-car modes.

- 4.3 This will be actioned through;

- Use of intranet/internet and email updates as appropriate
- Keeping non-car travel information (bus timetables, cycle maps, etc) in a prominent place such as a communal area or notice board.

Cycle

- 4.4 The use of cycles for travel can be encouraged through the 'cycle to work' scheme which offers tax-free purchases on cycles and accessories, providing they are used for travel to and from work. Ark Data Centres plans to make this scheme available to staff.

- 4.5 More information on the cycle scheme initiative is given at:

www.cyclescheme.co.uk

- 4.6 Most cycle retailers are affiliated with the scheme, and thus can participate in it. The two nearest cycle shops do participate in the cycle scheme.

- 4.7 Making staff aware of the nearby cycle routes will assist in encouraging travel by cycle. This can be in the form of a 'generic' cycle map (such as those noted at section 3), or, if appropriate cycle maps produced to cater for and give details on the route(s) for a specific employee.

- 4.8 To encourage travel by cycle to the fullest extent, cycle facilities are planned to be provisioned on site. Staff will be made aware of these facilities. If it is the case that these facilities are used to the point where they are full, Ark Data Centres should consider extending the number of cycle parking spaces they provide.

- 4.9 Furthermore, shower, changing and locker facilities are planned to be provisioned on-site, for cyclists to use.

- 4.10 In making staff aware of the health benefits of cycling to work;

- Cyclists can expect to live, on average, 2 years longer than non-cyclists
- Occasional and regular cyclists enjoy a fitness level between five and ten years younger than non-cyclists.
- Cycling as part of daily activities can yield similar physical improvements as specific training programmes.

- 4.11 Staff will also be made aware that for short journeys in an urban area a journey by cycle can be as fast as a journey by car.

- 4.12 Also, cycles are, unlike cars, ideally suited to short, start-stop journeys in urban areas as they emit zero pollution and cost virtually nothing to run.

Bus Use

- 4.13 Provide staff with bus time table information as it relates to the nearby bus stops, including where buses travel to/from, frequency and options for ticket travel.
- 4.14 Make staff aware of the facilities that exist at the nearby bus stops, how staff can get there and how long a journey to a stop would take.
- 4.15 Ark Data Centres will be as flexible as possible with regards to the timing of staff working hours to coincide with bus arrival/departure times.

Car Sharing and Vehicle Use

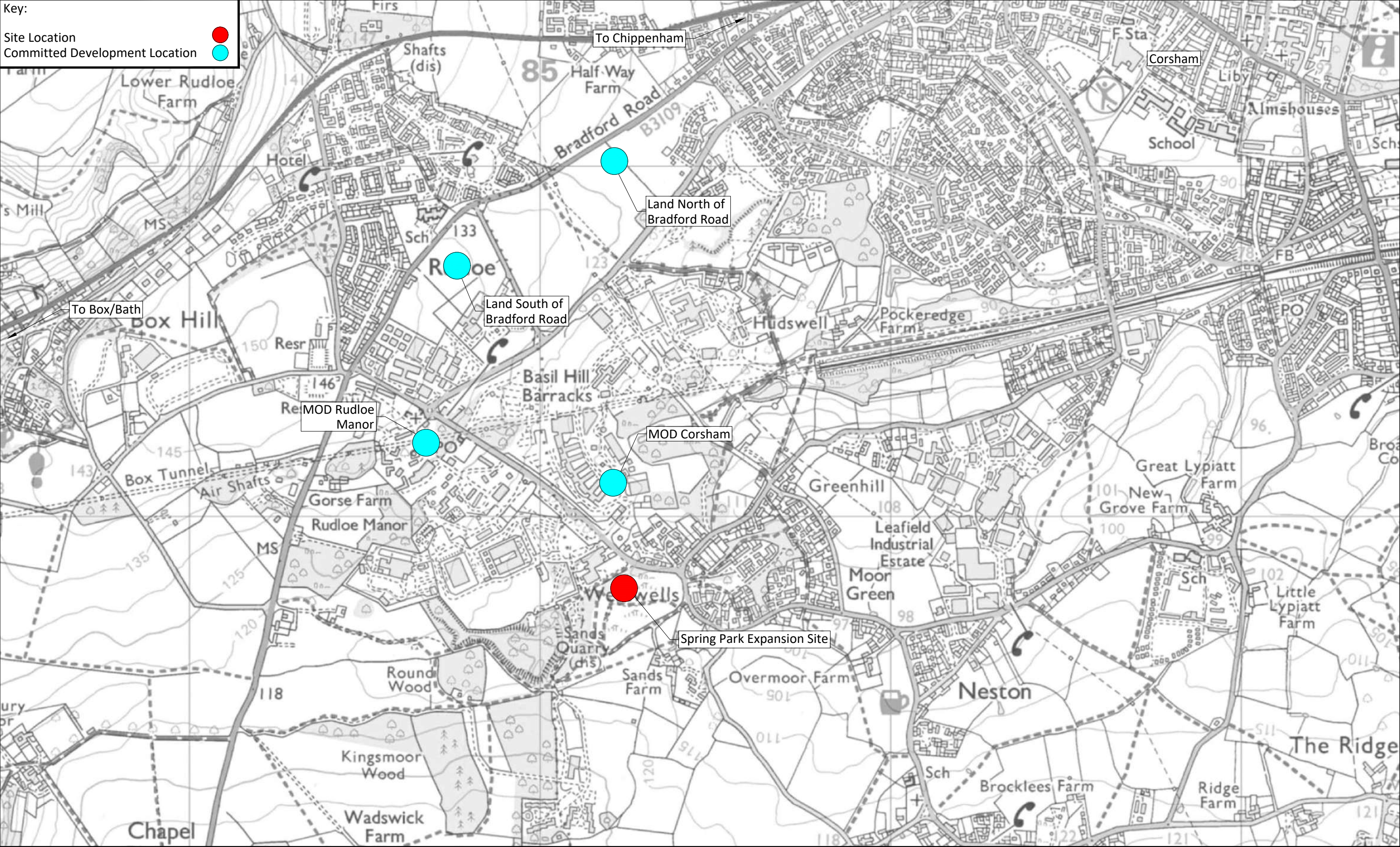
- 4.16 Encourage staff to car share whenever possible; be this either with work colleagues or other individuals travelling in the same area.
- 4.17 Make staff aware of websites and facilities that are available to help them find a car-sharing partner; www.2carshare.com and that by car sharing, many people can recoup a proportion of their vehicle running costs.
- 4.18 If practical, feasible or worthwhile, consider allocating car parking spaces to car sharers on a preferential basis - i.e. the most convenient car parking spaces are allocated to car-sharers.
- 4.19 Educate staff on fuel efficient driving techniques and how to increase their fuel efficiency through load-lightening and ensuring tyres are correctly inflated. Staff can see benefit from this on both a business and personal level.
- 4.20 Look at enrolling staff on a 'fuel efficient driving' course. The knowledge gained in the course can again be used in the work and non-work environment.
- 4.21 Two electric vehicle (EV) spaces are provided within the main car park at Spring Park and Ark Data Centres promote and monitor the use of these spaces. Two EV parking spaces will also be provided within the proposed car park and the remainder of the spaces will be 'passive' EV spaces i.e. enabled for future active provision as and when they are required.
- 4.22 The use of motorcycle/scooters can also be advocated by Ark Data Centres. Motorcycles/scooters can often have lower purchase costs, lower running costs and lower emission levels than cars.
- 4.23 Ark Data Centres may also wish to review how business travel is catered for. If feasible, fuel-efficient cars can be considered for business trips, or the use of a 'city-car-club' (such as www.citycarclub.co.uk or www.zipcar.co.uk) may be appropriate if trips are cannot be made by any other mode. The use of teleconferencing and video-conferencing can also be investigated to reduce the need to travel.

TPS Plans

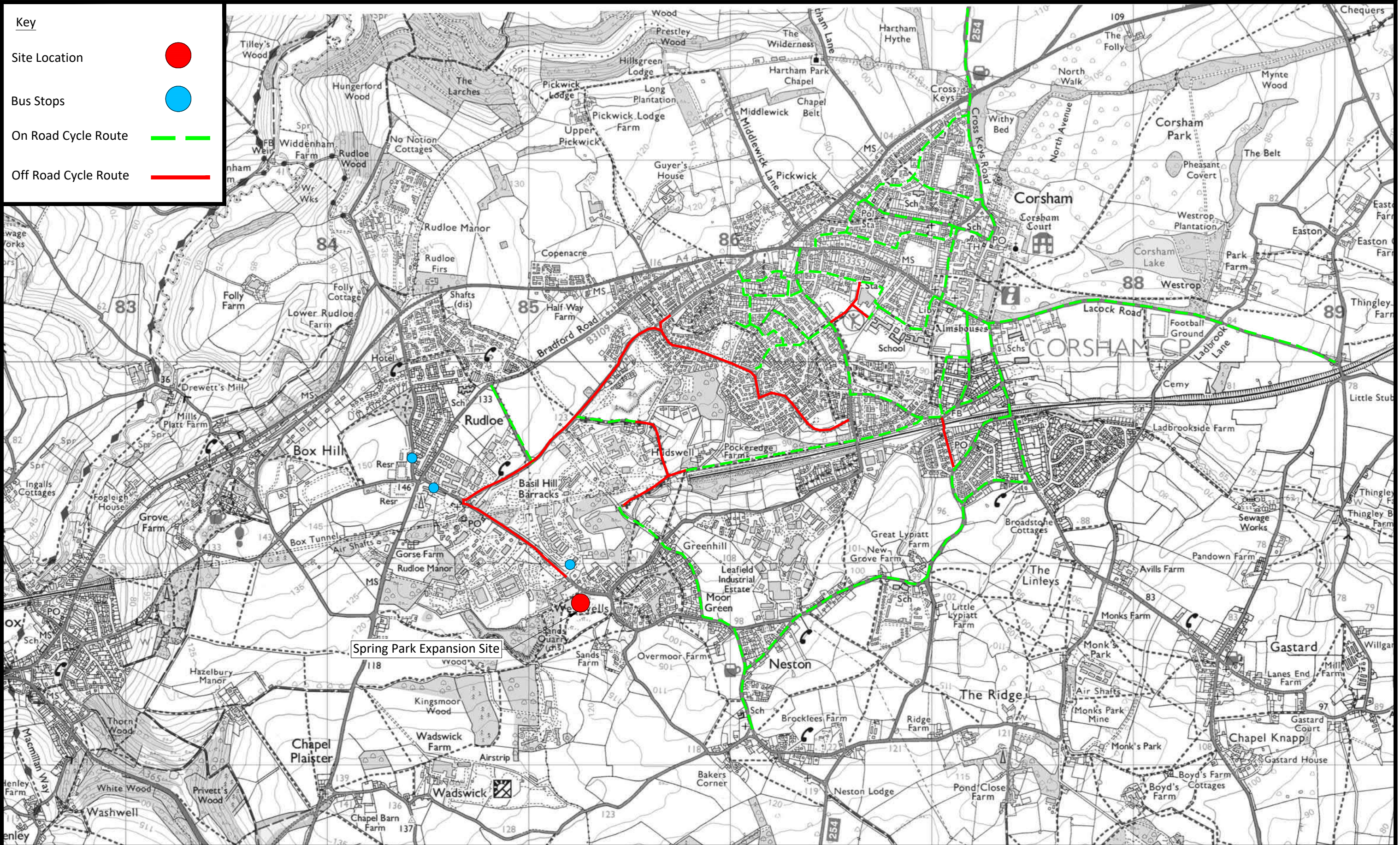
Key:

Site Location

Committed Development Location



I M A TRANSPORT PLANNING 11 KINGSMEAD SQUARE BATH BA1 2AB t: 01225 444 011 www.ima-tp.com	CLIENT:	Ark Data Centres	TITLE:	- TPS PLAN 1 - Site Location	SCALE: (A3)	CHECKED:	APPROVED:
	PROJECT:	Proposed Expansion of Spring Park Data Centre			1:10000	SN	SN
					CAD FILE:	DESIGN/DRAWN:	DATE:
					IMA-22-188-003.dwg	MP	May 2023
					PROJECT No:	DRAWING No:	REV:
					IMA-22-188	003	B



Key

Site Location

●

Bus Stops

●

On Road Cycle Route

Off Road Cycle Route

I

M

A

TRANSPORT PLANNING

11 KINGSMEAD SQUARE
BATH BA1 2AB
T: 01225 444 011
www.ima-tp.com

CLIENT:

Ark Data Centres

PROJECT:

Proposed Expansion of
Spring Park Data Centre

TITLE:

- TPS PLAN 2 -
Cycle Routes and Bus Stops

SCALE: (A3) NTS	CHECKED: SN	APPROVED: SN
CAD FILE: IMA-22-188-008.dwg	DESIGN/DRAWN: MP	DATE: May 2023
PROJECT No: IMA-22-188	DRAWING No: 008	REV: A