



Norwich Western Link

Transport Assessment

Appendix 16: National Highways Junction Model Results

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1 National Highways Junction Model Results

- 1.1.1 This appendix contains the National Highways Junctions 9 modelling results for the proposed Wood Lane / Berry's Lane dumbbell roundabout junction which will connect into the Proposed Scheme. This is referred to as Junction 9 of the TA for the Proposed Scheme.
- 1.1.2 National Highways junction modelling results are also enclosed for the proposed A47 grade separated junction with Taverham Road and Blind Lane which would replace the existing at grade crossroads. This is referred to as Junction 2 of the TA for the Proposed Scheme.
- 1.1.3 Both of the above junctions form part of the DCO application for A47 North Tuddenham to Easton Dualling Scheme proposed by National Highways which was approved in August 2022.
- 1.1.4 We have included a summary of key information shown in this document in an accessible format. However, some users may not be able to access all technical details. If you require this document in a more accessible format please contact norwichwesternlink@norfolk.gov.uk

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
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Filename: A47 Tuddenham 2040 WJ NRBT Run6.j9
Path: T:\A47 DIP\Main Contract\Tuddenham\3. Technical\3.7 ARCADY\Western Junction_Northern Roundabout\WithNWL
Report generation date: 02/09/2020 09:45:42

»2040, AM
 »2040, PM

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
2040										
Roundabout link road	0.5	3.02	0.33	A	36 % [North Western Link]	1.0	4.21	0.51	A	28 % [A47 Link Road]
Eastbound diverge slip road	0.8	3.09	0.42	A		1.9	5.67	0.65	A	
A47 Link Road	0.3	4.06	0.25	A		1.0	7.92	0.51	A	
North Western Link	2.3	5.17	0.69	A		1.9	4.62	0.65	A	

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.

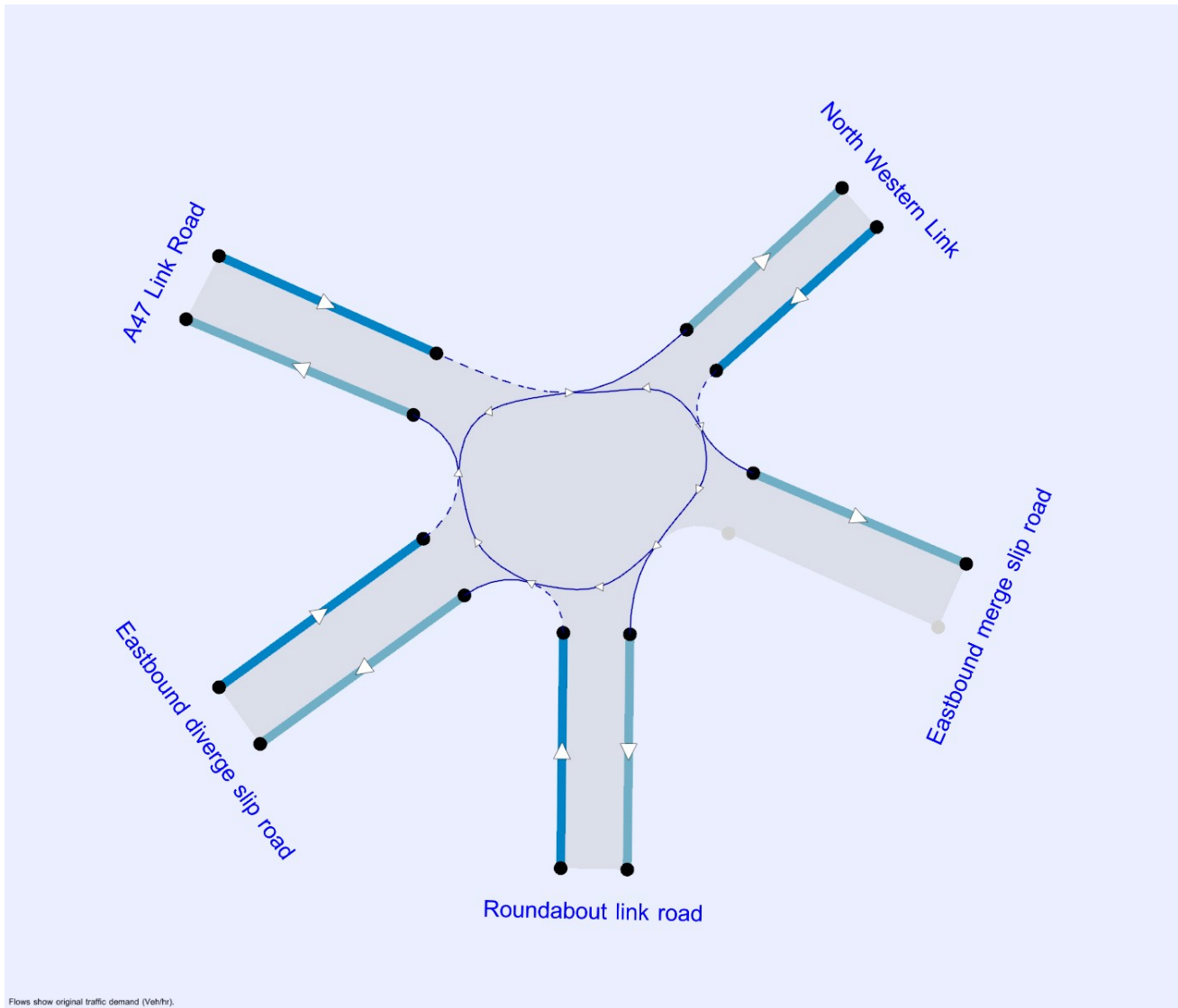
File summary

File Description

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Location	
Site number	
Date	17/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SWECO\GBGWJY
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	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	2040	AM	ONE HOUR	08:00	09:30	15	✓
D2	2040	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

2040, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	Eslip, Link, EBdiv, A47Li, NWL	4.15	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	36	North Western Link

Arms

Arms

Arm	Name	Description
Eslip	Eastbound merge slip road	
Link	Roundabout link road	
EBdiv	Eastbound diverge slip road	
A47Li	A47 Link Road	
NWL	North Western Link	

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
Eastbound merge slip road							✓
Roundabout link road	3.65	7.43	22.2	24.8	100.0	31.5	
Eastbound diverge slip road	7.30	8.05	28.6	23.5	100.0	19.7	
A47 Link Road	3.65	7.65	12.6	21.9	100.0	22.4	
North Western Link	7.30	8.00	21.4	21.4	100.0	20.4	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
Eastbound merge slip road		
Roundabout link road	0.472	1855
Eastbound diverge slip road	0.574	2526
A47 Link Road	0.464	1759
North Western Link	0.568	2492

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	2040	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
Eastbound merge slip road					
Roundabout link road		ONE HOUR	✓	533	100.000
Eastbound diverge slip road		ONE HOUR	✓	756	100.000
A47 Link Road		ONE HOUR	✓	264	100.000
North Western Link		ONE HOUR	✓	1433	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		Eastbound merge slip road	Roundabout link road	Eastbound diverge slip road	A47 Link Road	North Western Link
From	Eastbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	0	0	0	214	319
	Eastbound diverge slip road	0	17	0	0	739
	A47 Link Road	223	41	0	0	0
	North Western Link	447	876	0	110	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		Eastbound merge slip road	Roundabout link road	Eastbound diverge slip road	A47 Link Road	North Western Link
From	Eastbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	0	0	0	0	2
	Eastbound diverge slip road	0	0	0	0	6
	A47 Link Road	0	3	0	0	0
	North Western Link	2	2	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)
Eastbound merge slip road						
Roundabout link road	0.33	3.02	0.5	A	495	742
Eastbound diverge slip road	0.42	3.09	0.8	A	734	1102
A47 Link Road	0.25	4.06	0.3	A	243	365
North Western Link	0.69	5.17	2.3	A	1339	2009

Main Results for each time segment

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)	LOS
Eastbound merge slip road			798				509				
Roundabout link road	406	102	83	1816	0.224	405	715	0.0	0.3	2.579	A
Eastbound diverge slip road	603	151	487	2246	0.268	601	0	0.0	0.4	2.315	A
A47 Link Road	200	50	845	1367	0.146	199	243	0.0	0.2	3.096	A
North Western Link	1099	275	212	2371	0.463	1095	832	0.0	0.9	2.867	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)	LOS
Eastbound merge slip road			954				610				
Roundabout link road	485	121	99	1808	0.268	485	855	0.3	0.4	2.751	A
Eastbound diverge slip road	719	180	583	2191	0.328	719	0	0.4	0.5	2.590	A
A47 Link Road	238	60	1011	1290	0.185	238	291	0.2	0.2	3.440	A
North Western Link	1312	328	253	2348	0.559	1310	996	0.9	1.3	3.528	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)	LOS
Eastbound merge slip road			1167				746				
Roundabout link road	594	148	121	1798	0.330	593	1046	0.4	0.5	3.022	A
Eastbound diverge slip road	881	220	714	2115	0.417	880	0	0.5	0.8	3.084	A
A47 Link Road	292	73	1238	1184	0.247	292	356	0.2	0.3	4.050	A
North Western Link	1607	402	310	2315	0.694	1603	1219	1.3	2.3	5.118	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)	LOS
Eastbound merge slip road			1170				747				
Roundabout link road	594	148	121	1798	0.330	594	1049	0.5	0.5	3.025	A
Eastbound diverge slip road	881	220	715	2115	0.417	881	0	0.8	0.8	3.088	A
A47 Link Road	292	73	1239	1184	0.247	292	357	0.3	0.3	4.056	A
North Western Link	1607	402	311	2315	0.694	1607	1221	2.3	2.3	5.174	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)	LOS
Eastbound merge slip road			958				612				
Roundabout link road	485	121	99	1808	0.268	485	859	0.5	0.4	2.754	A
Eastbound diverge slip road	719	180	585	2190	0.329	720	0	0.8	0.5	2.596	A
A47 Link Road	238	60	1013	1289	0.185	239	292	0.3	0.2	3.448	A
North Western Link	1312	328	254	2347	0.559	1316	998	2.3	1.3	3.567	A

09:15 - 09:30

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)	LOS
Eastbound merge slip road			801				512				
Roundabout link road	406	102	83	1816	0.224	406	718	0.4	0.3	2.586	A
Eastbound diverge slip road	603	151	489	2245	0.268	603	0	0.5	0.4	2.323	A
A47 Link Road	200	50	848	1365	0.146	200	244	0.2	0.2	3.105	A
North Western Link	1099	275	213	2371	0.463	1100	835	1.3	0.9	2.891	A

2040, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	Eslip, Link, EBdiv, A47Li, NWL	5.23	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	28	A47 Link 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	2040	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
Eastbound merge slip road					
Roundabout link road		ONE HOUR	✓	796	100.000
Eastbound diverge slip road		ONE HOUR	✓	1091	100.000
A47 Link Road		ONE HOUR	✓	421	100.000
North Western Link		ONE HOUR	✓	1310	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		Eastbound merge slip road	Roundabout link road	Eastbound diverge slip road	A47 Link Road	North Western Link
From	Eastbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	0	0	0	262	534
	Eastbound diverge slip road	0	15	0	1	1075
	A47 Link Road	346	41	0	0	34
	North Western Link	246	826	0	238	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
	Eastbound merge slip road	Roundabout link road	Eastbound diverge slip road	A47 Link Road	North Western Link	
Eastbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	
Roundabout link road	0	0	0	0	0	
Eastbound diverge slip road	0	0	0	0	2	
A47 Link Road	0	0	0	0	0	
North Western Link	1	1	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)
Eastbound merge slip road						
Roundabout link road	0.51	4.21	1.0	A	730	1096
Eastbound diverge slip road	0.65	5.67	1.9	A	1021	1531
A47 Link Road	0.51	7.92	1.0	A	386	579
North Western Link	0.65	4.62	1.9	A	1212	1818

Main Results for each time segment

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)	LOS
Eastbound merge slip road			847				446				
Roundabout link road	599	150	179	1771	0.338	597	668	0.0	0.5	3.062	A
Eastbound diverge slip road	838	209	776	2080	0.403	835	0	0.0	0.7	2.942	A
A47 Link Road	317	79	1235	1186	0.267	316	376	0.0	0.4	4.130	A
North Western Link	994	249	301	2320	0.428	991	1249	0.0	0.8	2.725	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)	LOS
Eastbound merge slip road			1013				534				
Roundabout link road	716	179	214	1754	0.408	715	799	0.5	0.7	3.462	A
Eastbound diverge slip road	1000	250	929	1992	0.502	999	0	0.7	1.0	3.690	A
A47 Link Road	378	95	1477	1073	0.353	378	450	0.4	0.5	5.172	A
North Western Link	1187	297	361	2287	0.519	1186	1494	0.8	1.1	3.292	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)	LOS
Eastbound merge slip road			1240				652				
Roundabout link road	876	219	261	1732	0.506	875	978	0.7	1.0	4.197	A
Eastbound diverge slip road	1225	306	1137	1873	0.654	1221	0	1.0	1.9	5.604	A
A47 Link Road	464	116	1807	920	0.504	462	551	0.5	1.0	7.827	A
North Western Link	1454	364	441	2241	0.649	1451	1828	1.1	1.8	4.577	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)	LOS
Eastbound merge slip road			1242				654				
Roundabout link road	876	219	262	1731	0.506	876	980	1.0	1.0	4.210	A
Eastbound diverge slip road	1225	306	1138	1872	0.654	1225	0	1.9	1.9	5.671	A
A47 Link Road	464	116	1812	918	0.505	463	552	1.0	1.0	7.922	A
North Western Link	1454	364	443	2240	0.649	1454	1833	1.8	1.9	4.616	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)	LOS
Eastbound merge slip road			1017				536				
Roundabout link road	716	179	214	1754	0.408	717	802	1.0	0.7	3.475	A
Eastbound diverge slip road	1000	250	931	1991	0.502	1004	0	1.9	1.0	3.733	A
A47 Link Road	378	95	1484	1070	0.354	380	451	1.0	0.6	5.231	A
North Western Link	1187	297	363	2285	0.520	1190	1501	1.9	1.1	3.322	A

18:15 - 18:30

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)	LOS
Eastbound merge slip road			851				448				
Roundabout link road	599	150	179	1770	0.339	600	671	0.7	0.5	3.079	A
Eastbound diverge slip road	838	209	779	2078	0.403	839	0	1.0	0.7	2.967	A
A47 Link Road	317	79	1241	1183	0.268	318	378	0.6	0.4	4.165	A
North Western Link	994	249	303	2319	0.429	996	1255	1.1	0.8	2.744	A

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
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Filename: A47 Tuddneham 2040 EJ NRBT Run6.j9
 Path: T:\A47 DIP\Main Contract\Tuddenham\3. Technical\3.7 ARCADY\Eastern Junction_Northern Roundabout\WithNWL
 Report generation date: 02/09/2020 09:42:14

»2040, AM
 »2040, PM

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2040									
Underbridge link road	0.2	2.66	0.18	A	434 % [Underbridge link road]	0.2	2.57	0.15	A	540 % [Underbridge link road]
Eastbound diverge slip road	0.1	2.12	0.09	A		0.1	2.06	0.08	A	
Link to Church	0.0	2.52	0.02	A		0.0	2.42	0.02	A	

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.

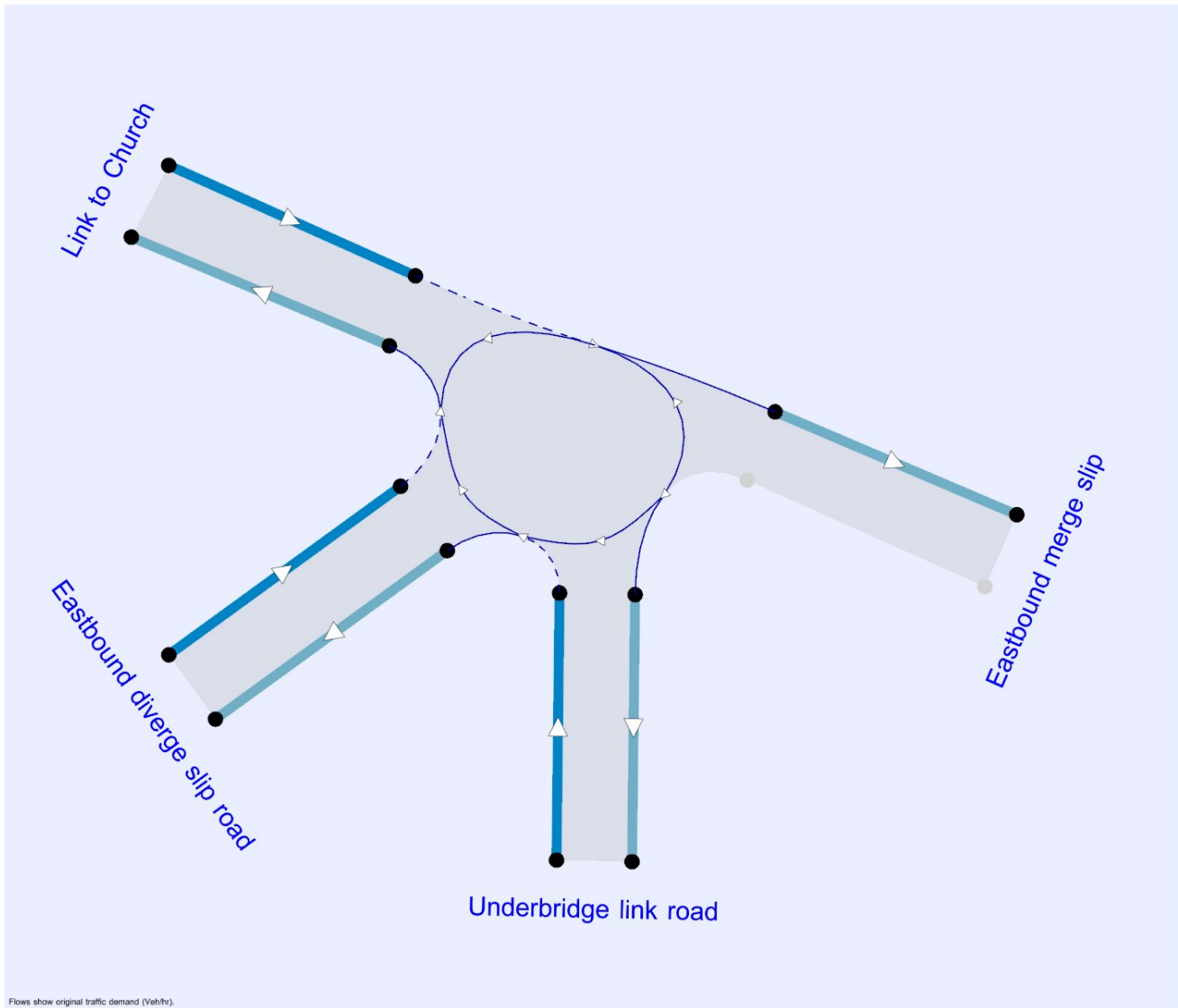
File summary

File Description

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Date	17/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SWECO\GBGWJY
Description	

Units

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



Flows show original traffic demand (Veh/hr).
The junction diagram reflects the last run of Junctions.

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	2040	AM	ONE HOUR	08:00	09:30	15
D2	2040	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2040, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	EBmer, Link, EBdiv, LtC	2.46	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	434	Underbridge link road

Arms

Arms

Arm	Name	Description
EBmer	Eastbound merge slip	
Link	Underbridge link road	
EBdiv	Eastbound diverge slip road	
LtC	Link to Church	

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
Eastbound merge slip							✓
Underbridge link road	3.65	7.65	11.0	22.0	60.0	31.8	
Eastbound diverge slip road	3.70	8.00	22.0	38.6	60.0	16.3	
Link to Church	3.65	7.40	12.1	21.5	60.0	18.6	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
Eastbound merge slip		
Underbridge link road	0.550	1663
Eastbound diverge slip road	0.638	2059
Link to Church	0.577	1748

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)
D1	2040	AM	ONE HOUR	08:00	09:30	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 (Veh/hr)	Scaling Factor (%)
Eastbound merge slip				
Underbridge link road		✓	267	100.000
Eastbound diverge slip road		✓	155	100.000
Link to Church		✓	23	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		Eastbound merge slip	Underbridge link road	Eastbound diverge slip road	Link to Church
From	Eastbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	258	0	0	9
	Eastbound diverge slip road	0	152	0	3
	Link to Church	12	11	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Eastbound merge slip	Underbridge link road	Eastbound diverge slip road	Link to Church
From	Eastbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	1	0	0	0
	Eastbound diverge slip road	0	0	0	0
	Link to Church	1	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
Eastbound merge slip				
Underbridge link road	0.18	2.66	0.2	A
Eastbound diverge slip road	0.09	2.12	0.1	A
Link to Church	0.02	2.52	0.0	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		123						
Underbridge link road	203	0	1663	0.122	202	0.1	2.488	A
Eastbound diverge slip road	117	202	1930	0.060	116	0.1	1.984	A
Link to Church	18	310	1570	0.011	18	0.0	2.375	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		147						
Underbridge link road	242	0	1663	0.146	242	0.2	2.557	A
Eastbound diverge slip road	139	242	1905	0.073	139	0.1	2.038	A
Link to Church	21	371	1535	0.014	21	0.0	2.436	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		180						
Underbridge link road	297	0	1663	0.178	297	0.2	2.659	A
Eastbound diverge slip road	171	297	1870	0.091	171	0.1	2.118	A
Link to Church	26	454	1487	0.017	26	0.0	2.524	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		180						
Underbridge link road	297	0	1663	0.178	297	0.2	2.659	A
Eastbound diverge slip road	171	297	1870	0.091	171	0.1	2.118	A
Link to Church	26	454	1486	0.017	26	0.0	2.524	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		147						
Underbridge link road	242	0	1663	0.146	243	0.2	2.560	A
Eastbound diverge slip road	139	243	1905	0.073	139	0.1	2.039	A
Link to Church	21	371	1534	0.014	21	0.0	2.438	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		123						
Underbridge link road	203	0	1663	0.122	203	0.1	2.489	A
Eastbound diverge slip road	117	203	1930	0.060	117	0.1	1.985	A
Link to Church	18	311	1569	0.011	18	0.0	2.376	A

2040, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	EBmer, Link, EBdiv, LtC	2.38	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	540	Underbridge link 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)
D2	2040	PM	ONE HOUR	17:00	18:30	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 (Veh/hr)	Scaling Factor (%)
Eastbound merge slip				
Underbridge link road		✓	223	100.000
Eastbound diverge slip road		✓	137	100.000
Link to Church		✓	21	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		Eastbound merge slip	Underbridge link road	Eastbound diverge slip road	Link to Church
From	Eastbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	208	0	0	15
	Eastbound diverge slip road	0	135	0	2
	Link to Church	11	10	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Eastbound merge slip	Underbridge link road	Eastbound diverge slip road	Link to Church
From	Eastbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	1	0	0	0
	Eastbound diverge slip road	0	0	0	0
	Link to Church	1	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
Eastbound merge slip				
Underbridge link road	0.15	2.57	0.2	A
Eastbound diverge slip road	0.08	2.06	0.1	A
Link to Church	0.02	2.42	0.0	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		109						
Underbridge link road	169	0	1663	0.102	169	0.1	2.432	A
Eastbound diverge slip road	103	169	1951	0.053	103	0.1	1.947	A
Link to Church	16	259	1599	0.010	16	0.0	2.307	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		130						
Underbridge link road	202	0	1663	0.122	202	0.1	2.486	A
Eastbound diverge slip road	123	202	1930	0.064	123	0.1	1.991	A
Link to Church	19	310	1570	0.012	19	0.0	2.355	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		160						
Underbridge link road	248	0	1663	0.149	248	0.2	2.566	A
Eastbound diverge slip road	151	248	1901	0.079	151	0.1	2.056	A
Link to Church	23	380	1529	0.015	23	0.0	2.425	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		160						
Underbridge link road	248	0	1663	0.149	248	0.2	2.566	A
Eastbound diverge slip road	151	248	1901	0.079	151	0.1	2.056	A
Link to Church	23	380	1529	0.015	23	0.0	2.425	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		131						
Underbridge link road	202	0	1663	0.122	202	0.1	2.489	A
Eastbound diverge slip road	123	202	1930	0.064	123	0.1	1.993	A
Link to Church	19	310	1569	0.012	19	0.0	2.357	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Eastbound merge slip		109						
Underbridge link road	169	0	1663	0.102	170	0.1	2.434	A
Eastbound diverge slip road	103	170	1951	0.053	103	0.1	1.947	A
Link to Church	16	260	1599	0.010	16	0.0	2.309	A

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
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Filename: A47 Tuddneham 2040 EJ SRBT Run6.j9

Path: T:\A47 DIP\Main Contract\Tuddenham\3. Technical\3.7 ARCADY\Eastern Junction_Southern Roundabout\WithNWL

Report generation date: 02/09/2020 10:19:02

»2040, AM

»2040, PM

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
2040										
Underbridge link road	0.1	2.45	0.11	A	325 % [Link to Honningham]	0.1	2.42	0.10	A	208 % [Link to A47 and Dereham Road]
Westbound diverge slip road	0.1	2.27	0.11	A		0.2	2.34	0.15	A	
Link to A47 and Dereham Road	0.2	3.06	0.16	A		0.3	3.47	0.23	A	
Link to Honningham	0.2	2.53	0.17	A		0.1	2.46	0.12	A	

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.

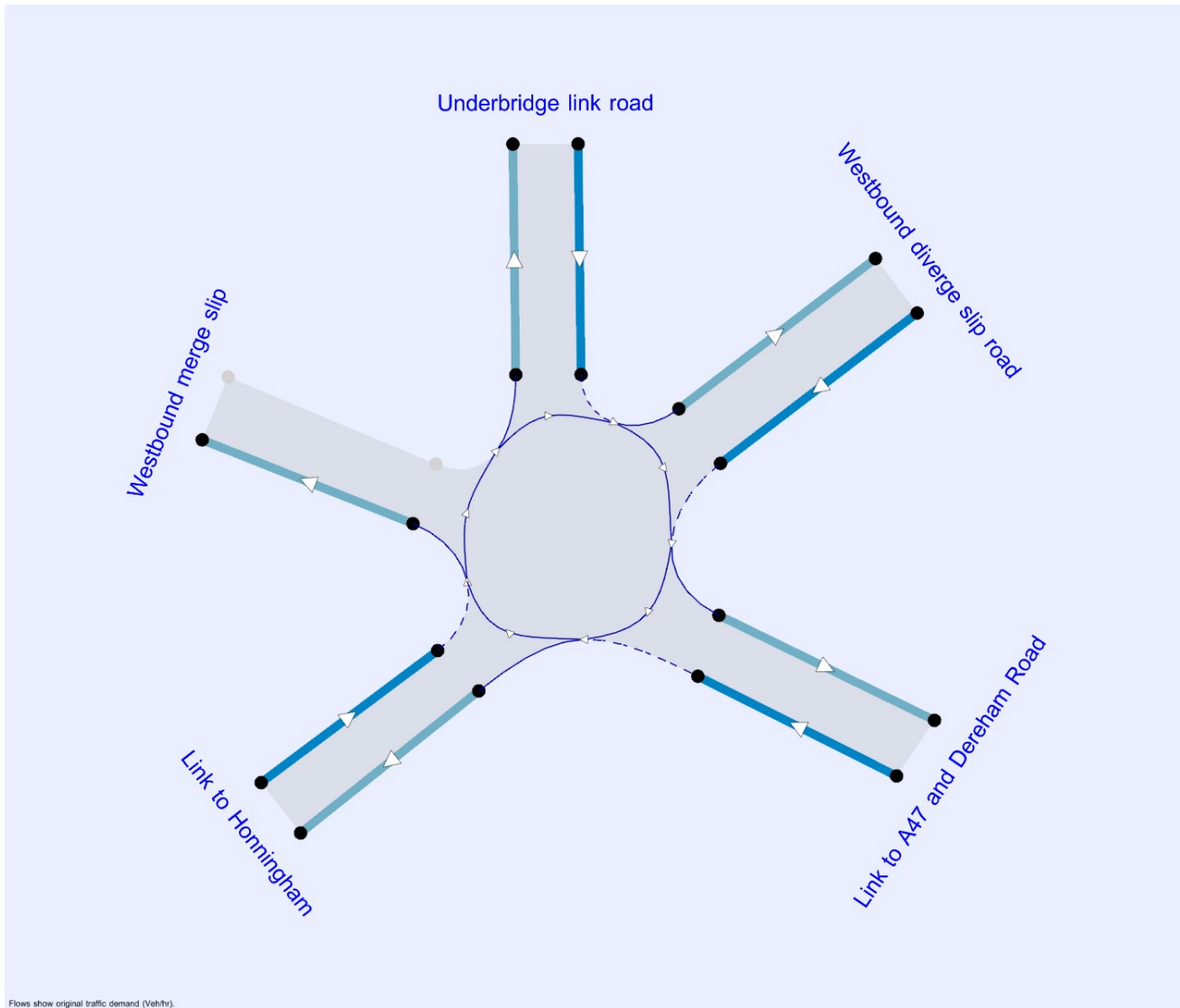
File summary

File Description

Title	(untitled)
Location	
Site number	
Date	17/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SWECO\GBGWJY
Description	

Units

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



Flows show original traffic demand (Veh/hr).

The junction diagram reflects the last run of Junctions.

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	2040	AM	ONE HOUR	08:00	09:30	15
D2	2040	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2040, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	WBmer, Link, WBdiv, A47, Honn	2.59	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	325	Link to Honningham

Arms

Arms

Arm	Name	Description
WBmer	Westbound merge slip	
Link	Underbridge link road	
WBdiv	Westbound diverge slip road	
A47	Link to A47 and Dereham Road	
Honn	Link to Honningham	

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
Westbound merge slip							✓
Underbridge link road	3.65	7.60	10.7	22.7	60.0	31.6	
Westbound diverge slip road	3.70	7.50	21.1	23.5	60.0	19.5	
Link to A47 and Dereham Road	3.65	6.20	7.5	23.2	60.0	28.8	
Link to Honningham	3.95	7.60	13.1	22.5	60.0	20.2	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
Westbound merge slip		
Underbridge link road	0.549	1655
Westbound diverge slip road	0.609	1932
Link to A47 and Dereham Road	0.524	1493
Link to Honningham	0.594	1851

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)
D1	2040	AM	ONE HOUR	08:00	09:30	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 (Veh/hr)	Scaling Factor (%)
Westbound merge slip				
Underbridge link road		✓	163	100.000
Westbound diverge slip road		✓	183	100.000
Link to A47 and Dereham Road		✓	196	100.000
Link to Honningham		✓	259	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		Westbound merge slip	Underbridge link road	Westbound diverge slip road	Link to A47 and Dereham Road	Link to Honningham
From	Westbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	1	0	0	161	1
	Westbound diverge slip road	0	6	0	53	124
	Link to A47 and Dereham Road	173	13	0	0	10
	Link to Honningham	0	246	0	13	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		Westbound merge slip	Underbridge link road	Westbound diverge slip road	Link to A47 and Dereham Road	Link to Honningham
From	Westbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	7	0	0	0	2
	Westbound diverge slip road	0	0	0	0	2
	Link to A47 and Dereham Road	2	0	0	0	0
	Link to Honningham	0	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
Westbound merge slip				
Underbridge link road	0.11	2.45	0.1	A
Westbound diverge slip road	0.11	2.27	0.1	A
Link to A47 and Dereham Road	0.16	3.06	0.2	A
Link to Honningham	0.17	2.53	0.2	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		211						
Underbridge link road	123	10	1650	0.074	122	0.1	2.358	A
Westbound diverge slip road	140	132	1852	0.075	139	0.1	2.130	A
Link to A47 and Dereham Road	150	101	1440	0.104	150	0.1	2.840	A
Link to Honningham	197	147	1764	0.112	196	0.1	2.318	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		252						
Underbridge link road	147	12	1648	0.089	147	0.1	2.397	A
Westbound diverge slip road	167	158	1836	0.091	167	0.1	2.185	A
Link to A47 and Dereham Road	179	121	1429	0.125	179	0.1	2.929	A
Link to Honningham	235	177	1747	0.135	235	0.2	2.403	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		309						
Underbridge link road	180	14	1647	0.109	179	0.1	2.454	A
Westbound diverge slip road	204	194	1814	0.113	204	0.1	2.265	A
Link to A47 and Dereham Road	220	148	1415	0.155	219	0.2	3.063	A
Link to Honningham	288	216	1723	0.167	288	0.2	2.531	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		309						
Underbridge link road	180	14	1647	0.109	180	0.1	2.454	A
Westbound diverge slip road	204	194	1814	0.113	204	0.1	2.265	A
Link to A47 and Dereham Road	220	148	1415	0.155	220	0.2	3.063	A
Link to Honningham	288	216	1723	0.167	288	0.2	2.531	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		252						
Underbridge link road	147	12	1648	0.089	147	0.1	2.400	A
Westbound diverge slip road	167	158	1836	0.091	167	0.1	2.185	A
Link to A47 and Dereham Road	179	121	1429	0.125	179	0.1	2.933	A
Link to Honningham	235	177	1746	0.135	235	0.2	2.404	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		211						
Underbridge link road	123	10	1650	0.074	123	0.1	2.360	A
Westbound diverge slip road	140	133	1852	0.075	140	0.1	2.132	A
Link to A47 and Dereham Road	150	101	1440	0.104	150	0.1	2.840	A
Link to Honningham	197	148	1764	0.112	197	0.1	2.319	A

2040, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	WBmer, Link, WBdiv, A47, Honn	2.76	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	208	Link to A47 and Dereham 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)
D2	2040	PM	ONE HOUR	17:00	18:30	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 (Veh/hr)	Scaling Factor (%)
Westbound merge slip				
Underbridge link road		✓	146	100.000
Westbound diverge slip road		✓	245	100.000
Link to A47 and Dereham Road		✓	289	100.000
Link to Honningham		✓	173	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		Westbound merge slip	Underbridge link road	Westbound diverge slip road	Link to A47 and Dereham Road	Link to Honningham
From	Westbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	Underbridge link road	2	0	0	142	2
	Westbound diverge slip road	0	11	0	13	221
	Link to A47 and Dereham Road	221	50	0	0	18
	Link to Honningham	0	161	0	12	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
	Westbound merge slip	Underbridge link road	Westbound diverge slip road	Link to A47 and Dereham Road	Link to Honningham	
Westbound merge slip	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	
Underbridge link road	1	0	0	0	2	
Westbound diverge slip road	0	0	0	0	1	
Link to A47 and Dereham Road	0	0	0	0	0	
Link to Honningham	0	1	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
Westbound merge slip				
Underbridge link road	0.10	2.42	0.1	A
Westbound diverge slip road	0.15	2.34	0.2	A
Link to A47 and Dereham Road	0.23	3.47	0.3	A
Link to Honningham	0.12	2.46	0.1	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		177						
Underbridge link road	110	9	1650	0.067	110	0.1	2.338	A
Westbound diverge slip road	186	119	1860	0.100	186	0.1	2.169	A
Link to A47 and Dereham Road	218	179	1399	0.156	217	0.2	3.044	A
Link to Honningham	131	213	1725	0.076	131	0.1	2.279	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		212						
Underbridge link road	131	11	1649	0.080	131	0.1	2.372	A
Westbound diverge slip road	222	142	1846	0.120	222	0.1	2.236	A
Link to A47 and Dereham Road	260	214	1381	0.188	260	0.2	3.211	A
Link to Honningham	157	255	1700	0.092	157	0.1	2.354	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		259						
Underbridge link road	161	13	1648	0.098	161	0.1	2.421	A
Westbound diverge slip road	272	174	1827	0.149	272	0.2	2.336	A
Link to A47 and Dereham Road	318	262	1355	0.235	318	0.3	3.469	A
Link to Honningham	192	312	1666	0.115	192	0.1	2.465	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		259						
Underbridge link road	161	13	1648	0.098	161	0.1	2.421	A
Westbound diverge slip road	272	174	1826	0.149	272	0.2	2.336	A
Link to A47 and Dereham Road	318	262	1355	0.235	318	0.3	3.470	A
Link to Honningham	192	313	1666	0.115	192	0.1	2.465	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		212						
Underbridge link road	131	11	1649	0.080	131	0.1	2.372	A
Westbound diverge slip road	222	142	1846	0.120	222	0.1	2.237	A
Link to A47 and Dereham Road	260	214	1380	0.188	260	0.2	3.213	A
Link to Honningham	157	256	1700	0.092	157	0.1	2.355	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Westbound merge slip		177						
Underbridge link road	110	9	1650	0.067	110	0.1	2.338	A
Westbound diverge slip road	186	119	1860	0.100	186	0.1	2.171	A
Link to A47 and Dereham Road	218	179	1399	0.156	218	0.2	3.048	A
Link to Honningham	131	214	1724	0.076	132	0.1	2.282	A

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
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Filename: A47 Tuddneham 2040 WJ SRBT Run6.j9

Path: T:\A47 DIP\Main Contract\Tuddenham\3. Technical\3.7 ARCADY\Western Junction_Southern Roundabout\WithNWL

Report generation date: 02/09/2020 10:13:51

»2040, AM

»2040, PM

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
2040										
Roundabout link road	1.4	4.68	0.57	A	67 % [Roundabout link road]	1.2	4.27	0.54	A	79 % [Roundabout link road]
Westbound diverge slip road	0.3	2.99	0.23	A		0.5	3.34	0.33	A	
Dereham Rd (SE)	0.3	3.40	0.20	A		0.4	3.92	0.29	A	

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.

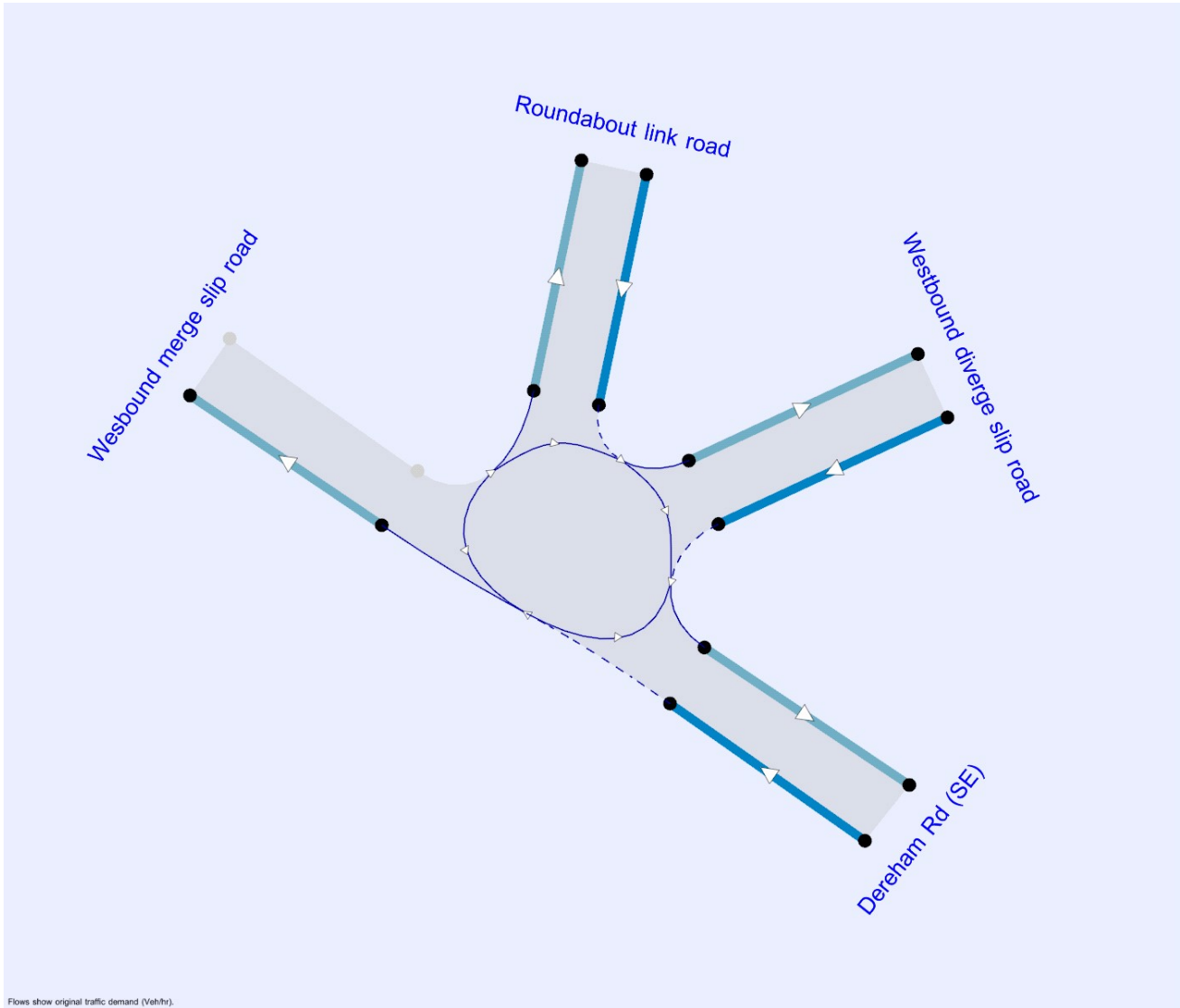
File summary

File Description

Title	(untitled)
Location	
Site number	
Date	17/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SWECO\GBGWJY
Description	

Units

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



Flows show original traffic demand (Veh/hr).
 The junction diagram reflects the last run of Junctions.

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	2040	AM	ONE HOUR	08:00	09:30	15
D2	2040	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2040, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	WBmer, Link, WBdiv, Berry	4.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	67	Roundabout link road

Arms

Arms

Arm	Name	Description
WBmer	Wesbound merge slip road	
Link	Roundabout link road	
WBdiv	Westbound diverge slip road	
Berry	Dereham Rd (SE)	

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
Wesbound merge slip road							✓
Roundabout link road	3.65	7.88	14.8	30.0	80.0	24.8	
Westbound diverge slip road	3.70	8.46	30.0	20.9	80.0	21.7	
Dereham Rd (SE)	3.65	7.53	27.4	24.3	80.0	30.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
Wesbound merge slip road		
Roundabout link road	0.500	1836
Westbound diverge slip road	0.544	2142
Dereham Rd (SE)	0.508	1931

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)
D1	2040	AM	ONE HOUR	08:00	09:30	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 (Veh/hr)	Scaling Factor (%)
Wesbound merge slip road				
Roundabout link road		✓	937	100.000
Westbound diverge slip road		✓	319	100.000
Dereham Rd (SE)		✓	246	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		Wesbound merge slip road	Roundabout link road	Westbound diverge slip road	Dereham Rd (SE)
From	Wesbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	697	0	0	240
	Westbound diverge slip road	0	319	0	0
	Dereham Rd (SE)	21	225	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Wesbound merge slip road	Roundabout link road	Westbound diverge slip road	Dereham Rd (SE)
From	Wesbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	2	0	0	2
	Westbound diverge slip road	0	1	0	0
	Dereham Rd (SE)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
Wesbound merge slip road				
Roundabout link road	0.57	4.68	1.4	A
Westbound diverge slip road	0.23	2.99	0.3	A
Dereham Rd (SE)	0.20	3.40	0.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		414						
Roundabout link road	720	0	1836	0.392	717	0.7	3.274	A
Westbound diverge slip road	243	717	1752	0.138	242	0.2	2.406	A
Dereham Rd (SE)	189	775	1537	0.123	188	0.1	2.715	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		496						
Roundabout link road	859	0	1836	0.468	858	0.9	3.751	A
Westbound diverge slip road	290	858	1675	0.173	289	0.2	2.623	A
Dereham Rd (SE)	225	928	1460	0.154	225	0.2	2.968	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		607						
Roundabout link road	1052	0	1836	0.573	1050	1.4	4.662	A
Westbound diverge slip road	355	1050	1571	0.226	354	0.3	2.989	A
Dereham Rd (SE)	276	1136	1354	0.204	276	0.3	3.398	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		607						
Roundabout link road	1052	0	1836	0.573	1052	1.4	4.684	A
Westbound diverge slip road	355	1052	1570	0.226	355	0.3	2.992	A
Dereham Rd (SE)	276	1137	1353	0.204	276	0.3	3.401	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		497						
Roundabout link road	859	0	1836	0.468	861	0.9	3.774	A
Westbound diverge slip road	290	861	1674	0.173	290	0.2	2.629	A
Dereham Rd (SE)	225	930	1458	0.154	225	0.2	2.973	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		416						
Roundabout link road	720	0	1836	0.392	721	0.7	3.293	A
Westbound diverge slip road	243	721	1750	0.139	243	0.2	2.413	A
Dereham Rd (SE)	189	779	1536	0.123	189	0.1	2.723	A

2040, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	WBmer, Link, WBdiv, Berry	3.94	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	79	Roundabout link 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)
D2	2040	PM	ONE HOUR	17:00	18:30	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 (Veh/hr)	Scaling Factor (%)
Wesbound merge slip road				
Roundabout link road		✓	885	100.000
Westbound diverge slip road		✓	482	100.000
Dereham Rd (SE)		✓	342	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		Wesbound merge slip road	Roundabout link road	Westbound diverge slip road	Dereham Rd (SE)
From	Wesbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	648	0	0	237
	Westbound diverge slip road	0	482	0	0
	Dereham Rd (SE)	22	320	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Wesbound merge slip road	Roundabout link road	Westbound diverge slip road	Dereham Rd (SE)
From	Wesbound merge slip road	Exit-only	Exit-only	Exit-only	Exit-only
	Roundabout link road	1	0	0	1
	Westbound diverge slip road	0	0	0	0
	Dereham Rd (SE)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
Wesbound merge slip road				
Roundabout link road	0.54	4.27	1.2	A
Westbound diverge slip road	0.33	3.34	0.5	A
Dereham Rd (SE)	0.29	3.92	0.4	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		602						
Roundabout link road	673	0	1836	0.367	671	0.6	3.112	A
Westbound diverge slip road	363	671	1777	0.204	362	0.3	2.542	A
Dereham Rd (SE)	257	853	1498	0.172	257	0.2	2.899	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		720						
Roundabout link road	804	0	1836	0.438	803	0.8	3.513	A
Westbound diverge slip road	433	803	1705	0.254	433	0.3	2.829	A
Dereham Rd (SE)	307	1021	1413	0.218	307	0.3	3.256	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		882						
Roundabout link road	984	0	1836	0.536	983	1.2	4.252	A
Westbound diverge slip road	531	983	1607	0.330	530	0.5	3.339	A
Dereham Rd (SE)	377	1250	1296	0.290	376	0.4	3.910	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		883						
Roundabout link road	984	0	1836	0.536	984	1.2	4.267	A
Westbound diverge slip road	531	984	1607	0.330	531	0.5	3.344	A
Dereham Rd (SE)	377	1251	1295	0.291	377	0.4	3.917	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		722						
Roundabout link road	804	0	1836	0.438	805	0.8	3.530	A
Westbound diverge slip road	433	805	1704	0.254	434	0.3	2.834	A
Dereham Rd (SE)	307	1023	1411	0.218	308	0.3	3.263	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
Wesbound merge slip road		604						
Roundabout link road	673	0	1836	0.367	674	0.6	3.132	A
Westbound diverge slip road	363	674	1776	0.204	363	0.3	2.549	A
Dereham Rd (SE)	257	857	1496	0.172	258	0.2	2.907	A