

Appendix O – Junction 7: Leeds Road / Chancery Lane /
Owl Lane

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896

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Filename: Junc 7 Leeds Road, Owl Lane, Chancery Road, A638 Jct (2nd) - Nov 2019.j9

Path: P:\133--\A13398-VAA Land at Chidswell\30 Technical\31 Modelling\2019\Off-Site\Junctions9

Report generation date: 28/11/2019 14:09:10

-
- »2019 Base, AM
 - »2019 Base, PM
 - »2024 DN, AM
 - »2024 DN, PM
 - »2030 DN, AM
 - »2030 DN, PM
 - »2024 DS(A), AM
 - »2024 DS(A), PM
 - »2024 DS(A+B), AM
 - »2024 DS(A+B), PM
 - »2030 DS(A), AM
 - »2030 DS(A), PM
 - »2030 DS(A+B), AM
 - »2030 DS(A+B), PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2019 Base								
1 - Chancery Road (A638)	5.6	14.07	0.85	B	14.4	37.03	0.95	E
2 - Leeds Road	9.7	42.68	0.92	E	3.1	16.10	0.76	C
3 - Wakefield Road (A638)	31.0	90.86	1.03	F	6.5	20.76	0.88	C
4 - Owl Lane	4.1	16.17	0.81	C	20.4	64.95	0.99	F
2024 DN								
1 - Chancery Road (A638)	7.4	17.36	0.88	C	12.1	29.54	0.94	D
2 - Leeds Road	6.4	31.33	0.87	D	3.2	17.06	0.76	C
3 - Wakefield Road (A638)	33.2	94.96	1.03	F	4.4	15.60	0.82	C
4 - Owl Lane	3.7	14.80	0.79	B	7.8	27.78	0.90	D
2030 DN								
1 - Chancery Road (A638)	8.6	19.45	0.90	C	7.6	17.86	0.89	C
2 - Leeds Road	5.3	27.61	0.85	D	2.6	14.78	0.72	B
3 - Wakefield Road (A638)	25.5	76.82	1.01	F	2.5	10.50	0.72	B
4 - Owl Lane	3.6	14.08	0.78	B	6.3	21.55	0.87	C
2024 DS(A)								
1 - Chancery Road (A638)	7.0	16.55	0.88	C	12.1	29.32	0.94	D
2 - Leeds Road	6.0	29.43	0.87	D	3.0	16.40	0.76	C
3 - Wakefield Road (A638)	33.2	94.64	1.03	F	4.4	15.42	0.82	C
4 - Owl Lane	3.7	14.49	0.79	B	7.6	27.18	0.90	D
2024 DS(A+B)								
1 - Chancery Road (A638)	7.8	18.11	0.89	C	12.6	30.50	0.94	D
2 - Leeds Road	7.0	33.74	0.89	D	3.1	16.53	0.76	C
3 - Wakefield Road (A638)	38.1	106.74	1.04	F	4.4	15.53	0.82	C
4 - Owl Lane	3.7	14.40	0.79	B	9.2	32.08	0.92	D
2030 DS(A)								
1 - Chancery Road (A638)	8.4	18.88	0.90	C	7.6	17.82	0.89	C
2 - Leeds Road	5.0	26.06	0.85	D	2.5	14.39	0.72	B
3 - Wakefield Road (A638)	25.7	77.19	1.01	F	2.5	10.39	0.72	B
4 - Owl Lane	3.6	14.07	0.79	B	6.2	21.24	0.87	C
2030 DS(A+B)								
1 - Chancery Road (A638)	16.6	35.72	0.96	E	57.2	100.61	1.05	F
2 - Leeds Road	8.5	43.13	0.92	E	6.9	37.13	0.89	E
3 - Wakefield Road (A638)	44.6	123.80	1.06	F	4.8	20.19	0.84	C
4 - Owl Lane	26.0	74.43	1.01	F	65.1	151.31	1.09	F

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.

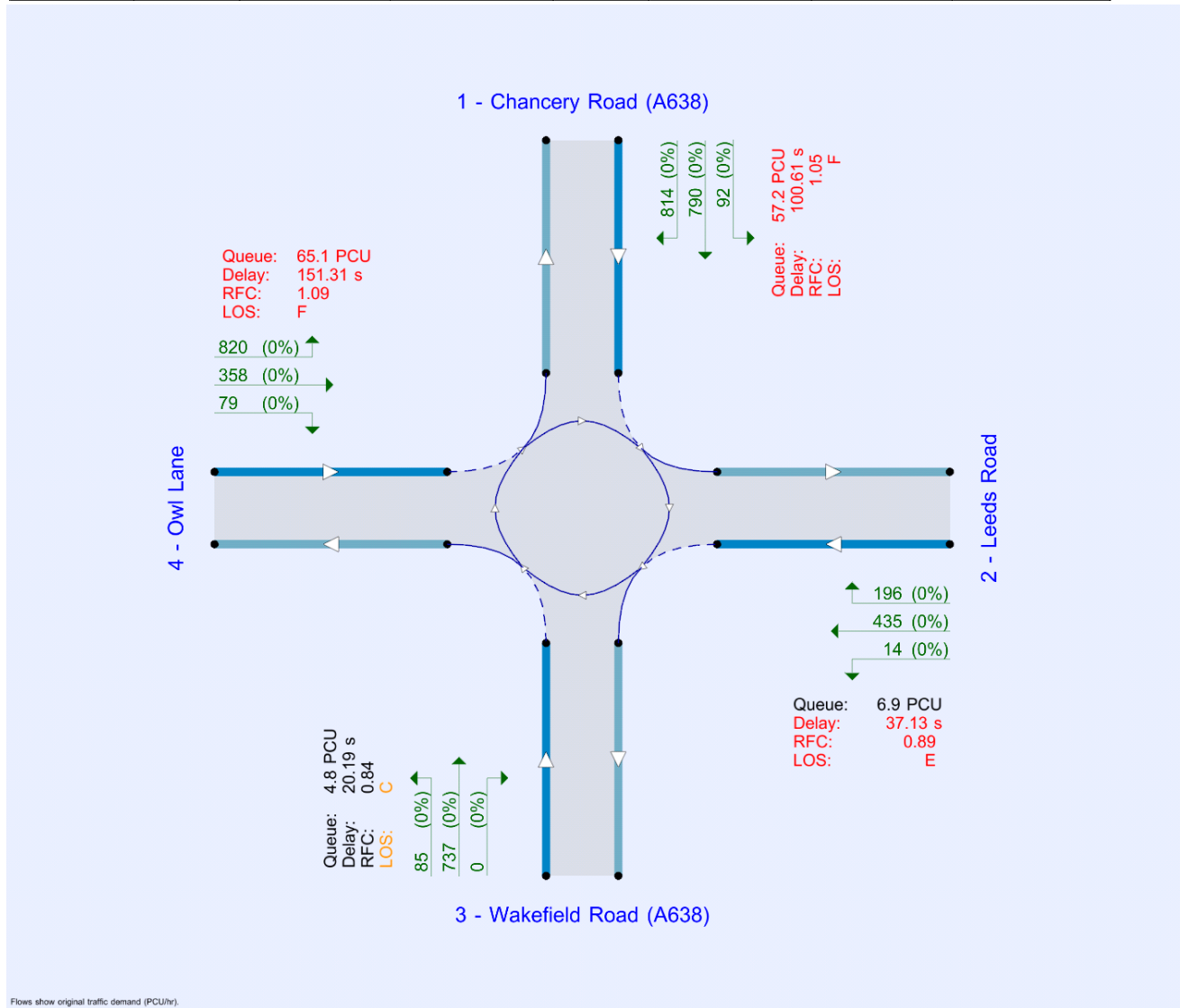
File summary

File Description

Title	
Location	
Site number	
Date	11/12/2019
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	
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	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				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 Base	AM	ONE HOUR	07:15	08:45	15	✓
D2	2019 Base	PM	ONE HOUR	16:15	17:45	15	✓
D3	2024 DN	AM	ONE HOUR	07:15	08:45	15	✓
D4	2024 DN	PM	ONE HOUR	16:15	17:45	15	✓
D5	2030 DN	AM	ONE HOUR	07:15	08:45	15	✓
D6	2030 DN	PM	ONE HOUR	16:15	17:45	15	✓
D7	2024 DS(A)	AM	ONE HOUR	07:15	08:45	15	✓
D8	2024 DS(A)	PM	ONE HOUR	16:15	17:45	15	✓
D9	2024 DS(A+B)	AM	ONE HOUR	07:15	08:45	15	✓
D10	2024 DS(A+B)	PM	ONE HOUR	16:15	17:45	15	✓
D11	2030 DS(A)	AM	ONE HOUR	07:15	08:45	15	✓
D12	2030 DS(A)	PM	ONE HOUR	16:15	17:45	15	✓
D13	2030 DS(A+B)	AM	ONE HOUR	07:15	08:45	15	✓
D14	2030 DS(A+B)	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2019 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junc 7	Standard Roundabout		1, 2, 3, 4	40.10	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Chancery Road (A638)	
2	Leeds Road	
3	Wakefield Road (A638)	
4	Owl 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
1 - Chancery Road (A638)	7.04	7.91	2.6	21.5	73.7	37.0	
2 - Leeds Road	5.62	6.33	13.3	38.7	73.7	25.0	
3 - Wakefield Road (A638)	4.78	7.37	32.7	43.3	73.7	12.0	
4 - Owl Lane	4.96	6.64	25.6	17.8	73.7	29.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final slope	Final intercept (PCU/hr)
1 - Chancery Road (A638)	✓	0.590	2050	0.590	2050
2 - Leeds Road	✓	0.541	1750	0.541	1750
3 - Wakefield Road (A638)	✓	0.570	1960	0.570	1960
4 - Owl Lane	✓	0.609	1900	0.609	1900

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 Base	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1354	100.000
2 - Leeds Road		ONE HOUR	✓	794	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1062	100.000
4 - Owl Lane		ONE HOUR	✓	866	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	52	697	603
	2 - Leeds Road	157	0	92	545
	3 - Wakefield Road (A638)	852	99	0	111
	4 - Owl Lane	509	313	40	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	6	4	7
	2 - Leeds Road	9	0	7	8
	3 - Wakefield Road (A638)	3	6	0	1
	4 - Owl Lane	2	8	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)
1 - Chancery Road (A638)	0.85	14.07	5.6	B	1242	1864
2 - Leeds Road	0.92	42.68	9.7	E	729	1093
3 - Wakefield Road (A638)	1.03	90.86	31.0	F	975	1462
4 - Owl Lane	0.81	16.17	4.1	C	795	1192

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1019	255	341	1849	0.551	1014	1137	0.0	1.3	4.520	A
2 - Leeds Road	598	149	1008	1205	0.496	594	347	0.0	1.0	6.326	A
3 - Wakefield Road (A638)	800	200	981	1401	0.571	794	621	0.0	1.3	6.063	A
4 - Owl Lane	652	163	830	1395	0.468	648	945	0.0	0.9	5.002	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1217	304	408	1809	0.673	1214	1360	1.3	2.1	6.336	A
2 - Leeds Road	714	178	1207	1097	0.651	710	416	1.0	2.0	9.961	A
3 - Wakefield Road (A638)	955	239	1174	1291	0.740	949	743	1.3	2.8	10.668	B
4 - Owl Lane	779	195	992	1296	0.601	776	1131	0.9	1.5	7.179	A

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
1 - Chancery Road (A638)	1491	373	492	1760	0.847	1478	1610	2.1	5.3	12.908	B
2 - Leeds Road	874	219	1469	955	0.915	850	501	2.0	8.1	31.485	D
3 - Wakefield Road (A638)	1169	292	1416	1153	1.014	1103	903	2.8	19.3	48.341	E
4 - Owl Lane	953	238	1158	1195	0.798	944	1361	1.5	3.8	14.477	B

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
1 - Chancery Road (A638)	1491	373	497	1757	0.849	1490	1634	5.3	5.6	14.074	B
2 - Leeds Road	874	219	1481	949	0.921	868	506	8.1	9.7	42.675	E
3 - Wakefield Road (A638)	1169	292	1437	1141	1.025	1123	911	19.3	31.0	90.862	F
4 - Owl Lane	953	238	1179	1182	0.807	952	1381	3.8	4.1	16.167	C

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
1 - Chancery Road (A638)	1217	304	424	1800	0.676	1231	1466	5.6	2.2	6.818	A
2 - Leeds Road	714	178	1223	1088	0.656	744	431	9.7	2.1	12.240	B
3 - Wakefield Road (A638)	955	239	1211	1270	0.752	1065	756	31.0	3.4	27.292	D
4 - Owl Lane	779	195	1103	1228	0.634	788	1174	4.1	1.8	8.676	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
1 - Chancery Road (A638)	1019	255	346	1846	0.552	1023	1154	2.2	1.3	4.631	A
2 - Leeds Road	598	149	1017	1200	0.498	602	352	2.1	1.1	6.552	A
3 - Wakefield Road (A638)	800	200	992	1394	0.573	807	627	3.4	1.4	6.402	A
4 - Owl Lane	652	163	843	1386	0.470	656	956	1.8	0.9	5.159	A

2019 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junc 7	Standard Roundabout		1, 2, 3, 4	36.51	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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 Base	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1345	100.000
2 - Leeds Road		ONE HOUR	✓	656	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1079	100.000
4 - Owl Lane		ONE HOUR	✓	1044	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	78	769	495
	2 - Leeds Road	101	1	191	363
	3 - Wakefield Road (A638)	789	208	0	82
	4 - Owl Lane	477	490	76	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	2	4
	2 - Leeds Road	2	0	7	6
	3 - Wakefield Road (A638)	2	1	0	4
	4 - Owl Lane	4	2	5	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)
1 - Chancery Road (A638)	0.95	37.03	14.4	E	1234	1851
2 - Leeds Road	0.76	16.10	3.1	C	602	903
3 - Wakefield Road (A638)	0.88	20.76	6.5	C	990	1485
4 - Owl Lane	0.99	64.95	20.4	F	958	1437

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1013	253	581	1707	0.593	1007	1025	0.0	1.5	5.227	A
2 - Leeds Road	494	123	1006	1206	0.410	491	581	0.0	0.7	5.299	A
3 - Wakefield Road (A638)	812	203	722	1549	0.525	808	775	0.0	1.1	4.925	A
4 - Owl Lane	786	196	825	1398	0.562	781	704	0.0	1.3	5.969	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1209	302	694	1640	0.737	1204	1227	1.5	2.8	8.361	A
2 - Leeds Road	590	147	1203	1099	0.537	588	695	0.7	1.2	7.408	A
3 - Wakefield Road (A638)	970	242	863	1468	0.661	967	927	1.1	1.9	7.275	A
4 - Owl Lane	939	235	987	1299	0.723	933	843	1.3	2.6	10.021	B

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
1 - Chancery Road (A638)	1481	370	825	1563	0.947	1446	1474	2.8	11.6	26.004	D
2 - Leeds Road	722	181	1443	969	0.745	715	828	1.2	2.9	14.602	B
3 - Wakefield Road (A638)	1188	297	1043	1365	0.870	1172	1115	1.9	5.9	17.707	C
4 - Owl Lane	1149	287	1197	1171	0.982	1102	1018	2.6	14.5	39.272	E

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
1 - Chancery Road (A638)	1481	370	841	1554	0.953	1470	1496	11.6	14.4	37.029	E
2 - Leeds Road	722	181	1468	956	0.755	721	843	2.9	3.1	16.097	C
3 - Wakefield Road (A638)	1188	297	1057	1358	0.875	1186	1132	5.9	6.5	20.763	C
4 - Owl Lane	1149	287	1211	1162	0.989	1126	1031	14.5	20.4	64.948	F

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
1 - Chancery Road (A638)	1209	302	739	1614	0.749	1254	1278	14.4	3.2	11.444	B
2 - Leeds Road	590	147	1255	1071	0.551	597	737	3.1	1.3	8.144	A
3 - Wakefield Road (A638)	970	242	888	1454	0.667	988	964	6.5	2.1	8.158	A
4 - Owl Lane	939	235	1008	1286	0.730	1009	868	20.4	2.9	16.626	C

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
1 - Chancery Road (A638)	1013	253	588	1703	0.595	1019	1037	3.2	1.5	5.456	A
2 - Leeds Road	494	123	1019	1199	0.412	496	589	1.3	0.7	5.428	A
3 - Wakefield Road (A638)	812	203	730	1544	0.526	816	785	2.1	1.1	5.068	A
4 - Owl Lane	786	196	834	1392	0.564	792	712	2.9	1.4	6.248	A

2024 DN, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junc 7	Standard Roundabout		1, 2, 3, 4	39.72	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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	2024 DN	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1455	100.000
2 - Leeds Road		ONE HOUR	✓	713	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1082	100.000
4 - Owl Lane		ONE HOUR	✓	853	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	63	746	644
	2 - Leeds Road	129	0	80	504
	3 - Wakefield Road (A638)	911	60	0	111
	4 - Owl Lane	547	270	32	4

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
1 - Chancery Road (A638)	0	6	4	7
2 - Leeds Road	9	0	7	8
3 - Wakefield Road (A638)	3	6	0	1
4 - Owl Lane	2	8	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)
1 - Chancery Road (A638)	0.88	17.36	7.4	C	1335	2003
2 - Leeds Road	0.87	31.33	6.4	D	654	981
3 - Wakefield Road (A638)	1.03	94.96	33.2	F	993	1489
4 - Owl Lane	0.79	14.80	3.7	B	783	1174

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1095	274	274	1888	0.580	1090	1189	0.0	1.4	4.716	A
2 - Leeds Road	537	134	1069	1171	0.458	533	294	0.0	0.9	6.062	A
3 - Wakefield Road (A638)	815	204	960	1413	0.577	809	642	0.0	1.4	6.086	A
4 - Owl Lane	642	161	824	1398	0.459	639	945	0.0	0.9	4.902	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1308	327	328	1857	0.705	1304	1421	1.4	2.5	6.815	A
2 - Leeds Road	641	160	1280	1058	0.606	638	352	0.9	1.6	9.207	A
3 - Wakefield Road (A638)	973	243	1149	1305	0.745	967	769	1.4	2.9	10.765	B
4 - Owl Lane	767	192	985	1300	0.590	764	1131	0.9	1.5	6.950	A

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
1 - Chancery Road (A638)	1602	400	396	1816	0.882	1584	1682	2.5	6.9	15.299	C
2 - Leeds Road	785	196	1555	909	0.864	769	425	1.6	5.7	25.367	D
3 - Wakefield Road (A638)	1191	298	1390	1167	1.020	1121	933	2.9	20.6	49.900	E
4 - Owl Lane	939	235	1147	1202	0.782	931	1364	1.5	3.5	13.444	B

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
1 - Chancery Road (A638)	1602	400	400	1814	0.883	1600	1706	6.9	7.4	17.358	C
2 - Leeds Road	785	196	1570	900	0.872	782	430	5.7	6.4	31.329	D
3 - Wakefield Road (A638)	1191	298	1409	1157	1.030	1141	943	20.6	33.2	94.958	F
4 - Owl Lane	939	235	1167	1189	0.790	938	1382	3.5	3.7	14.796	B

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
1 - Chancery Road (A638)	1308	327	338	1850	0.707	1327	1537	7.4	2.6	7.502	A
2 - Leeds Road	641	160	1302	1045	0.613	660	363	6.4	1.8	10.543	B
3 - Wakefield Road (A638)	973	243	1178	1288	0.755	1092	783	33.2	3.4	29.422	D
4 - Owl Lane	767	192	1101	1229	0.624	775	1169	3.7	1.8	8.361	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
1 - Chancery Road (A638)	1095	274	277	1886	0.581	1100	1206	2.6	1.5	4.850	A
2 - Leeds Road	537	134	1080	1166	0.460	540	298	1.8	0.9	6.249	A
3 - Wakefield Road (A638)	815	204	971	1407	0.579	822	649	3.4	1.4	6.427	A
4 - Owl Lane	642	161	837	1390	0.462	646	956	1.8	0.9	5.046	A

2024 DN, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junc 7	Standard Roundabout		1, 2, 3, 4	23.79	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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	2024 DN	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1432	100.000
2 - Leeds Road		ONE HOUR	✓	628	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	967	100.000
4 - Owl Lane		ONE HOUR	✓	976	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	88	798	543
	2 - Leeds Road	146	1	115	366
	3 - Wakefield Road (A638)	787	111	0	69
	4 - Owl Lane	521	384	70	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	2	4
	2 - Leeds Road	2	0	7	6
	3 - Wakefield Road (A638)	2	1	0	4
	4 - Owl Lane	4	2	5	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)
1 - Chancery Road (A638)	0.94	29.54	12.1	D	1314	1971
2 - Leeds Road	0.76	17.06	3.2	C	576	864
3 - Wakefield Road (A638)	0.82	15.60	4.4	C	887	1331
4 - Owl Lane	0.90	27.78	7.8	D	896	1343

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1078	270	424	1800	0.599	1072	1091	0.0	1.5	5.037	A
2 - Leeds Road	473	118	1059	1177	0.402	470	437	0.0	0.7	5.341	A
3 - Wakefield Road (A638)	728	182	793	1508	0.483	724	736	0.0	0.9	4.665	A
4 - Owl Lane	735	184	785	1422	0.517	730	733	0.0	1.1	5.343	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1287	322	508	1750	0.735	1282	1305	1.5	2.8	7.809	A
2 - Leeds Road	565	141	1267	1064	0.530	563	523	0.7	1.2	7.518	A
3 - Wakefield Road (A638)	869	217	949	1419	0.613	867	880	0.9	1.6	6.623	A
4 - Owl Lane	877	219	939	1328	0.661	874	877	1.1	2.0	8.125	A

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
1 - Chancery Road (A638)	1577	394	614	1688	0.934	1546	1583	2.8	10.4	22.405	C
2 - Leeds Road	691	173	1528	923	0.749	684	632	1.2	2.9	15.404	C
3 - Wakefield Road (A638)	1065	266	1150	1305	0.816	1054	1063	1.6	4.2	14.120	B
4 - Owl Lane	1075	269	1143	1204	0.892	1055	1061	2.0	6.9	22.438	C

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
1 - Chancery Road (A638)	1577	394	623	1683	0.937	1570	1601	10.4	12.1	29.540	D
2 - Leeds Road	691	173	1551	911	0.759	691	641	2.9	3.2	17.064	C
3 - Wakefield Road (A638)	1065	266	1164	1297	0.821	1064	1078	4.2	4.4	15.602	C
4 - Owl Lane	1075	269	1153	1198	0.897	1071	1075	6.9	7.8	27.778	D

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
1 - Chancery Road (A638)	1287	322	522	1742	0.739	1324	1333	12.1	3.0	9.555	A
2 - Leeds Road	565	141	1308	1042	0.542	572	537	3.2	1.3	8.178	A
3 - Wakefield Road (A638)	869	217	973	1405	0.619	880	907	4.4	1.7	7.135	A
4 - Owl Lane	877	219	954	1319	0.665	900	899	7.8	2.1	9.336	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
1 - Chancery Road (A638)	1078	270	429	1797	0.600	1084	1102	3.0	1.6	5.221	A
2 - Leeds Road	473	118	1071	1171	0.404	475	442	1.3	0.7	5.463	A
3 - Wakefield Road (A638)	728	182	802	1503	0.484	731	744	1.7	1.0	4.774	A
4 - Owl Lane	735	184	792	1418	0.518	739	741	2.1	1.1	5.507	A

2030 DN, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junc 7	Standard Roundabout		1, 2, 3, 4	34.48	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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	2030 DN	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1524	100.000
2 - Leeds Road		ONE HOUR	✓	668	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1065	100.000
4 - Owl Lane		ONE HOUR	✓	863	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	73	787	662
	2 - Leeds Road	102	0	65	501
	3 - Wakefield Road (A638)	948	1	0	116
	4 - Owl Lane	578	256	25	4

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
1 - Chancery Road (A638)	0	6	4	7
2 - Leeds Road	9	0	7	8
3 - Wakefield Road (A638)	3	6	0	1
4 - Owl Lane	2	8	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)
1 - Chancery Road (A638)	0.90	19.45	8.6	C	1398	2098
2 - Leeds Road	0.85	27.61	5.3	D	613	919
3 - Wakefield Road (A638)	1.01	76.82	25.5	F	977	1466
4 - Owl Lane	0.78	14.08	3.6	B	792	1188

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1147	287	214	1924	0.596	1141	1220	0.0	1.5	4.811	A
2 - Leeds Road	503	126	1108	1150	0.437	500	247	0.0	0.8	5.947	A
3 - Wakefield Road (A638)	802	200	951	1418	0.566	797	657	0.0	1.3	5.907	A
4 - Owl Lane	650	162	788	1420	0.457	646	960	0.0	0.9	4.804	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1370	343	256	1899	0.722	1366	1459	1.5	2.7	7.053	A
2 - Leeds Road	601	150	1326	1033	0.582	598	296	0.8	1.5	8.897	A
3 - Wakefield Road (A638)	957	239	1138	1311	0.730	952	786	1.3	2.7	10.151	B
4 - Owl Lane	776	194	941	1327	0.585	774	1149	0.9	1.4	6.724	A

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
1 - Chancery Road (A638)	1678	419	312	1866	0.899	1657	1737	2.7	7.9	16.690	C
2 - Leeds Road	735	184	1609	879	0.836	722	360	1.5	4.8	23.064	C
3 - Wakefield Road (A638)	1173	293	1378	1174	0.998	1116	953	2.7	16.9	43.368	E
4 - Owl Lane	950	238	1107	1226	0.775	942	1387	1.4	3.4	12.834	B

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
1 - Chancery Road (A638)	1678	419	315	1864	0.900	1675	1763	7.9	8.6	19.446	C
2 - Leeds Road	735	184	1627	870	0.846	733	363	4.8	5.3	27.606	D
3 - Wakefield Road (A638)	1173	293	1396	1164	1.007	1138	964	16.9	25.5	76.823	F
4 - Owl Lane	950	238	1129	1213	0.784	949	1406	3.4	3.6	14.082	B

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
1 - Chancery Road (A638)	1370	343	260	1897	0.722	1393	1553	8.6	2.8	7.859	A
2 - Leeds Road	601	150	1353	1018	0.590	615	300	5.3	1.6	10.000	B
3 - Wakefield Road (A638)	957	239	1166	1295	0.739	1047	802	25.5	3.1	20.126	C
4 - Owl Lane	776	194	1029	1274	0.609	784	1184	3.6	1.7	7.742	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
1 - Chancery Road (A638)	1147	287	216	1922	0.597	1152	1236	2.8	1.6	4.956	A
2 - Leeds Road	503	126	1119	1145	0.439	506	250	1.6	0.9	6.116	A
3 - Wakefield Road (A638)	802	200	962	1412	0.568	809	663	3.1	1.4	6.203	A
4 - Owl Lane	650	162	799	1413	0.460	653	971	1.7	0.9	4.932	A

2030 DN, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Junc 7	Standard Roundabout		1, 2, 3, 4	16.81	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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	2030 DN	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1459	100.000
2 - Leeds Road		ONE HOUR	✓	583	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	810	100.000
4 - Owl Lane		ONE HOUR	✓	1004	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	92	790	574
	2 - Leeds Road	196	1	14	372
	3 - Wakefield Road (A638)	737	0	0	73
	4 - Owl Lane	629	305	69	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	2	4
	2 - Leeds Road	2	0	7	6
	3 - Wakefield Road (A638)	2	1	0	4
	4 - Owl Lane	4	2	5	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)
1 - Chancery Road (A638)	0.89	17.86	7.6	C	1339	2008
2 - Leeds Road	0.72	14.78	2.6	B	535	802
3 - Wakefield Road (A638)	0.72	10.50	2.5	B	743	1115
4 - Owl Lane	0.87	21.55	6.3	C	921	1382

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1098	275	281	1884	0.583	1093	1172	0.0	1.4	4.634	A
2 - Leeds Road	439	110	1076	1168	0.376	436	298	0.0	0.6	5.133	A
3 - Wakefield Road (A638)	610	152	859	1470	0.415	607	654	0.0	0.7	4.246	A
4 - Owl Lane	756	189	702	1473	0.513	752	764	0.0	1.1	5.135	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1312	328	337	1851	0.708	1308	1403	1.4	2.4	6.744	A
2 - Leeds Road	524	131	1288	1053	0.498	523	357	0.6	1.0	7.075	A
3 - Wakefield Road (A638)	728	182	1028	1374	0.530	726	782	0.7	1.1	5.665	A
4 - Owl Lane	903	226	840	1388	0.650	899	914	1.1	1.9	7.567	A

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
1 - Chancery Road (A638)	1606	402	408	1809	0.888	1588	1706	2.4	7.0	15.549	C
2 - Leeds Road	642	160	1564	904	0.710	636	432	1.0	2.4	13.784	B
3 - Wakefield Road (A638)	892	223	1250	1247	0.715	887	950	1.1	2.5	10.045	B
4 - Owl Lane	1105	276	1025	1276	0.866	1090	1112	1.9	5.8	18.625	C

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
1 - Chancery Road (A638)	1606	402	413	1806	0.889	1604	1721	7.0	7.6	17.857	C
2 - Leeds Road	642	160	1580	895	0.717	641	437	2.4	2.6	14.778	B
3 - Wakefield Road (A638)	892	223	1262	1241	0.719	892	960	2.5	2.5	10.505	B
4 - Owl Lane	1105	276	1031	1272	0.869	1104	1122	5.8	6.3	21.551	C

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
1 - Chancery Road (A638)	1312	328	344	1847	0.710	1332	1425	7.6	2.6	7.436	A
2 - Leeds Road	524	131	1312	1040	0.504	530	364	2.6	1.1	7.463	A
3 - Wakefield Road (A638)	728	182	1045	1364	0.534	734	797	2.5	1.2	5.882	A
4 - Owl Lane	903	226	849	1383	0.653	920	929	6.3	2.0	8.328	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
1 - Chancery Road (A638)	1098	275	284	1882	0.584	1103	1183	2.6	1.5	4.770	A
2 - Leeds Road	439	110	1086	1162	0.378	441	301	1.1	0.6	5.231	A
3 - Wakefield Road (A638)	610	152	867	1466	0.416	612	660	1.2	0.7	4.315	A
4 - Owl Lane	756	189	708	1469	0.515	759	771	2.0	1.1	5.275	A

2024 DS(A), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	38.93	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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	2024 DS(A)	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1455	100.000
2 - Leeds Road		ONE HOUR	✓	714	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1082	100.000
4 - Owl Lane		ONE HOUR	✓	857	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	63	746	644
	2 - Leeds Road	129	0	80	505
	3 - Wakefield Road (A638)	911	60	0	111
	4 - Owl Lane	550	271	32	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.88	16.55	7.0	C	1335	2003
2 - Leeds Road	0.87	29.43	6.0	D	655	983
3 - Wakefield Road (A638)	1.03	94.64	33.2	F	993	1489
4 - Owl Lane	0.79	14.49	3.7	B	786	1180

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1095	274	275	1888	0.580	1090	1191	0.0	1.4	4.481	A
2 - Leeds Road	538	134	1070	1171	0.459	534	295	0.0	0.8	5.622	A
3 - Wakefield Road (A638)	815	204	961	1412	0.577	809	643	0.0	1.3	5.920	A
4 - Owl Lane	645	161	824	1398	0.461	642	946	0.0	0.8	4.740	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1308	327	329	1856	0.705	1304	1424	1.4	2.3	6.478	A
2 - Leeds Road	642	160	1280	1058	0.607	639	353	0.8	1.5	8.550	A
3 - Wakefield Road (A638)	973	243	1150	1304	0.746	967	769	1.3	2.8	10.485	B
4 - Owl Lane	770	193	985	1300	0.593	768	1132	0.8	1.4	6.736	A

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
1 - Chancery Road (A638)	1602	400	397	1816	0.882	1585	1685	2.3	6.6	14.633	B
2 - Leeds Road	786	197	1556	908	0.865	771	427	1.5	5.3	23.920	C
3 - Wakefield Road (A638)	1191	298	1392	1166	1.021	1121	934	2.8	20.5	49.500	E
4 - Owl Lane	944	236	1147	1201	0.785	936	1366	1.4	3.4	13.160	B

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
1 - Chancery Road (A638)	1602	400	401	1813	0.883	1600	1709	6.6	7.0	16.554	C
2 - Leeds Road	786	197	1571	900	0.873	783	431	5.3	6.0	29.430	D
3 - Wakefield Road (A638)	1191	298	1410	1156	1.031	1141	943	20.5	33.2	94.637	F
4 - Owl Lane	944	236	1167	1189	0.794	943	1384	3.4	3.7	14.491	B

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
1 - Chancery Road (A638)	1308	327	339	1850	0.707	1326	1540	7.0	2.5	7.106	A
2 - Leeds Road	642	160	1302	1046	0.614	660	364	6.0	1.6	9.724	A
3 - Wakefield Road (A638)	973	243	1178	1288	0.755	1092	783	33.2	3.3	28.818	D
4 - Owl Lane	770	193	1101	1229	0.627	778	1169	3.7	1.7	8.111	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
1 - Chancery Road (A638)	1095	274	278	1886	0.581	1100	1208	2.5	1.4	4.604	A
2 - Leeds Road	538	134	1079	1166	0.461	541	298	1.6	0.9	5.784	A
3 - Wakefield Road (A638)	815	204	971	1406	0.579	822	649	3.3	1.4	6.242	A
4 - Owl Lane	645	161	837	1390	0.464	649	956	1.7	0.9	4.877	A

2024 DS(A), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	23.41	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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	2024 DS(A)	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1434	100.000
2 - Leeds Road		ONE HOUR	✓	629	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	967	100.000
4 - Owl Lane		ONE HOUR	✓	977	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	88	798	545
	2 - Leeds Road	146	1	115	367
	3 - Wakefield Road (A638)	787	111	0	69
	4 - Owl Lane	522	384	70	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.94	29.32	12.1	D	1316	1974
2 - Leeds Road	0.76	16.40	3.0	C	577	866
3 - Wakefield Road (A638)	0.82	15.42	4.4	C	887	1331
4 - Owl Lane	0.90	27.18	7.6	D	897	1345

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1080	270	424	1800	0.600	1074	1092	0.0	1.5	4.921	A
2 - Leeds Road	474	118	1061	1176	0.403	471	437	0.0	0.7	5.086	A
3 - Wakefield Road (A638)	728	182	796	1506	0.483	724	736	0.0	0.9	4.583	A
4 - Owl Lane	736	184	785	1422	0.517	731	735	0.0	1.1	5.182	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1289	322	508	1750	0.736	1284	1306	1.5	2.7	7.641	A
2 - Leeds Road	565	141	1269	1063	0.532	564	523	0.7	1.1	7.176	A
3 - Wakefield Road (A638)	869	217	952	1417	0.613	867	880	0.9	1.6	6.510	A
4 - Owl Lane	878	220	939	1328	0.661	875	880	1.1	1.9	7.887	A

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
1 - Chancery Road (A638)	1579	395	614	1688	0.935	1548	1585	2.7	10.3	22.174	C
2 - Leeds Road	693	173	1530	922	0.751	686	632	1.1	2.8	14.809	B
3 - Wakefield Road (A638)	1065	266	1153	1303	0.817	1054	1063	1.6	4.1	13.955	B
4 - Owl Lane	1076	269	1143	1204	0.893	1056	1065	1.9	6.8	21.960	C

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
1 - Chancery Road (A638)	1579	395	623	1683	0.938	1572	1602	10.3	12.1	29.316	D
2 - Leeds Road	693	173	1553	910	0.761	692	641	2.8	3.0	16.397	C
3 - Wakefield Road (A638)	1065	266	1167	1295	0.822	1064	1078	4.1	4.4	15.420	C
4 - Owl Lane	1076	269	1153	1198	0.898	1072	1078	6.8	7.6	27.178	D

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
1 - Chancery Road (A638)	1289	322	521	1742	0.740	1326	1333	12.1	2.9	9.350	A
2 - Leeds Road	565	141	1310	1041	0.543	573	537	3.0	1.2	7.798	A
3 - Wakefield Road (A638)	869	217	976	1404	0.619	880	907	4.4	1.7	7.014	A
4 - Owl Lane	878	220	954	1319	0.666	901	902	7.6	2.0	9.044	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
1 - Chancery Road (A638)	1080	270	429	1797	0.601	1085	1103	2.9	1.5	5.097	A
2 - Leeds Road	474	118	1072	1170	0.405	476	442	1.2	0.7	5.200	A
3 - Wakefield Road (A638)	728	182	804	1502	0.485	731	744	1.7	1.0	4.688	A
4 - Owl Lane	736	184	792	1418	0.519	739	743	2.0	1.1	5.338	A

2024 DS(A+B), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	43.24	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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
D9	2024 DS(A+B)	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1473	100.000
2 - Leeds Road		ONE HOUR	✓	721	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1082	100.000
4 - Owl Lane		ONE HOUR	✓	861	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	63	746	662
	2 - Leeds Road	129	0	80	512
	3 - Wakefield Road (A638)	911	60	0	111
	4 - Owl Lane	553	272	32	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.89	18.11	7.8	C	1352	2027
2 - Leeds Road	0.89	33.74	7.0	D	662	992
3 - Wakefield Road (A638)	1.04	106.74	38.1	F	993	1489
4 - Owl Lane	0.79	14.40	3.7	B	790	1185

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1109	277	276	1887	0.588	1103	1193	0.0	1.4	4.558	A
2 - Leeds Road	543	136	1083	1164	0.466	539	296	0.0	0.9	5.733	A
3 - Wakefield Road (A638)	815	204	980	1401	0.581	809	643	0.0	1.4	6.023	A
4 - Owl Lane	648	162	824	1398	0.464	645	965	0.0	0.9	4.758	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1324	331	330	1856	0.714	1320	1427	1.4	2.4	6.671	A
2 - Leeds Road	648	162	1296	1049	0.618	645	354	0.9	1.6	8.856	A
3 - Wakefield Road (A638)	973	243	1172	1292	0.753	967	769	1.4	2.9	10.866	B
4 - Owl Lane	774	194	985	1300	0.595	772	1154	0.9	1.4	6.779	A

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
1 - Chancery Road (A638)	1622	405	398	1815	0.893	1603	1681	2.4	7.2	15.700	C
2 - Leeds Road	794	198	1573	899	0.883	776	427	1.6	6.0	26.309	D
3 - Wakefield Road (A638)	1191	298	1417	1152	1.034	1112	933	2.9	22.7	53.654	F
4 - Owl Lane	948	237	1139	1206	0.786	940	1390	1.4	3.4	13.144	B

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
1 - Chancery Road (A638)	1622	405	401	1813	0.894	1620	1703	7.2	7.8	18.114	C
2 - Leeds Road	794	198	1590	890	0.892	790	431	6.0	7.0	33.738	D
3 - Wakefield Road (A638)	1191	298	1437	1141	1.044	1129	943	22.7	38.1	106.735	F
4 - Owl Lane	948	237	1157	1195	0.793	947	1409	3.4	3.7	14.396	B

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
1 - Chancery Road (A638)	1324	331	341	1849	0.716	1345	1559	7.8	2.6	7.422	A
2 - Leeds Road	648	162	1320	1036	0.626	669	366	7.0	1.7	10.349	B
3 - Wakefield Road (A638)	973	243	1205	1273	0.764	1111	784	38.1	3.5	37.953	E
4 - Owl Lane	774	194	1119	1219	0.635	782	1197	3.7	1.8	8.372	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
1 - Chancery Road (A638)	1109	277	279	1886	0.588	1114	1211	2.6	1.4	4.692	A
2 - Leeds Road	543	136	1093	1159	0.469	546	299	1.7	0.9	5.910	A
3 - Wakefield Road (A638)	815	204	991	1395	0.584	823	649	3.5	1.4	6.377	A
4 - Owl Lane	648	162	838	1390	0.466	652	976	1.8	0.9	4.901	A

2024 DS(A+B), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	25.12	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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
D10	2024 DS(A+B)	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1436	100.000
2 - Leeds Road		ONE HOUR	✓	630	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	967	100.000
4 - Owl Lane		ONE HOUR	✓	999	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	88	798	547
	2 - Leeds Road	146	1	115	368
	3 - Wakefield Road (A638)	787	111	0	69
	4 - Owl Lane	537	391	70	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.94	30.50	12.6	D	1318	1977
2 - Leeds Road	0.76	16.53	3.1	C	578	867
3 - Wakefield Road (A638)	0.82	15.53	4.4	C	887	1331
4 - Owl Lane	0.92	32.08	9.2	D	917	1375

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1081	270	430	1797	0.602	1075	1103	0.0	1.5	4.951	A
2 - Leeds Road	474	119	1062	1175	0.404	472	442	0.0	0.7	5.097	A
3 - Wakefield Road (A638)	728	182	798	1505	0.484	724	736	0.0	0.9	4.596	A
4 - Owl Lane	752	188	785	1422	0.529	748	737	0.0	1.1	5.304	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1291	323	514	1747	0.739	1286	1320	1.5	2.7	7.728	A
2 - Leeds Road	566	142	1271	1063	0.533	565	529	0.7	1.1	7.203	A
3 - Wakefield Road (A638)	869	217	955	1416	0.614	867	880	0.9	1.6	6.528	A
4 - Owl Lane	898	225	939	1328	0.676	894	882	1.1	2.0	8.233	A

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
1 - Chancery Road (A638)	1581	395	620	1684	0.939	1549	1599	2.7	10.7	22.737	C
2 - Leeds Road	694	173	1531	922	0.753	687	638	1.1	2.9	14.898	B
3 - Wakefield Road (A638)	1065	266	1156	1301	0.818	1054	1062	1.6	4.1	14.034	B
4 - Owl Lane	1100	275	1143	1204	0.913	1076	1068	2.0	7.9	24.661	C

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
1 - Chancery Road (A638)	1581	395	630	1679	0.942	1573	1618	10.7	12.6	30.500	D
2 - Leeds Road	694	173	1555	909	0.763	693	648	2.9	3.1	16.532	C
3 - Wakefield Road (A638)	1065	266	1170	1293	0.823	1064	1078	4.1	4.4	15.529	C
4 - Owl Lane	1100	275	1153	1198	0.918	1095	1081	7.9	9.2	32.083	D

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
1 - Chancery Road (A638)	1291	323	530	1737	0.743	1329	1350	12.6	3.0	9.604	A
2 - Leeds Road	566	142	1314	1039	0.545	574	546	3.1	1.2	7.850	A
3 - Wakefield Road (A638)	869	217	979	1402	0.620	880	908	4.4	1.7	7.041	A
4 - Owl Lane	898	225	954	1319	0.681	926	905	9.2	2.2	9.780	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
1 - Chancery Road (A638)	1081	270	434	1794	0.603	1087	1114	3.0	1.5	5.134	A
2 - Leeds Road	474	119	1074	1169	0.406	476	447	1.2	0.7	5.215	A
3 - Wakefield Road (A638)	728	182	807	1500	0.485	731	744	1.7	1.0	4.697	A
4 - Owl Lane	752	188	792	1418	0.531	756	745	2.2	1.1	5.477	A

2030 DS(A), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	34.06	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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
D11	2030 DS(A)	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1526	100.000
2 - Leeds Road		ONE HOUR	✓	669	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1065	100.000
4 - Owl Lane		ONE HOUR	✓	872	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	73	787	664
	2 - Leeds Road	102	0	65	502
	3 - Wakefield Road (A638)	948	1	0	116
	4 - Owl Lane	584	259	25	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.90	18.88	8.4	C	1400	2100
2 - Leeds Road	0.85	26.06	5.0	D	614	921
3 - Wakefield Road (A638)	1.01	77.19	25.7	F	977	1466
4 - Owl Lane	0.79	14.07	3.6	B	800	1200

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1149	287	216	1922	0.598	1143	1224	0.0	1.5	4.586	A
2 - Leeds Road	504	126	1110	1149	0.438	501	249	0.0	0.8	5.531	A
3 - Wakefield Road (A638)	802	200	954	1416	0.566	797	657	0.0	1.3	5.763	A
4 - Owl Lane	656	164	788	1420	0.462	653	963	0.0	0.9	4.672	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1372	343	259	1897	0.723	1368	1464	1.5	2.5	6.742	A
2 - Leeds Road	601	150	1328	1031	0.583	599	298	0.8	1.4	8.278	A
3 - Wakefield Road (A638)	957	239	1141	1309	0.731	952	786	1.3	2.6	9.927	A
4 - Owl Lane	784	196	942	1327	0.591	782	1152	0.9	1.4	6.578	A

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
1 - Chancery Road (A638)	1680	420	316	1864	0.901	1659	1743	2.5	7.7	16.191	C
2 - Leeds Road	737	184	1612	878	0.839	724	363	1.4	4.5	21.807	C
3 - Wakefield Road (A638)	1173	293	1382	1172	1.000	1115	953	2.6	17.0	43.257	E
4 - Owl Lane	960	240	1106	1226	0.783	952	1391	1.4	3.4	12.781	B

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
1 - Chancery Road (A638)	1680	420	318	1862	0.902	1678	1769	7.7	8.4	18.881	C
2 - Leeds Road	737	184	1629	869	0.848	734	366	4.5	5.0	26.061	D
3 - Wakefield Road (A638)	1173	293	1400	1162	1.009	1138	964	17.0	25.7	77.191	F
4 - Owl Lane	960	240	1128	1213	0.791	959	1409	3.4	3.6	14.074	B

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
1 - Chancery Road (A638)	1372	343	263	1895	0.724	1394	1559	8.4	2.7	7.498	A
2 - Leeds Road	601	150	1354	1017	0.591	616	303	5.0	1.5	9.263	A
3 - Wakefield Road (A638)	957	239	1168	1294	0.740	1048	802	25.7	3.0	19.927	C
4 - Owl Lane	784	196	1030	1273	0.616	792	1187	3.6	1.6	7.604	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
1 - Chancery Road (A638)	1149	287	219	1921	0.598	1154	1240	2.7	1.5	4.719	A
2 - Leeds Road	504	126	1120	1144	0.440	506	252	1.5	0.8	5.670	A
3 - Wakefield Road (A638)	802	200	964	1411	0.568	808	663	3.0	1.3	6.041	A
4 - Owl Lane	656	164	799	1413	0.465	660	973	1.6	0.9	4.796	A

2030 DS(A), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	16.64	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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
D12	2030 DS(A)	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1463	100.000
2 - Leeds Road		ONE HOUR	✓	585	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	810	100.000
4 - Owl Lane		ONE HOUR	✓	1007	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	92	790	578
	2 - Leeds Road	196	1	14	374
	3 - Wakefield Road (A638)	737	0	0	73
	4 - Owl Lane	631	306	69	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.89	17.82	7.6	C	1342	2014
2 - Leeds Road	0.72	14.39	2.5	B	537	805
3 - Wakefield Road (A638)	0.72	10.39	2.5	B	743	1115
4 - Owl Lane	0.87	21.24	6.2	C	924	1386

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1101	275	282	1883	0.585	1096	1174	0.0	1.4	4.539	A
2 - Leeds Road	440	110	1079	1166	0.378	438	299	0.0	0.6	4.929	A
3 - Wakefield Road (A638)	610	152	863	1468	0.415	607	654	0.0	0.7	4.169	A
4 - Owl Lane	758	190	702	1472	0.515	754	768	0.0	1.0	4.982	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1315	329	338	1851	0.711	1311	1405	1.4	2.4	6.621	A
2 - Leeds Road	526	131	1291	1051	0.500	524	357	0.6	1.0	6.810	A
3 - Wakefield Road (A638)	728	182	1033	1371	0.531	727	782	0.7	1.1	5.571	A
4 - Owl Lane	905	226	840	1388	0.652	902	920	1.0	1.8	7.359	A

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
1 - Chancery Road (A638)	1611	403	409	1809	0.891	1592	1709	2.4	7.0	15.468	C
2 - Leeds Road	644	161	1568	902	0.714	639	433	1.0	2.4	13.405	B
3 - Wakefield Road (A638)	892	223	1257	1244	0.717	887	950	1.1	2.4	9.934	A
4 - Owl Lane	1109	277	1025	1276	0.869	1093	1118	1.8	5.7	18.329	C

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
1 - Chancery Road (A638)	1611	403	414	1806	0.892	1609	1724	7.0	7.6	17.824	C
2 - Leeds Road	644	161	1584	893	0.721	644	439	2.4	2.5	14.386	B
3 - Wakefield Road (A638)	892	223	1268	1237	0.721	892	960	2.4	2.5	10.393	B
4 - Owl Lane	1109	277	1031	1272	0.872	1107	1128	5.7	6.2	21.244	C

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
1 - Chancery Road (A638)	1315	329	345	1846	0.712	1335	1426	7.6	2.5	7.313	A
2 - Leeds Road	526	131	1316	1038	0.507	532	365	2.5	1.0	7.187	A
3 - Wakefield Road (A638)	728	182	1050	1361	0.535	734	797	2.5	1.2	5.784	A
4 - Owl Lane	905	226	849	1383	0.655	922	935	6.2	1.9	8.096	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
1 - Chancery Road (A638)	1101	275	285	1882	0.585	1106	1184	2.5	1.4	4.667	A
2 - Leeds Road	440	110	1089	1161	0.379	442	302	1.0	0.6	5.023	A
3 - Wakefield Road (A638)	610	152	871	1463	0.417	612	660	1.2	0.7	4.237	A
4 - Owl Lane	758	190	708	1469	0.516	762	775	1.9	1.1	5.114	A

2030 DS(A+B), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	67.57	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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
D13	2030 DS(A+B)	AM	ONE HOUR	07:15	08:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1603	100.000
2 - Leeds Road		ONE HOUR	✓	687	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	1069	100.000
4 - Owl Lane		ONE HOUR	✓	1130	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	2	73	787	741
	2 - Leeds Road	102	0	65	520
	3 - Wakefield Road (A638)	948	1	0	120
	4 - Owl Lane	792	300	34	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	0.96	35.72	16.6	E	1471	2206
2 - Leeds Road	0.92	43.13	8.5	E	630	946
3 - Wakefield Road (A638)	1.06	123.80	44.6	F	981	1471
4 - Owl Lane	1.01	74.43	26.0	F	1037	1555

Main Results for each time segment

07:15 - 07:30

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
1 - Chancery Road (A638)	1207	302	253	1900	0.635	1200	1379	0.0	1.7	5.092	A
2 - Leeds Road	517	129	1174	1115	0.464	514	280	0.0	0.9	5.955	A
3 - Wakefield Road (A638)	805	201	1024	1376	0.585	799	663	0.0	1.4	6.184	A
4 - Owl Lane	851	213	787	1421	0.599	845	1036	0.0	1.5	6.193	A

07:30 - 07:45

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
1 - Chancery Road (A638)	1441	360	303	1871	0.770	1435	1647	1.7	3.2	8.137	A
2 - Leeds Road	618	154	1404	991	0.623	615	334	0.9	1.6	9.497	A
3 - Wakefield Road (A638)	961	240	1225	1262	0.762	954	793	1.4	3.0	11.474	B
4 - Owl Lane	1016	254	940	1327	0.765	1009	1239	1.5	3.1	11.095	B

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
1 - Chancery Road (A638)	1765	441	356	1840	0.959	1724	1908	3.2	13.5	25.049	D
2 - Leeds Road	756	189	1685	838	0.902	736	394	1.6	6.8	30.548	D
3 - Wakefield Road (A638)	1177	294	1469	1122	1.049	1088	952	3.0	25.2	59.265	F
4 - Owl Lane	1244	311	1077	1244	1.000	1186	1480	3.1	17.5	42.587	E

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
1 - Chancery Road (A638)	1765	441	363	1836	0.961	1753	1937	13.5	16.6	35.719	E
2 - Leeds Road	756	189	1714	823	0.919	749	402	6.8	8.5	43.133	E
3 - Wakefield Road (A638)	1177	294	1495	1108	1.063	1100	968	25.2	44.6	123.805	F
4 - Owl Lane	1244	311	1090	1236	1.006	1210	1505	17.5	26.0	74.428	F

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
1 - Chancery Road (A638)	1441	360	330	1855	0.777	1493	1864	16.6	3.6	11.239	B
2 - Leeds Road	618	154	1462	959	0.644	644	361	8.5	1.9	12.329	B
3 - Wakefield Road (A638)	961	240	1279	1231	0.781	1123	827	44.6	4.0	57.459	F
4 - Owl Lane	1016	254	1095	1233	0.824	1099	1307	26.0	5.3	35.959	E

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
1 - Chancery Road (A638)	1207	302	260	1897	0.636	1214	1409	3.6	1.8	5.330	A
2 - Leeds Road	517	129	1188	1107	0.467	521	286	1.9	0.9	6.184	A
3 - Wakefield Road (A638)	805	201	1038	1369	0.588	815	671	4.0	1.5	6.625	A
4 - Owl Lane	851	213	803	1411	0.603	866	1050	5.3	1.5	6.775	A

2030 DS(A+B), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Wakefield Road (A638) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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	Junc 7	Standard Roundabout		1, 2, 3, 4	90.82	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

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
D14	2030 DS(A+B)	PM	ONE HOUR	16:15	17:45	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 (%)
1 - Chancery Road (A638)		ONE HOUR	✓	1699	100.000
2 - Leeds Road		ONE HOUR	✓	646	100.000
3 - Wakefield Road (A638)		ONE HOUR	✓	822	100.000
4 - Owl Lane		ONE HOUR	✓	1258	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	3	92	790	814
	2 - Leeds Road	196	1	14	435
	3 - Wakefield Road (A638)	737	0	0	85
	4 - Owl Lane	820	358	79	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Chancery Road (A638)	2 - Leeds Road	3 - Wakefield Road (A638)	4 - Owl Lane
From	1 - Chancery Road (A638)	0	0	0	0
	2 - Leeds Road	0	0	0	0
	3 - Wakefield Road (A638)	0	0	0	0
	4 - Owl Lane	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)
1 - Chancery Road (A638)	1.05	100.61	57.2	F	1559	2339
2 - Leeds Road	0.89	37.13	6.9	E	593	889
3 - Wakefield Road (A638)	0.84	20.19	4.8	C	754	1131
4 - Owl Lane	1.09	151.31	65.1	F	1154	1732

Main Results for each time segment

16:15 - 16:30

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
1 - Chancery Road (A638)	1279	320	328	1856	0.689	1270	1313	0.0	2.2	6.056	A
2 - Leeds Road	486	122	1261	1068	0.456	483	337	0.0	0.8	6.125	A
3 - Wakefield Road (A638)	619	155	1084	1342	0.461	615	660	0.0	0.8	4.933	A
4 - Owl Lane	947	237	701	1473	0.643	940	998	0.0	1.8	6.672	A

16:30 - 16:45

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
1 - Chancery Road (A638)	1527	382	391	1819	0.840	1517	1569	2.2	4.9	11.507	B
2 - Leeds Road	581	145	1506	935	0.621	578	402	0.8	1.6	9.978	A
3 - Wakefield Road (A638)	739	185	1295	1222	0.605	736	788	0.8	1.5	7.378	A
4 - Owl Lane	1131	283	839	1389	0.814	1122	1193	1.8	4.1	13.034	B

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
1 - Chancery Road (A638)	1871	468	439	1791	1.044	1753	1834	4.9	34.2	49.866	E
2 - Leeds Road	711	178	1738	810	0.878	695	454	1.6	5.7	28.087	D
3 - Wakefield Road (A638)	905	226	1524	1091	0.829	894	909	1.5	4.4	17.280	C
4 - Owl Lane	1385	346	1016	1281	1.081	1257	1401	4.1	36.2	69.094	F

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
1 - Chancery Road (A638)	1871	468	443	1789	1.046	1779	1855	34.2	57.2	100.605	F
2 - Leeds Road	711	178	1763	796	0.893	707	459	5.7	6.9	37.133	E
3 - Wakefield Road (A638)	905	226	1548	1078	0.840	903	922	4.4	4.8	20.195	C
4 - Owl Lane	1385	346	1028	1274	1.087	1269	1422	36.2	65.1	151.315	F

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
1 - Chancery Road (A638)	1527	382	474	1770	0.863	1722	1743	57.2	8.4	69.729	F
2 - Leeds Road	581	145	1716	822	0.707	598	481	6.9	2.5	17.173	C
3 - Wakefield Road (A638)	739	185	1414	1154	0.640	751	899	4.8	1.8	9.192	A
4 - Owl Lane	1131	283	859	1377	0.821	1358	1307	65.1	8.3	103.710	F

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
1 - Chancery Road (A638)	1279	320	340	1850	0.692	1304	1344	8.4	2.3	6.881	A
2 - Leeds Road	486	122	1295	1049	0.463	493	348	2.5	0.9	6.544	A
3 - Wakefield Road (A638)	619	155	1110	1327	0.466	623	678	1.8	0.9	5.137	A
4 - Owl Lane	947	237	711	1467	0.646	973	1022	8.3	1.9	7.652	A