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Appendix C

(Designers Response report to this Stage 1 Road Safety Audit)

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DESIGNER'S RESPONSE

Auditors: John Bowman (Audit Team Leader) – JB Road Safety Consultancy Ltd.
Beth Newiss (Audit Team Member)

Date Audit Completed: Monday 12th June 2017

Dover Road, Deal PROPOSED ACCESS ARRANGEMENTS OPTION A

This response is to a Stage 1 Road Safety Audit to the design standard detailed within Volume 5, Section 2, Part 2 (HD19/15) of the Design Manual for Roads and Bridges (Road Safety Audit).

Problem no. in safety audit report	Problem(s) accepted (yes/no)	Recommended measure accepted (yes/no/in part)	Alternative measure (detail description)
GENERAL			
2.1	Yes	Yes	Accepted. Details on lighting, signage, vegetation and drainage will be provided at the detail design stage for the Stage 2 Road Safety Audit.
PROBLEM			
2.2	No	Yes	Noted. Widening of the footway has been provided on the opposite side of the carriageway, as such existing driveway will be maintained and remain in-situ. Furthermore information will be provided at the detailed design and be subject to a Stage 2 Road Safety Audit.
2.5	No	In part	Noted. The design team cannot provide a connecting footway on the eastern footpath from the site to the existing southbound bus stop as the applicant is not in control of the land past their site boundary. A connection to the site boundary can be provided. An additional uncontrolled crossing can be provided but outside of the site boundary.
2.6	No	No	Noted. The proposal allows for a 2m wide footway only. Cycle movements have been projected within the TA that the development would generate one two-way cycling trip in the Am peak hour and two two-way trips in the PM peak hour. The access has been designed in accordance with the 'Kent Design Guidance' which considers the needs of all users, therefore we consider this unnecessary.

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A258 DOVER ROAD WALMER KENT

PROPOSED NEW ACCESS JUNCTION FOR RESIDENTIAL DEVELOPMENT & HIGHWAYS ARRANGEMENT

Option B

Stage 1 Road Safety Audit

June 2017

Notice

This report was produced by *JB Road Safety Consultancy Limited* for *Iceni Projects*, for the specific purpose of documenting the Stage 1 Road Safety Audit process undertaken in accordance with HD19/15.

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Appendix A – Drawings and Documents supplied by Icen Projects for the Stage 1 Road Safety Audit

Appendix B – Annotated Drawing showing locations of the problems highlighted in this Stage 1 Road Safety Audit

Appendix C – Designers Response report to this Stage 1 Road Safety Audit

DISTRIBUTION RECORD

Issued to	Document Number	Issue Number
DRAFT		1
Master/File Copy – Author	1	1
Icen Projects – Ed Faldo	2	1
Icen Projects – Fred Peters	3	1
FINAL		1
Master/File Copy – Author	1	1
Icen Projects – Ed Faldo	2	1
Icen Projects – Fred Peters	3	1

- **Drawing Number 06 Revision - - Dover Road, Walmer, Kent – Swept Path Analysis – Icen**

Other documents referred to for the purpose of this Stage 1 RSA were

- **Collision Data 01 July 2013 – 30 June 2016 – Cross Road and Dover Road Deal – Kent County Council – 10 March 2017.**
- **RSA 1 Safety Audit Brief Dover Road Option 2 - Dated 9th June 2017 – Icen Projects**

The Stage 1 Road Safety Audit was undertaken by the Audit Team detailed above and the site was visited, with both Audit Team members in attendance during the late morning and early afternoon of Monday 12th June 2017, when the weather conditions were dry and sunny with a dry road surface.

During the visit there was a constant flow of traffic along Dover Road in the vicinity of the site, comprising of buses, private cars and light goods vehicles. There were a number of pedestrians, including a number of older pedestrians primarily walking towards the southbound bus stop from the north. No cyclists or equestrians were seen.

- 1.2** No details of any Departures from Standard have been provided by the Design Organisation.
- 1.3** Speed data has not been provided by the Design Organisation for the relevant location, and during the site visit the Audit Team commented that the overall speed of northbound road users appeared to be in excess of the 30mph speed limit. Whilst the provision of a Vehicle Activated Sign on the northbound route would tend to support this, it is not known what the rationale behind this provision was or when.
- 1.4** During the course of the site visit a number of older persons were seen to arrive at the southbound bus stop from the north.
- 1.5** Collision data, obtained from Kent County Council, for the 3-year period up to 30th June 2016 for the relevant location and has been provided by the Design Organisation to the Audit team. Full details are shown in the Audit Brief Section A2.

2. Items Raised During This Stage 1 Road Safety Audit

As a result of an examination of the drawings and documents supplied by Icen Projects, and the site inspection undertaken between 11:15hrs and 12:30hrs on Tuesday 13th June 2017, the problems highlighted in Sections 2.1 to 2.5 were identified. The recommended course of action that should be taken in respect of each problem was also indicated, and the locations are shown on the A3 drawing in Appendix B.

2.1 GENERAL

The drawings and documentation provided make no reference of the following:

- a) Lighting – the provision of any new lighting columns;
- b) Signage – the provision of any new signs, including bollards on the new island, 'new road layout' and 'junction ahead' warning sign relating to the new access;
- c) Vegetation – the cut back of vegetation encroaching onto the footway opposite the new junction, and
- d) Drainage – the re-location of existing and / or provision of new gullies where appropriate.

RECOMMENDATION

It is recommended that all information be provided for the detailed design Stage 2 Road Safety Audit, and in accordance with the Local Authority policy.

2.2 PROBLEM

Location : Dover Road

Summary: Existing Driveways

The drawing provided makes no reference to any existing driveways that front onto Dover Road on the western side, and it is not clear what provision is to be made in respect of kerbing and footway crossovers.

RECOMMENDATION

It is recommended that all information be provided for the detailed design Stage 2 Road Safety Audit, and in accordance with the Local Authority policy.

2.3 THE ALIGNMENT

No safety issues raised at this Stage 1 Road Safety Audit.

2.4 THE JUNCTIONS

No safety issues raised at this Stage 1 Road Safety Audit.

2.5 NON MOTORISED USERS (NMUS)

PROBLEM

Location A: Dover Road / New access – new footway and crossing facility

Summary: Pedestrian access to southbound bus stop

The drawing provided shows the provision of a new 2m wide footway / cycleway leading from the new access road to a new bus stop north of the access. This new bus stop on Dover Road, is approximately 80m south of the existing one near the junction with Downlands. Whilst the new bus stop will serve residents from the new development and those on the western side of Dover Road via the new island, pedestrians wishing to access it from the north will have to cross Dover Road in the vicinity of Downlands, walk to the new crossing point and walk back or walk in the carriageway. Whilst the crossing facility gives access to both the north and southbound bus stop from the proposed development the footway on the eastern side of Dover Road stops at the bus stop. The absence of a connecting footway northwards to Downlands may encourage pedestrians to walk in the carriageway rather than the increased distance involved, increasing the risk of conflict with other road users.

RECOMMENDATION

It is recommended that the Design Team explore the possibility of extending the proposed eastern footway to tie-in with the existing one, providing a connecting link on the eastern side or an additional uncontrolled pedestrian crossing facility in the vicinity of the existing southbound bus stop. Full details to be provided at the detailed design stage for the Stage 2 Road Safety

2.6 PROBLEM

Location B : Dover Road – New footway / cycleway

Summary: No connectivity for pedal cyclists

The drawing provided shows the provision of a new 2m wide footway / cycleway leading from the new development. No details have been provided as to whether this is to be a shared facility or not. However, the proposed facility does not outline how pedal cyclists are to access Dover Road. The lack of proper joining facilities increases the risk to all road users as pedal cyclist would chose as and when to join / leave the Dover Road.

RECOMMENDATION

It is recommended that the Design Team liaise with Kent County Council Cycling Officer to explore the most appropriate measures for joining Dover Road. Full details to be provided at the detailed design stage for the Stage 2 Road Safety

2.7 SIGNING & LINING

No issues at this Stage 1

3. Road Safety Audit Team Statement

We certify that this audit has been undertaken in accordance with HD 19/15.

AUDIT TEAM LEADER:

Name: John Bowman MCIHT MSoRSA
Position: Director
Organisation: JB Road Safety Consultancy Ltd
Address: 12 Dorset Avenue, Gt Baddow, Chelmsford, Essex, CM2 9TZ

Signed

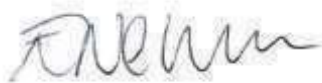


Date 21st June 2017

AUDIT TEAM MEMBER:

Name: Beth Newiss AMCIHT MSoRSA
Position: Traffic Safety Consultant
Organisation: JB Road Safety Consultancy Ltd
Address: 12 Dorset Avenue, Gt Baddow, Chelmsford, Essex, CM2 9TZ

Signed:



Date 21st June 2017

Audit Team Leader's Contact Details:

Direct Telephone: 07775 631650
Email address: javbowman@btinternet.com

Appendix A

(Details of the Drawings and Documents Supplied by
Client for This Stage 1 Road Safety Audit)

Drawing Number 06.1 Revision - - Dover Road, Walmer, Kent - Potential Access Arrangement - Option 1 - Icen

Drawing Number 06 Revision - - Dover Road, Walmer, Kent - Swept Path Analysis - Icen

Other documents referred to for the purpose of this Stage 1 RSA were

Collision Data 01 July 2013 - 30 June 2016 - Cross Road and Dover Road Deal - Kent County Council - 10 March 2017.

RSA 1 Safety Audit Brief Dover Road Option 1 - Dated 9th June 2017 - Icen Projects

Appendix B

(Annotated Drawing showing locations of Problems
Highlighted in This Stage 1 Road Safety Audit)

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Appendix C

(Designers Response report to this Stage 1 Road Safety Audit)

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DESIGNER'S RESPONSE

Auditors: John Bowman (Audit Team Leader) – JB Road Safety Consultancy Ltd.
Beth Newiss (Audit Team Member)

Date Audit Completed: Monday 12th June 2017

Dover Road, Deal PROPOSED ACCESS ARRANGEMENTS OPTION B

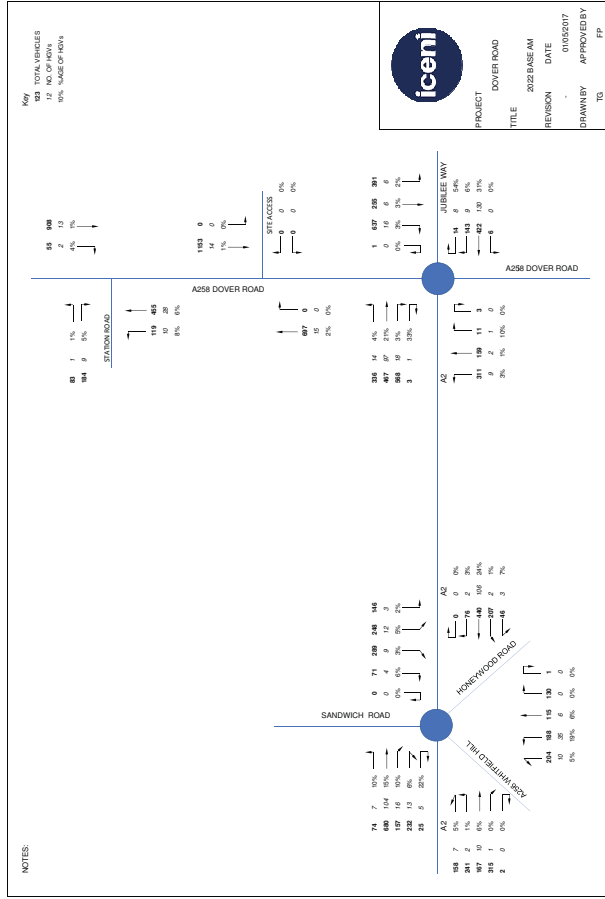
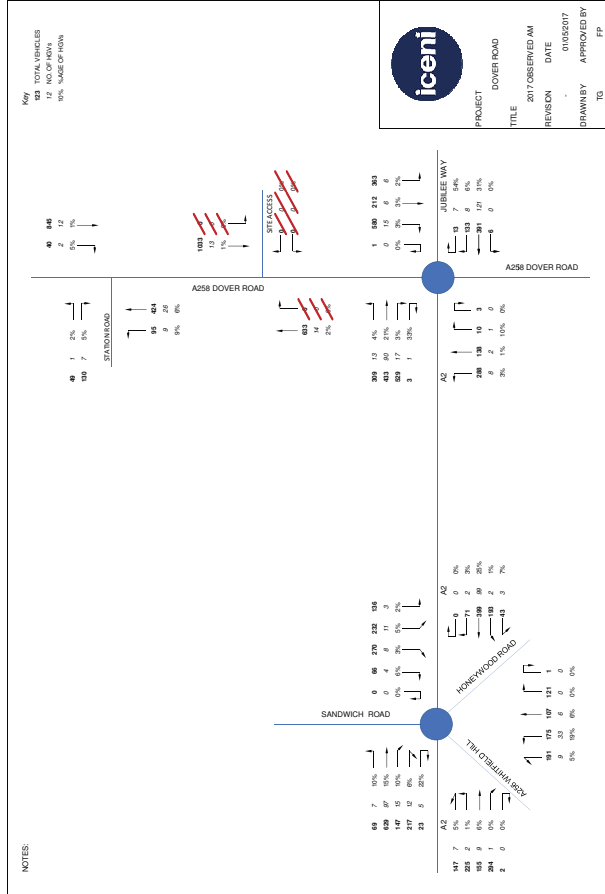
This response is to a Stage 1 Road Safety Audit to the design standard detailed within Volume 5, Section 2, Part 2 (HD19/15) of the Design Manual for Roads and Bridges (Road Safety Audit).

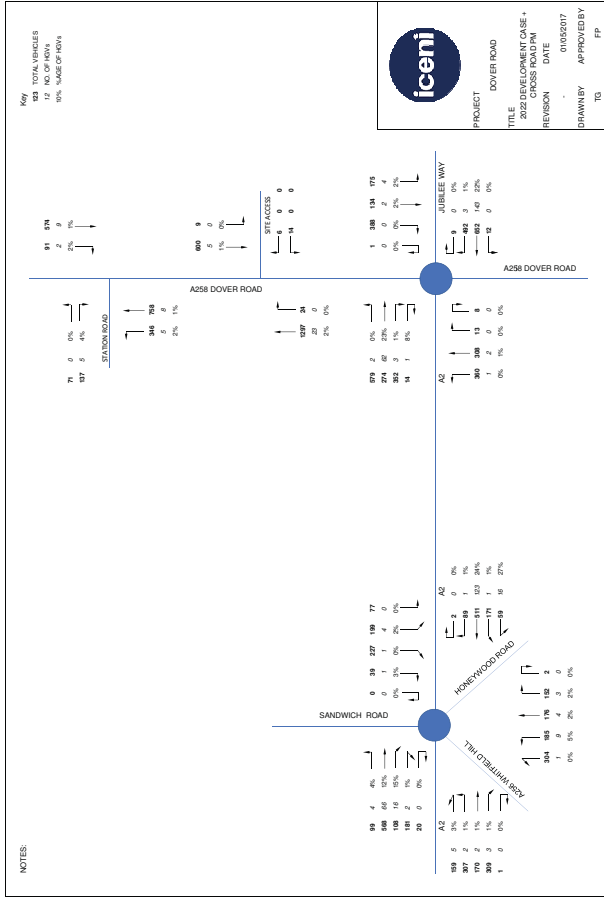
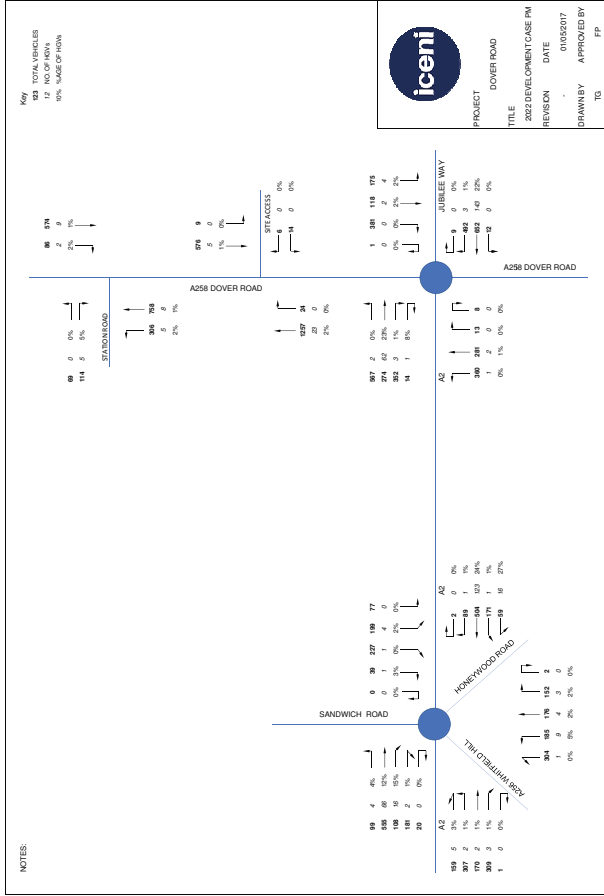
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2.1	Yes	Yes	Accepted. Details on lighting, signage, vegetation and drainage will be provided at the detail design stage for a Stage 2 Road Safety Audit.
PROBLEM			
2.2	No	Yes	Noted. Widening of the footway has been provided on the opposite side of the carriageway, as such existing driveway will be maintained and remain in-situ. Furthermore information will be provided at the detailed design and be subject to a Stage 2 Road Safety Audit.
2.5	No	In part	Noted. The design team cannot provide a connecting footway on the eastern side of the proposed bus stop to tie-in with the existing footpath heading into Walmer, as the applicant is not in control of the land past their site boundary. An additional uncontrolled crossing can be provided but outside of the site boundary.
2.6	No	No	Noted. The proposal allows for a 2m wide footway only. Cycle movements have been projected within the TA that the development would generate one two-way cycling trip in the AM peak hour and two two-way trips in the PM peak hour. The access has been designed in accordance with the 'Kent Design Guidance' which considers the needs of all users, therefore we consider this unnecessary.

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A7. TRAFFIC FLOWS DIAGRAM

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A8. TRAFFIC SURVEYS (2017)

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DATE	TIME	LOCATION	STATUS	TYPE	DESCRIPTION	AMOUNT	BALANCE	REMARKS
12/15/2014	10:45

DATE	TIME	LOCATION	STATUS	TYPE	DESCRIPTION	AMOUNT	BALANCE	REMARKS
12/15/2014	10:45

DATE : THURSDAY 20th APRIL 2017

CONDITIONS:

LOCATION : SANDWICH ROAD / A2 / HONEYWOOD ROAD / A256, DEAL



TIME	ARM 1 SANDWICH RD (N)		ARM 2 A2 (E)		ARM 3 HONEYWOOD RD (SE)		ARM 4 A256 (SW)		ARM 5 A2 (W)	
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 2
16:00	4	4	18	6	6	13	19	2	26	10
16:05	3	6	17	4	9	21	21	5	10	8
16:10	5	9	12	10	7	5	21	5	26	16
16:15	3	4	18	9	8	8	22	5	27	13
16:20	4	4	6	5	3	2	23	4	26	5
16:25	2	6	8	4	4	7	22	3	15	9
16:30	3	2	6	5	3	3	21	3	11	8
16:35	7	11	5	2	2	4	18	3	26	26
16:40	3	25	5	3	4	11	11	4	25	28
16:45	6	3	6	2	4	6	5	4	26	16
16:50	3	5	4	3	4	3	20	5	10	11
16:55	4	2	18	11	6	5	21	5	9	9
17:00	2	5	15	5	15	5	22	5	9	3
17:05	2	4	3	4	25	8	25	4	26	9
17:10	2	4	6	5	15	6	26	5	26	26
17:15	5	7	8	6	23	16	23	4	27	29
17:20	2	6	10	9	6	5	24	5	28	26
17:25	3	7	18	7	3	4	22	5	26	26
17:30	2	4	18	14	9	4	21	5	27	18
17:35	4	5	9	3	15	13	25	4	20	11
17:40	3	5	9	4	25	16	22	3	26	16
17:45	4	8	19	3	8	5	23	5	26	17
17:50	5	10	18	7	3	4	21	5	13	17
17:55	4	2	6	6	4	6	21	5	16	7
18:00	3	3	8	6	5	8	20	5	12	14
18:05	7	8	6	6	7	7	8	5	13	14
18:10	4	3	7	6	5	3	6	3	26	22
18:15	5	5	4	5	7	5	7	3	13	12
18:20	3	4	4	5	3	3	7	5	13	13
18:25	4	5	4	2	6	4	4	4	12	10
18:30	5	4	6	3	2	2	3	3	3	3
18:35	6	9	3	2	2	4	6	3	6	4
18:40	5	2	7	3	5	1	3	3	8	4
18:45	3	3	3	3	4	3	3	1	7	7
18:50	3	5	2	1	2	4	3	3	7	5
18:55	2	3	6	2	4	3	4	6	5	3
19:00	2	2	5	1	3	3	4	5	4	2

LOCATION : A2 / A2568 DEAL ROAD / A2568, DEAL

GRAND TOTAL

ALL MOVEMENTS INTO JUNCTION										
movements 1 to 16 (0700 - 1000)										
GAR	LGW	OGV1	OGV2	PSV	MBIKE	CYC	TOT.HVS	VEH.TOT	% HVS	% HVS
0700-0715	376	80	12	69	3	5	0	84	345	15.4%
0715-0730	450	85	20	42	7	3	0	69	607	11.4%
0730-0745	626	115	17	56	6	1	0	79	821	9.6%
0745-0800	604	93	27	57	2	5	0	86	788	10.9%
0800-0815	682	102	22	36	6	3	0	64	851	7.5%
0815-0830	772	89	24	26	5	2	0	55	918	6.0%
0830-0845	678	86	24	62	3	4	0	89	857	10.4%
0845-0900	625	83	21	60	6	3	0	67	796	10.9%
0900-0915	474	76	23	28	9	1	0	60	611	9.8%
0915-0930	449	75	25	39	4	3	0	68	595	11.4%
0930-0945	510	73	23	74	8	3	0	105	691	15.2%
0945-1000	490	70	21	71	8	3	0	100	663	15.1%
0700-1000	6736	1027	259	620	67	36	0	946	8745	10.8%

ALL MOVEMENTS INTO JUNCTION										
movements 1 to 16 (1600 - 1900)										
GAR	LGW	OGV1	OGV2	PSV	MBIKE	CYC	TOT.HVS	VEH.TOT	% HVS	% HVS
0700-0800	2056	373	76	224	18	14	0	318	2761	11.5%
0715-0815	2362	395	86	191	21	12	0	298	3067	9.7%
0730-0830	2684	399	90	175	19	11	0	284	3378	8.4%
0745-0845	2736	370	97	181	16	14	0	294	3414	8.6%
0800-0900	2757	360	91	184	20	12	0	295	3424	8.6%
0815-0915	2549	334	92	176	23	10	0	291	3184	9.1%
0830-0930	2226	320	93	189	22	11	0	304	2861	10.6%
0845-0945	2058	307	92	201	27	10	0	320	2695	11.9%
0900-1000	1923	294	92	212	29	10	0	333	2560	13.0%
0700-1900	8745	1511	318	1012	147	83	0	1511	8745	10.8%

TOTAL FLOW INTO SURVEY SITE=

8745

ALL MOVEMENTS INTO JUNCTION										
movements 1 to 16 (1600 - 1900)										
GAR	LGW	OGV1	OGV2	PSV	MBIKE	CYC	TOT.HVS	VEH.TOT	% HVS	% HVS
1600-1615	646	92	6	71	1	3	0	78	819	9.5%
1615-1630	619	102	14	58	7	7	0	79	807	9.8%
1630-1645	610	95	13	24	3	2	0	40	747	5.4%
1645-1700	627	78	8	49	6	7	0	63	775	8.1%
1700-1715	715	82	8	25	3	4	0	36	837	4.3%
1715-1730	727	70	2	42	6	9	0	50	856	5.8%
1730-1745	701	94	6	47	3	7	0	56	858	6.5%
1745-1800	700	66	6	58	7	3	0	71	840	8.5%
1800-1815	597	69	6	48	4	1	0	59	725	8.0%
1815-1830	563	58	2	18	5	6	0	25	652	3.8%
1830-1845	491	55	5	33	4	3	0	42	591	7.1%
1845-1900	421	50	0	30	3	1	0	33	505	6.5%
1600-1900	7417	911	76	503	52	53	0	631	9012	7.0%

ALL MOVEMENTS INTO JUNCTION										
movements 1 to 16 (0700 - 1000)										
GAR	LGW	OGV1	OGV2	PSV	MBIKE	CYC	TOT.HVS	VEH.TOT	% HVS	% HVS
1600-1700	2502	367	41	202	17	19	0	260	3148	8.3%
1615-1715	2571	357	43	156	19	20	0	218	3166	6.9%
1630-1730	2679	325	31	140	18	22	0	189	3215	5.9%
1645-1745	2770	324	24	163	18	27	0	205	3226	6.2%
1700-1800	2843	312	22	172	19	23	0	213	3391	6.3%
1715-1815	2725	299	20	195	20	20	0	235	3279	7.2%
1730-1830	2561	287	20	171	19	17	0	210	3075	6.8%
1745-1845	2351	248	19	157	20	13	0	196	2808	7.0%
1800-1900	2072	232	13	129	16	11	0	158	2473	6.4%
1600-1900	9012	1212	101	603	147	143	0	1212	9012	10.8%

TOTAL FLOW INTO SURVEY SITE=

9012



DATE: THURSDAY 20th APRIL 2017
 WEATHER CONDITIONS:
 LOCATION: A358 DOVER ROAD / STATION ROAD, DEVAL

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GRAND TOTAL										
ALL MOUNTAINS										
DATE	LOW	COVLT	COV2	PNV	M/MSK	CYC	TOT PAV	VERT	% PAV	% VERT
07/04/01	227	45	2	3	2	0	13	10	554	3.5%
07/04/02	238	55	6	1	6	2	13	409	13.7%	3.5%
07/04/03	276	24	10	2	5	2	15	417	15.0%	3.5%
07/04/04	306	45	5	4	2	0	11	606	27.7%	3.5%
07/04/05	286	49	9	1	2	1	12	348	14.4%	3.5%
07/04/06	267	45	17	2	5	1	15	355	13.6%	3.5%
07/04/07	260	27	8	1	4	1	13	217	4.7%	3.5%
07/04/08	244	44	15	4	1	23	6	412	16.7%	3.5%
07/04/09	239	124	21	6	23	3	48	1314	11.2%	3.5%
07/04/10	212	156	20	5	19	3	1	1502	13.0%	3.5%
07/04/11	218	151	34	7	12	3	0	1541	8.4%	3.5%
07/04/12	229	177	31	7	2	1	47	1441	15.7%	3.5%
07/04/13	206	171	45	4	20	5	7	1511	4.4%	3.5%
07/04/14	207	122	40	5	24	1	2	1221	5.2%	3.5%
07/04/15	244	105	15	4	1	23	6	1452	4.8%	3.5%

GRAND TOTAL											
ALL MOUNTAINS											
DATE	LOW	COVLT	COV2	PNV	M/MSK	CYC	TOT PAV	VERT	% PAV	% VERT	
07/04/16	237	212	32	1	33	7	4	19	1624	2.7%	3.5%
07/04/17	212	248	14	2	11	14	5	27	1451	1.6%	3.5%
07/04/18	209	205	22	0	30	15	4	22	1437	3.8%	3.5%
07/04/19	242	158	9	1	9	19	2	18	1451	11.1%	3.5%
07/04/20	205	145	8	1	9	4	2	19	1574	11.1%	3.5%
07/04/21	231	125	5	0	11	5	1	15	1401	1.7%	3.5%
07/04/22	242	105	32	6	23	8	73	442	4.0%	3.5%	

TOTAL FLOW INTO SURVEY SITE: 1482

GRAND TOTAL											
ALL MOUNTAINS											
DATE	LOW	COVLT	COV2	PNV	M/MSK	CYC	TOT PAV	VERT	% PAV	% VERT	
07/04/23	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/24	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/25	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/26	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/27	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/28	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/29	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/30	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/31	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/32	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/33	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/34	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/35	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/36	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/37	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/38	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/39	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/40	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/41	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/42	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/43	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/44	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/45	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/46	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/47	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/48	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/49	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/50	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/51	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/52	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/53	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/54	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/55	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/56	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/57	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/58	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/59	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/60	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/61	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/62	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/63	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/64	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/65	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/66	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/67	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/68	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/69	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/70	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/71	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/72	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/73	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/74	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/75	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/76	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/77	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/78	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/79	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/80	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/81	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/82	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/83	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/84	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/85	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/86	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/87	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/88	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/89	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/90	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/91	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/92	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/93	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/94	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/95	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/96	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/97	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/98	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/99	248	24	1	0	3	2	0	4	278	1.4%	3.5%
07/04/100	248	24	1	0	3	2	0	4	278	1.4%	3.5%

TOTAL FLOW INTO SURVEY SITE: 1482

DATE : THURSDAY 20th APRIL 2017

CONDITIONS:

LOCATION : A2 / A258 DEAL ROAD / A258, DEAL



DATE : THURSDAY 20th APRIL 2017

CONDITIONS:

LOCATION : A2 / A258 DEAL ROAD / A258, DEAL



TIME	ARM 1 A2 (NORTH)	
	LANE 1	LANE 2

07:00	2	2
07:05	7	1
07:10	3	1
07:15	3	2
07:20	5	3
07:25	8	3
07:30	11	5
07:35	1	2
07:40	4	0
07:45	9	8
07:50	10	9
07:55	4	8
08:00	3	8
08:05	6	4
08:10	12	2
08:15	10	7
08:20	17	1
08:25	12	3
08:30	10	5
08:35	7	6
08:40	8	3
08:45	14	8
08:50	8	1
08:55	10	2
09:00	6	2
09:05	3	4
09:10	3	3
09:15	2	1
09:20	10	3
09:25	5	2
09:30	15	4
09:35	15	7
09:40	13	3
09:45	14	1
09:50	10	3
09:55	10	2
10:00	9	1

TIME	ARM 2 A258 DEAL RD (E)	
	LANE 1	LANE 2

07:00	4	2
07:05	3	4
07:10	5	3
07:15	6	7
07:20	14	9
07:25	4	7
07:30	14	13
07:35	25	12
07:40	15	7
07:45	15	8
07:50	23	3
07:55	15	4
08:00	18	6
08:05	24	10
08:10	23	18
08:15	15	8
08:20	23	3
08:25	25	10
08:30	24	13
08:35	11	7
08:40	5	9
08:45	10	7
08:50	24	7
08:55	23	14
09:00	6	5
09:05	3	4
09:10	8	12
09:15	4	8
09:20	10	10
09:25	10	11
09:30	7	3
09:35	3	6
09:40	3	9
09:45	3	4
09:50	4	5
09:55	4	6
10:00	3	5

TIME	ARM 3 A2 (S)	
	LANE 1	LANE 2

07:00	15	3
07:05	6	4
07:10	7	3
07:15	3	2
07:20	2	2
07:25	3	4
07:30	15	5
07:35	16	13
07:40	17	16
07:45	16	15
07:50	15	4
07:55	9	1
08:00	5	3
08:05	8	6
08:10	8	3
08:15	5	2
08:20	8	4
08:25	15	4
08:30	16	12
08:35	18	8
08:40	19	8
08:45	16	6
08:50	17	6
08:55	15	12
09:00	3	1
09:05	4	4
09:10	7	5
09:15	3	7
09:20	2	3
09:25	10	7
09:30	15	5
09:35	16	11
09:40	17	15
09:45	16	16
09:50	15	15
09:55	5	3
10:00	4	2

TIME	ARM 4 A258 (W)	
	LANE 1	LANE 2

07:00	3	1
07:05	3	1
07:10	9	1
07:15	0	0
07:20	3	0
07:25	4	0
07:30	5	1
07:35	12	1
07:40	10	0
07:45	2	1
07:50	4	1
07:55	6	1
08:00	12	0
08:05	5	2
08:10	6	0
08:15	6	1
08:20	5	0
08:25	12	1
08:30	5	1
08:35	12	2
08:40	20	0
08:45	5	1
08:50	7	1
08:55	5	4
09:00	4	0
09:05	3	1
09:10	5	0
09:15	2	1
09:20	4	1
09:25	2	1
09:30	3	2
09:35	4	1
09:40	14	1
09:45	8	2
09:50	10	2
09:55	4	1
10:00	3	1

TIME	ARM 1 A2 (NORTH)	
	LANE 1	LANE 2

16:00	18	5
16:05	12	8
16:10	15	6
16:15	21	7
16:20	15	5
16:25	12	2
16:30	21	7
16:35	16	4
16:40	12	3
16:45	13	3
16:50	10	3
16:55	4	4
17:00	15	4
17:05	24	7
17:10	8	8
17:15	19	5
17:20	15	3
17:25	15	8
17:30	12	7
17:35	19	5
17:40	20	4
17:45	14	2
17:50	21	14
17:55	20	9
18:00	12	4
18:05	12	9
18:10	12	1
18:15	22	5
18:20	12	3
18:25	5	3
18:30	9	1
18:35	8	6
18:40	10	3
18:45	12	4
18:50	10	3
18:55	1	3
19:00	1	2

TIME	ARM 2 A258 DEAL RD (E)	
	LANE 1	LANE 2

16:00	2	7
16:05	4	10
16:10	3	12
16:15	4	12
16:20	3	5
16:25	2	7
16:30	3	5
16:35	2	4
16:40	1	5
16:45	4	5
16:50	2	3
16:55	3	3
17:00	3	6
17:05	2	9
17:10	2	2
17:15	6	12
17:20	1	2
17:25	0	1
17:30	5	9
17:35	1	0
17:40	5	4
17:45	1	1
17:50	2	2
17:55	2	3
18:00	2	1
18:05	1	2
18:10	1	1
18:15	4	3
18:20	4	8
18:25	4	3
18:30	6	9
18:35	2	3
18:40	3	1
18:45	2	0
18:50	2	5
18:55	1	6
19:00	1	5

TIME	ARM 3 A2 (S)	
	LANE 1	LANE 2

16:00	10	15
16:05	15	17
16:10	16	16
16:15	15	15
16:20	9	5
16:25	6	8
16:30	5	4
16:35	3	5
16:40	3	9
16:45	3	4
16:50	10	4
16:55	15	12
17:00	16	15
17:05	15	9
17:10	6	3
17:15	4	7
17:20	15	8
17:25	16	11
17:30	18	10
17:35	17	10
17:40	16	15
17:45	19	16
17:50	15	15
17:55	6	15
18:00	16	15
18:05	15	10
18:10	10	6
18:15	3	5
18:20	5	3
18:25	5	3
18:30	4	2
18:35	3	4
18:40	15	2
18:45	4	4
18:50	1	1
18:55	1	1
19:00	1	1

TIME	ARM 4 A258 (W)	
	LANE 1	LANE 2

16:00	20	0
16:05	24	1
16:10	11	2
16:15	5	1
16:20	23	1
16:25	9	1
16:30	6	0
16:35	5	1
16:40	6	1
16:45	4	1
16:50	8	2
16:55	23	1
17:00	23	1
17:05	21	1
17:10	21	3
17:15	23	1
17:20	24	1
17:25	26	1
17:30	25	3
17:35	27	1
17:40	24	1
17:45	26	2
17:50	25	2
17:55	24	2
18:00	25	1
18:05	23	1
18:10	16	1
18:15	8	4
18:20	5	0
18:25	8	0
18:30	5	1
18:35	6	0
18:40	3	0
18:45	14	2
18:50	2	0
18:55	2	0
19:00	2	0

A9. JUNCTIONS 9 TRAFFIC MODEL OUTPUTS

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.0.1.4646.11 © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
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Filename: 17.05.24 Sandwich Road_A2_Honeywood Road_A256(DIRECT).j9

Path: P:\Transport\Projects\16-T129 - Gladman Developments - Dover Road, Walmer (Correspondence 2016-124)\4. Calculations\Traffic Models\17.05.24 Sandwich Road_A2_Honeywood Road_A256

Report generation date: 15/06/2017 11:57:32

- »AM Peak - 2017 Observed, AM
- »AM Peak - 2022 Base, AM
- »AM Peak - 2022 Proposed, AM
- »AM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), AM
- »PM Peak - 2017 Observed, PM
- »PM Peak - 2022 Base, PM
- »PM Peak - 2022 Proposed, PM
- »PM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Summary of junction performance

	AM	
	Queue (Veh)	RFC
	AM Peak - 2017 Observed	
A - Sandwich Road	15.4	0.99
B - A2 (East)	14.1	0.97
C - Honeywood Road	7.9	0.93
D - A256 Whitfield Hill	12.1	0.97
E - A2 (West)	17.2	0.99
	AM Peak - 2022 Base	
A - Sandwich Road	44.4	1.09
B - A2 (East)	56.7	1.14
C - Honeywood Road	18.8	1.04
D - A256 Whitfield Hill	25.0	1.05
E - A2 (West)	26.9	1.04
	AM Peak - 2022 Proposed	
A - Sandwich Road	44.6	1.09
B - A2 (East)	62.1	1.15
C - Honeywood Road	19.3	1.04
D - A256 Whitfield Hill	25.0	1.05
E - A2 (West)	26.9	1.04
	AM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	
A - Sandwich Road	46.0	1.09
B - A2 (East)	64.5	1.17
C - Honeywood Road	19.8	1.05
D - A256 Whitfield Hill	24.7	1.05
E - A2 (West)	28.5	1.05

Queue (Veh)		RFC	
PM			
PM Peak - 2017 Observed			
A - Sandwich Road	0.8	0.44	
B - A2 (East)	3.4	0.78	
C - Honeywood Road	13.8	0.99	
D - A256 Whitfield Hill	95.6	1.26	
E - A2 (West)	3.1	0.76	
PM Peak - 2022 Base			
A - Sandwich Road	1.0	0.50	
B - A2 (East)	5.5	0.86	
C - Honeywood Road	42.1	1.15	
D - A256 Whitfield Hill	210.0	1.45	
E - A2 (West)	4.2	0.82	
PM Peak - 2022 Proposed			
A - Sandwich Road	1.0	0.50	
B - A2 (East)	5.7	0.86	
C - Honeywood Road	43.0	1.15	
D - A256 Whitfield Hill	211.4	1.45	
E - A2 (West)	4.4	0.83	
PM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)			
A - Sandwich Road	1.0	0.51	
B - A2 (East)	6.2	0.87	
C - Honeywood Road	44.7	1.16	
D - A256 Whitfield Hill	214.7	1.46	
E - A2 (West)	4.6	0.83	

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	Sandwich Road/A2/Honeywood Road/A256 Whitfield Hill/A2
Location	Walmley
Site number	
Date	24/05/2017
Version	
Status	TG
Identifier	
Client	Gladman Developments
Jobnumber	16-1129
Enumerator	ICENIPROJECTS\lgood
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queuing 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 type	Start time (HH:MM)	Finish (HH:MM)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	07:45	08:45	60	15	✓
D2	2017 Observed	PM	DIRECT	17:00	18:00	60	15	✓
D3	2022 Base	AM	DIRECT	07:45	08:45	60	15	✓
D4	2022 Base	PM	DIRECT	17:00	18:00	60	15	✓
D5	2022 Proposed	AM	DIRECT	07:45	08:45	60	15	✓
D6	2022 Proposed	PM	DIRECT	17:00	18:00	60	15	✓
D7	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	AM	DIRECT	07:45	08:45	60	15	✓
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	PM	DIRECT	17:00	18:00	60	15	✓
D9	2022 Development Case (No Committed)	AM	DIRECT	07:45	08:45	60	15	✓
D10	2022 Development Case (No Committed)	PM	DIRECT	17:00	18:00	60	15	✓

AM Peak - 2017 Observed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	AM Peak	✓	✓	D1,D3,D5,D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	unified	Standard Roundabout	A,B,C,D,E	53.68	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	r - Effective flare length (m)	R - Entry radius (m)	D - In-scribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	0.5	12.5	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	14.9	41.0	23.0	
C - Honeywood Road	7.37	7.71	1.6	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/TS)
A - Sandwich Road	Direct		-35.00
B - A2 (East)	Direct		-161.00
C - Honeywood Road	Direct		-102.00
D - A256 Whitfield Hill	Direct		2.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A - Sandwich Road	0.749	531.401
B - A2 (East)	0.828	497.832
C - Honeywood Road	0.806	507.994
D - A256 Whitfield Hill	0.625	413.500
E - A2 (West)	0.812	571.340

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	07:45	08:45	60	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	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
From					
A - Sandwich Road	0.00	0.03	0.06	0.07	0.02
B - A2 (East)	0.02	0.00	0.01	0.05	0.10
C - Honeywood Road	0.03	0.03	0.00	0.05	0.04
D - A256 Whitfield Hill	0.06	0.04	0.08	0.00	0.04
E - A2 (West)	0.02	0.16	0.04	0.06	0.01

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	2	5	3	6
B - A2 (East)	3	0	7	1	25
C - Honeywood Road	6	0	0	5	19
D - A256 Whitfield Hill	1	6	0	0	5
E - A2 (West)	10	15	10	6	22

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	0.99	81.84	15.4	?	F	176.00	704.00
B - A2 (East)	0.97	68.33	14.1	?	F	176.50	706.00
C - Honeywood Road	0.93	34.26	7.9	?	D	148.75	595.00
D - A256 Whitfield Hill	0.97	47.07	12.1	?	E	205.75	823.00
E - A2 (West)	0.99	42.31	17.2	?	E	282.50	1130.00

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	190.00	190.00	368.57	223.28	0.951	185.15	116.12	0.0	4.9	21.464	C
B - A2 (East)	182.00	182.00	323.06	189.76	0.959	172.20	230.66	0.0	9.8	36.867	E
C - Honeywood Road	124.00	124.00	315.80	209.97	0.991	122.60	179.45	0.0	1.4	10.147	B
D - A256 Whitfield Hill	207.00	207.00	225.76	244.73	0.946	202.24	212.64	0.0	4.8	19.436	C
E - A2 (West)	254.00	254.00	233.64	338.28	0.755	251.05	194.36	0.0	2.9	10.236	B

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	168.00	168.00	378.99	215.72	0.779	169.07	125.60	4.9	3.8	19.781	C
B - A2 (East)	192.00	192.00	313.62	196.98	0.975	187.73	234.44	9.8	14.1	66.327	F
C - Honeywood Road	147.00	147.00	322.31	203.66	0.722	145.95	179.04	1.4	2.5	15.312	C
D - A256 Whitfield Hill	221.00	221.00	248.88	227.81	0.970	213.65	218.38	4.8	12.1	47.066	E
E - A2 (West)	251.00	251.00	254.05	321.19	0.781	250.54	209.49	2.9	3.4	12.622	B

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	169.00	169.00	432.90	171.31	0.987	160.74	122.59	3.8	12.0	56.933	F
B - A2 (East)	188.00	188.00	328.55	184.81	0.939	169.66	265.09	14.1	12.4	65.778	F
C - Honeywood Road	137.00	137.00	317.16	208.58	0.623	130.75	181.04	2.5	1.7	11.675	B
D - A256 Whitfield Hill	197.00	197.00	229.07	242.41	0.813	204.29	218.85	12.1	4.8	26.766	D
E - A2 (West)	331.00	331.00	236.30	332.83	0.995	317.20	195.06	3.4	17.2	36.970	E

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	177.00	177.00	421.60	181.14	0.977	173.63	129.82	12.0	15.4	81.840	F
B - A2 (East)	164.00	164.00	328.78	184.78	0.988	166.72	266.45	12.4	9.7	54.749	F
C - Honeywood Road	194.00	194.00	316.22	209.71	0.925	187.76	179.29	1.7	7.9	34.265	D
D - A256 Whitfield Hill	198.00	198.00	265.89	218.01	0.908	195.38	238.08	4.8	7.4	35.205	E
E - A2 (West)	294.00	294.00	253.48	321.46	0.915	298.03	207.79	17.2	13.2	42.311	E

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	4.85	?	?	?	?			N/A	N/A
B - A2 (East)	9.80	?	?	?	?			N/A	N/A
C - Honeywood Road	1.40	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	4.76	?	?	?	?			N/A	N/A
E - A2 (West)	2.95	?	?	?	?			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	3.78	?	?	?	?			N/A	N/A
B - A2 (East)	14.07	?	?	?	?			N/A	N/A
C - Honeywood Road	2.45	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	12.11	?	?	?	?			N/A	N/A
E - A2 (West)	3.41	?	?	?	?			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	12.05	?	?	?	?			N/A	N/A
B - A2 (East)	12.41	?	?	?	?			N/A	N/A
C - Honeywood Road	1.71	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	4.81	?	?	?	?			N/A	N/A
E - A2 (West)	17.21	?	?	?	?			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	15.41	?	?	?	?			N/A	N/A
B - A2 (East)	9.69	?	?	?	?			N/A	N/A
C - Honeywood Road	7.85	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	7.44	?	?	?	?			N/A	N/A
E - A2 (West)	13.17	?	?	?	?			N/A	N/A

AM Peak - 2022 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	AM Peak	✓	✓	D1,D3,D5,D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	united	Standard Roundabout	A,B,C,D,E	136.47	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	r - Effective flare length (m)	R - Entry radius (m)	D - In-scribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	0.5	12.5	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	14.9	41.0	23.0	
C - Honeywood Road	7.37	7.71	1.6	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/TS)
A - Sandwich Road	Direct		-35.00
B - A2 (East)	Direct		-161.00
C - Honeywood Road	Direct		-102.00
D - A256 Whitfield Hill	Direct		2.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A - Sandwich Road	0.749	531.401
B - A2 (East)	0.828	497.832
C - Honeywood Road	0.806	507.994
D - A256 Whitfield Hill	0.625	413.500
E - A2 (West)	0.812	571.340

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 period length (min)	Time segment length (min)	Run automatically
D3	2022 Base	AM	DIRECT	07:45	08:45	60	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	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
From					
A - Sandwich Road	0.00	0.03	0.06	0.07	0.02
B - A2 (East)	0.02	0.00	0.01	0.05	0.10
C - Honeywood Road	0.03	0.03	0.00	0.05	0.04
D - A256 Whitfield Hill	0.06	0.04	0.08	0.00	0.04
E - A2 (West)	0.02	0.16	0.04	0.06	0.01

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	2	5	3	6
B - A2 (East)	3	0	7	1	24
C - Honeywood Road	6	0	0	5	13
D - A256 Whitfield Hill	1	6	0	0	5
E - A2 (West)	10	15	10	6	22

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	1.09	200.96	44.4	?	F	188.75	755.00
B - A2 (East)	1.14	284.23	56.7	?	F	192.25	769.00
C - Honeywood Road	1.04	64.82	18.8	?	F	159.50	638.00
D - A256 Whitfield Hill	1.05	82.85	25.0	?	F	220.50	882.00
E - A2 (West)	1.04	70.08	26.9	?	F	292.25	1169.00

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	204.00	204.00	393.68	203.55	1.002	189.89	122.32	0.0	14.0	47.467	E
B - A2 (East)	198.00	198.00	336.28	179.10	1.106	172.37	245.39	0.0	25.6	86.401	F
C - Honeywood Road	133.00	133.00	322.79	205.11	0.648	131.22	187.85	0.0	1.8	11.914	B
D - A256 Whitfield Hill	222.00	222.00	232.79	240.57	0.923	213.96	221.22	0.0	8.0	26.363	D
E - A2 (West)	274.00	274.00	246.70	326.66	0.859	269.30	200.05	0.0	4.7	14.679	B

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	180.00	180.00	401.95	197.55	0.911	181.43	130.10	14.0	12.8	61.671	F
B - A2 (East)	209.00	209.00	333.33	182.90	1.143	182.16	250.05	25.6	52.5	206.575	F
C - Honeywood Road	158.00	158.00	327.74	200.52	0.788	156.39	187.75	1.8	3.4	19.678	C
D - A256 Whitfield Hill	237.00	237.00	255.14	225.16	1.053	230.05	228.99	8.0	25.0	81.536	F
E - A2 (West)	270.00	270.00	262.84	314.69	0.858	269.21	212.36	4.7	5.5	19.248	C

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	181.00	181.00	436.24	167.95	1.078	165.45	130.22	12.6	28.1	126.224	F
B - A2 (East)	183.00	183.00	336.63	179.93	1.017	178.80	267.06	52.5	56.7	282.459	F
C - Honeywood Road	139.00	139.00	326.33	201.54	0.690	140.06	189.10	3.4	2.3	14.894	B
D - A256 Whitfield Hill	211.00	211.00	241.64	234.20	0.901	223.61	224.75	25.0	12.4	77.729	F
E - A2 (West)	331.00	331.00	256.85	317.69	1.042	309.61	206.40	5.5	26.9	56.933	F

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	190.00	190.00	430.08	174.72	1.087	173.71	134.76	28.1	44.4	200.959	F
B - A2 (East)	179.00	179.00	333.32	182.33	0.962	179.01	270.47	56.7	56.7	284.232	F
C - Honeywood Road	208.00	208.00	328.55	199.88	1.041	191.50	183.78	2.3	18.8	64.622	F
D - A256 Whitfield Hill	212.00	212.00	276.68	210.80	1.006	204.68	243.37	12.4	19.7	82.846	F
E - A2 (West)	294.00	294.00	263.96	313.74	0.937	300.86	217.41	26.9	20.0	70.085	F

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	14.01	?	?	?	?			N/A	N/A
B - A2 (East)	25.63	?	?	?	?			N/A	N/A
C - Honeywood Road	1.78	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	8.04	?	?	?	?			N/A	N/A
E - A2 (West)	4.70	?	?	?	?			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	12.58	?	?	?	?			N/A	N/A
B - A2 (East)	52.47	?	?	?	?			N/A	N/A
C - Honeywood Road	3.39	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	24.69	?	?	?	?			N/A	N/A
E - A2 (West)	5.43	?	?	?	?			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	28.13	?	?	?	?			N/A	N/A
B - A2 (East)	56.66	?	?	?	?			N/A	N/A
C - Honeywood Road	2.33	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	12.37	?	?	?	?			N/A	N/A
E - A2 (West)	26.88	?	?	?	?			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	44.42	?	?	?	?			N/A	N/A
B - A2 (East)	56.65	?	?	?	?			N/A	N/A
C - Honeywood Road	18.63	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	19.69	?	?	?	?			N/A	N/A
E - A2 (West)	20.00	?	?	?	?			N/A	N/A

AM Peak - 2022 Proposed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
AM	AM Peak	✓	✓	D1,D3,D5,D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	united	Standard Roundabout	A,B,C,D,E	141.98	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	r - Effective flare length (m)	R - Entry radius (m)	D - In-scribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	0.5	12.5	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	14.9	41.0	23.0	
C - Honeywood Road	7.37	7.71	1.6	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/TS)
A - Sandwich Road	Direct		-35.00
B - A2 (East)	Direct		-161.00
C - Honeywood Road	Direct		-102.00
D - A256 Whitfield Hill	Direct		2.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A - Sandwich Road	0.749	531.401
B - A2 (East)	0.828	497.832
C - Honeywood Road	0.806	507.994
D - A256 Whitfield Hill	0.625	413.500
E - A2 (West)	0.812	571.340

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2022 Proposed	AM	DIRECT	07:45	08:45	60	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	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
From					
A - Sandwich Road	0.00	0.03	0.06	0.07	0.02
B - A2 (East)	0.02	0.00	0.01	0.05	0.10
C - Honeywood Road	0.03	0.03	0.00	0.05	0.04
D - A256 Whitfield Hill	0.06	0.04	0.08	0.00	0.04
E - A2 (West)	0.02	0.16	0.04	0.06	0.01

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	2	5	3	6
B - A2 (East)	3	0	7	1	24
C - Honeywood Road	6	0	0	5	19
D - A256 Whitfield Hill	1	6	0	0	5
E - A2 (West)	10	15	10	6	22

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	1.09	202.00	44.6	?	F	188.75	755.00
B - A2 (East)	1.15	312.33	62.1	?	F	194.00	776.00
C - Honeywood Road	1.04	65.99	19.3	?	F	159.50	638.00
D - A256 Whitfield Hill	1.05	83.58	25.0	?	F	220.50	882.00
E - A2 (West)	1.04	71.15	26.9	?	F	292.75	1171.00

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	204.00	204.00	393.66	203.57	1.002	190.00	122.35	0.0	14.0	47.453	E
B - A2 (East)	200.00	200.00	336.27	179.10	1.117	172.76	245.38	0.0	27.2	84.142	F
C - Honeywood Road	133.00	133.00	323.17	204.79	0.649	131.22	187.86	0.0	1.8	11.962	B
D - A256 Whitfield Hill	222.00	222.00	233.05	240.38	0.924	213.92	221.33	0.0	8.1	26.484	D
E - A2 (West)	274.00	274.00	246.71	326.65	0.899	269.30	200.26	0.0	4.7	14.681	B

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	180.00	180.00	402.77	196.88	0.914	181.09	130.16	14.0	12.9	62.782	F
B - A2 (East)	211.00	211.00	333.37	182.86	1.154	182.22	250.49	27.2	56.0	219.049	F
C - Honeywood Road	158.00	158.00	327.84	200.43	0.788	156.39	187.76	1.8	3.4	19.716	C
D - A256 Whitfield Hill	237.00	237.00	255.18	225.14	1.053	220.05	229.05	8.1	25.0	81.723	F
E - A2 (West)	271.00	271.00	262.84	314.69	0.861	270.09	212.38	4.7	5.6	19.572	C

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	181.00	181.00	436.27	187.92	1.078	165.46	130.24	12.9	28.4	127.867	F
B - A2 (East)	185.00	185.00	336.66	179.90	1.028	179.06	267.09	56.0	62.0	304.658	F
C - Honeywood Road	139.00	139.00	326.60	201.30	0.691	140.06	189.12	3.4	2.3	14.950	B
D - A256 Whitfield Hill	211.00	211.00	241.81	224.07	0.901	223.58	224.85	25.0	12.5	76.103	F
E - A2 (West)	331.00	331.00	256.84	317.69	1.042	309.67	206.54	5.6	26.9	59.159	F

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	180.00	180.00	429.90	174.85	1.087	173.85	134.73	28.4	44.6	201.999	F
B - A2 (East)	180.00	180.00	333.38	182.28	0.968	179.89	270.37	62.0	62.1	312.333	F
C - Honeywood Road	208.00	208.00	329.45	189.11	1.045	191.01	183.83	2.3	19.3	65.967	F
D - A256 Whitfield Hill	212.00	212.00	276.96	210.57	1.007	204.56	243.50	12.5	19.9	83.577	F
E - A2 (West)	295.00	295.00	263.76	313.88	0.940	300.87	217.76	26.9	21.1	71.149	F

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	14.00	?	?	?	?			N/A	N/A
B - A2 (East)	27.24	?	?	?	?			N/A	N/A
C - Honeywood Road	1.78	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	8.08	?	?	?	?			N/A	N/A
E - A2 (West)	4.70	?	?	?	?			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	12.92	?	?	?	?			N/A	N/A
B - A2 (East)	56.02	?	?	?	?			N/A	N/A
C - Honeywood Road	3.39	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	25.04	?	?	?	?			N/A	N/A
E - A2 (West)	5.60	?	?	?	?			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	28.44	?	?	?	?			N/A	N/A
B - A2 (East)	61.96	?	?	?	?			N/A	N/A
C - Honeywood Road	2.33	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	12.46	?	?	?	?			N/A	N/A
E - A2 (West)	26.93	?	?	?	?			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	44.59	?	?	?	?			N/A	N/A
B - A2 (East)	62.07	?	?	?	?			N/A	N/A
C - Honeywood Road	19.32	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	19.90	?	?	?	?			N/A	N/A
E - A2 (West)	21.06	?	?	?	?			N/A	N/A

AM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	AM Peak	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	D1,D3,D5,D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	unified	Standard Roundabout	A,B,C,D,E	146.42	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	E - Entry length (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	12.5	0.5	41.0	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	1.6	36.1	41.0	23.0	
C - Honeywood Road	7.37	7.71	18.0	1.8	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	23.4	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	25.4	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/RS)
A - Sandwich Road	Direct		-35.00
B - A2 (East)	Direct		-161.00
C - Honeywood Road	Direct		-102.00
D - A256 Whitfield Hill	Direct		2.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/RS)
A - Sandwich Road	0.749	531.401
B - A2 (East)	0.828	497.832
C - Honeywood Road	0.806	507.994
D - A256 Whitfield Hill	0.625	413.500
E - A2 (West)	0.812	571.340

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 period length (min)	Time segment length (min)	Run automatically
D1	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	AM	DIRECT	07:45	08:45	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/7S)

	To			
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill
From				
A - Sandwich Road	0.00	0.03	0.06	0.07
B - A2 (East)	0.02	0.00	0.01	0.05
C - Honeywood Road	0.03	0.03	0.00	0.05
D - A256 Whitfield Hill	0.06	0.04	0.08	0.04
E - A2 (West)	0.02	0.16	0.04	0.06

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	2	5	3	6
B - A2 (East)	3	0	7	1	23
C - Honeywood Road	6	0	0	5	13
D - A256 Whitfield Hill	1	6	0	0	5
E - A2 (West)	10	15	10	6	22

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	1.09	208.38	46.0	?	F	188.75	755.00
B - A2 (East)	1.17	321.91	64.5	?	F	195.50	782.00
C - Honeywood Road	1.05	67.31	19.8	?	F	159.50	638.00
D - A256 Whitfield Hill	1.05	83.31	24.7	?	F	220.50	882.00
E - A2 (West)	1.05	75.79	28.5	?	F	294.00	1176.00

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	204.00	204.00	394.57	202.83	1.006	189.63	122.45	0.0	14.4	46.420	E
B - A2 (East)	197.00	197.00	336.35	179.80	1.069	172.77	245.85	0.0	24.2	76.849	F
C - Honeywood Road	133.00	133.00	323.21	205.46	0.647	131.23	187.91	0.0	1.8	11.861	B
D - A256 Whitfield Hill	222.00	222.00	233.06	240.96	0.921	214.05	221.39	0.0	8.0	26.112	D
E - A2 (West)	275.00	275.00	246.82	326.57	0.892	270.21	200.28	0.0	4.8	14.904	B

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	180.00	180.00	403.76	196.09	0.918	180.30	130.35	14.4	13.5	65.268	F
B - A2 (East)	214.00	214.00	333.64	183.53	1.166	182.85	251.01	24.2	55.4	209.558	F
C - Honeywood Road	158.00	158.00	326.57	200.56	0.788	156.39	187.83	1.8	3.4	19.686	C
D - A256 Whitfield Hill	237.00	237.00	255.61	225.44	1.051	230.23	229.35	8.0	24.7	80.768	F
E - A2 (West)	272.00	272.00	263.06	314.53	0.865	271.05	212.76	4.8	5.7	20.027	C

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	181.00	181.00	436.75	167.53	1.090	165.23	130.34	13.5	29.2	131.620	F
B - A2 (East)	188.00	188.00	336.62	180.80	1.040	180.09	267.36	55.4	63.3	305.103	F
C - Honeywood Road	139.00	139.00	327.60	201.20	0.691	140.04	189.11	3.4	2.3	14.971	B
D - A256 Whitfield Hill	211.00	211.00	242.48	234.19	0.901	223.39	225.16	24.7	12.3	76.971	F
E - A2 (West)	333.00	333.00	256.80	317.72	1.048	310.28	207.07	5.7	26.5	61.532	F

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	190.00	190.00	430.74	174.15	1.091	179.22	134.89	29.2	46.0	208.376	F
B - A2 (East)	183.00	183.00	333.23	183.27	0.969	181.77	270.74	63.3	64.5	321.906	F
C - Honeywood Road	208.00	208.00	331.17	189.38	1.049	180.53	183.84	2.3	19.8	67.310	F
D - A256 Whitfield Hill	212.00	212.00	277.86	210.50	1.007	204.47	243.84	12.3	19.9	83.310	F
E - A2 (West)	296.00	296.00	263.71	313.93	0.943	301.93	218.63	26.5	22.5	75.793	F

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	14.37	?	?	?	?			N/A	N/A
B - A2 (East)	24.23	?	?	?	?			N/A	N/A
C - Honeywood Road	1.77	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	7.95	?	?	?	?			N/A	N/A
E - A2 (West)	4.79	?	?	?	?			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	13.47	?	?	?	?			N/A	N/A
B - A2 (East)	55.37	?	?	?	?			N/A	N/A
C - Honeywood Road	3.38	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	24.73	?	?	?	?			N/A	N/A
E - A2 (West)	5.75	?	?	?	?			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	29.23	?	?	?	?			N/A	N/A
B - A2 (East)	63.29	?	?	?	?			N/A	N/A
C - Honeywood Road	2.34	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	12.33	?	?	?	?			N/A	N/A
E - A2 (West)	28.46	?	?	?	?			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	46.01	?	?	?	?			N/A	N/A
B - A2 (East)	64.51	?	?	?	?			N/A	N/A
C - Honeywood Road	19.81	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	19.86	?	?	?	?			N/A	N/A
E - A2 (West)	22.53	?	?	?	?			N/A	N/A

PM Peak - 2017 Observed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PM Peak	✓	✓	D2,D4,D6,D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	united	Standard Roundabout	A,B,C,D,E	104.14	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	r - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	0.5	12.5	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	14.9	41.0	23.0	
C - Honeywood Road	7.37	7.71	1.6	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/TS)
A - Sandwich Road	None		
B - A2 (East)	Direct		-140.00
C - Honeywood Road	Direct		-108.00
D - A256 Whitfield Hill	Direct		-18.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A - Sandwich Road	0.749	566.401
B - A2 (East)	0.828	509.832
C - Honeywood Road	0.806	500.994
D - A256 Whitfield Hill	0.625	393.500
E - A2 (West)	0.812	571.340

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2017 Observed	PM	DIRECT	17:00	18:00	60	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 OD data	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
From					
A - Sandwich Road	0.00	0.02	0.05	0.05	0.01
B - A2 (East)	0.02	0.00	0.01	0.04	0.12
C - Honeywood Road	0.04	0.04	0.00	0.07	0.04
D - A256 Whitfield Hill	0.07	0.04	0.00	0.00	0.04
E - A2 (West)	0.02	0.13	0.03	0.04	0.01

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	0	2	0	3
B - A2 (East)	1	0	27	1	25
C - Honeywood Road	2	2	0	0	5
D - A256 Whitfield Hill	1	1	1	0	3
E - A2 (West)	4	12	15	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	0.44	5.95	0.8	-1	A	126.50	506.00
B - A2 (East)	0.78	15.15	3.4	?	C	189.75	759.00
C - Honeywood Road	0.89	42.56	13.8	?	E	191.00	764.00
D - A256 Whitfield Hill	1.26	408.23	95.6	?	F	215.75	863.00
E - A2 (West)	0.76	11.12	3.1	?	B	217.75	871.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	137.00	137.00	315.40	312.23	0.439	136.23	131.81	0.0	0.8	5.091	A
B - A2 (East)	194.00	194.00	247.25	255.20	0.760	191.02	204.38	0.0	3.0	13.467	B
C - Honeywood Road	159.00	159.00	288.30	238.84	0.666	157.08	149.97	0.0	1.9	10.772	B
D - A256 Whitfield Hill	203.00	203.00	259.33	207.52	0.978	191.25	186.05	0.0	11.8	41.534	E
E - A2 (West)	206.00	206.00	242.72	340.30	0.695	204.49	207.86	0.0	1.5	6.556	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	121.00	121.00	318.98	309.54	0.391	121.13	138.28	0.8	0.6	4.781	A
B - A2 (East)	207.00	207.00	232.89	265.44	0.780	206.62	207.22	3.0	3.4	15.147	C
C - Honeywood Road	189.00	189.00	295.98	230.80	0.819	186.87	143.52	1.9	4.1	19.567	C
D - A256 Whitfield Hill	237.00	237.00	288.45	187.70	1.263	186.57	194.40	11.8	61.9	186.652	F
E - A2 (West)	204.00	204.00	253.32	332.25	0.614	203.84	222.00	1.5	1.6	7.008	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	121.00	121.00	365.70	271.94	0.445	120.85	141.88	0.6	0.6	5.950	A
B - A2 (East)	181.00	181.00	254.41	249.57	0.725	181.60	232.15	3.4	2.8	13.378	B
C - Honeywood Road	167.00	167.00	281.85	245.11	0.681	168.84	154.16	4.1	2.2	12.068	B
D - A256 Whitfield Hill	211.00	211.00	260.55	207.57	1.017	206.52	190.14	61.9	66.4	293.275	F
E - A2 (West)	250.00	250.00	295.17	327.92	0.762	248.51	207.89	1.6	3.1	11.125	B

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	127.00	127.00	335.02	286.87	0.428	127.04	145.28	0.8	0.8	5.297	A
B - A2 (East)	177.00	177.00	239.42	260.88	0.679	177.57	222.64	2.8	2.2	10.910	B
C - Honeywood Road	249.00	249.00	272.97	252.88	0.985	237.42	144.03	2.2	13.8	42.564	E
D - A256 Whitfield Hill	212.00	212.00	299.79	182.86	1.159	182.78	210.60	66.4	95.6	408.230	F
E - A2 (West)	211.00	211.00	268.21	320.83	0.657	212.09	214.36	3.1	2.0	8.350	A

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.77	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	2.88	?	?	?	?			N/A	N/A
C - Honeywood Road	1.92	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	11.75	?	?	?	?			N/A	N/A
E - A2 (West)	1.51	?	?	?	?			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.65	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	3.36	?	?	?	?			N/A	N/A
C - Honeywood Road	4.06	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	61.88	?	?	?	?			N/A	N/A
E - A2 (West)	1.57	?	?	?	?			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.79	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	2.76	?	?	?	?			N/A	N/A
C - Honeywood Road	2.22	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	66.37	?	?	?	?			N/A	N/A
E - A2 (West)	3.05	?	?	?	?			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.75	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	2.18	?	?	?	?			N/A	N/A
C - Honeywood Road	13.79	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	95.58	?	?	?	?			N/A	N/A
E - A2 (West)	1.37	?	?	?	?			N/A	N/A

PM Peak - 2022 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PM Peak	✓	✓	D2,D4,D6,D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	united	Standard Roundabout	A,B,C,D,E	237.54	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	r - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	0.5	12.5	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	14.9	41.0	23.0	
C - Honeywood Road	7.37	7.71	1.6	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/TS)
A - Sandwich Road	None		
B - A2 (East)	Direct		-140.00
C - Honeywood Road	Direct		-108.00
D - A256 Whitfield Hill	Direct		-18.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A - Sandwich Road	0.749	566.401
B - A2 (East)	0.828	509.832
C - Honeywood Road	0.806	500.994
D - A256 Whitfield Hill	0.625	393.500
E - A2 (West)	0.812	571.340

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Traffic profile type	Start time (HH:MM)	Finish time (HH:MM)	Time period length (min)	Time segment length (min)	Run automatically
D4	2022 Base	PM	DIRECT	17:00	18:00	60	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 OD data	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
From					
A - Sandwich Road	0.00	0.02	0.05	0.05	0.01
B - A2 (East)	0.02	0.00	0.01	0.04	0.12
C - Honeywood Road	0.04	0.04	0.00	0.07	0.04
D - A256 Whitfield Hill	0.07	0.04	0.00	0.00	0.04
E - A2 (West)	0.02	0.13	0.03	0.04	0.01

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	0	2	0	3
B - A2 (East)	1	0	27	1	24
C - Honeywood Road	2	2	0	0	5
D - A256 Whitfield Hill	1	1	1	0	3
E - A2 (West)	4	12	15	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	0.50	6.91	1.0	-1	A	135.25	541.00
B - A2 (East)	0.86	23.47	5.5	?	C	205.50	822.00
C - Honeywood Road	1.15	103.77	42.1	?	F	204.75	819.00
D - A256 Whitfield Hill	1.45	943.51	210.0	?	F	236.50	946.00
E - A2 (West)	0.82	14.11	4.2	?	B	239.25	957.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	146.00	145.00	333.27	297.80	0.490	145.05	136.98	0.0	0.9	5.856	A
B - A2 (East)	212.00	212.00	260.55	246.83	0.859	206.83	217.76	0.0	5.2	20.437	C
C - Honeywood Road	171.00	171.00	311.16	219.74	0.778	167.77	156.22	0.0	3.2	16.435	C
D - A256 Whitfield Hill	238.00	238.00	279.17	194.40	1.224	190.40	199.76	0.0	47.6	124.957	F
E - A2 (West)	224.00	224.00	248.19	336.16	0.666	222.05	221.38	0.0	1.9	7.762	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	129.00	129.00	330.60	269.82	0.430	129.19	139.57	0.9	0.8	5.280	A
B - A2 (East)	223.00	223.00	242.00	260.13	0.857	222.64	217.76	5.2	5.5	23.469	C
C - Honeywood Road	202.00	202.00	318.59	211.95	0.853	195.21	148.05	3.2	10.0	42.151	E
D - A256 Whitfield Hill	254.00	254.00	306.89	175.52	1.447	175.43	206.91	47.6	126.2	440.988	F
E - A2 (West)	221.00	221.00	248.16	335.35	0.659	221.00	233.16	1.9	1.9	7.872	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	130.00	130.00	390.45	269.67	0.501	129.77	144.22	0.8	1.0	6.915	A
B - A2 (East)	196.00	196.00	264.46	243.44	0.805	197.06	245.74	5.5	4.5	19.926	C
C - Honeywood Road	179.00	179.00	305.01	225.76	0.793	184.83	156.54	10.0	4.2	24.362	C
D - A256 Whitfield Hill	226.00	226.00	283.61	192.41	1.175	192.35	206.23	126.2	159.8	698.618	F
E - A2 (West)	271.00	271.00	255.94	330.29	0.820	268.73	220.01	1.9	4.2	14.113	B

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	136.00	136.00	358.31	277.76	0.480	136.02	146.08	1.0	1.0	6.350	A
B - A2 (East)	191.00	191.00	255.92	249.90	0.764	192.03	238.41	4.5	3.4	15.852	C
C - Honeywood Road	267.00	267.00	297.36	232.45	1.149	229.13	150.58	4.2	42.1	103.773	F
D - A256 Whitfield Hill	228.00	228.00	307.20	177.80	1.282	177.78	219.29	159.8	210.0	943.512	F
E - A2 (West)	241.00	241.00	262.14	325.50	0.740	242.24	222.84	4.2	3.0	10.973	B

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.95	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	5.17	?	?	?	?			N/A	N/A
C - Honeywood Road	3.23	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	47.60	?	?	?	?			N/A	N/A
E - A2 (West)	1.95	?	?	?	?			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.76	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	5.63	?	?	?	?			N/A	N/A
C - Honeywood Road	10.02	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	126.17	?	?	?	?			N/A	N/A
E - A2 (West)	1.94	?	?	?	?			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.99	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	4.46	?	?	?	?			N/A	N/A
C - Honeywood Road	4.19	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	159.82	?	?	?	?			N/A	N/A
E - A2 (West)	4.21	?	?	?	?			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.97	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	3.44	?	?	?	?			N/A	N/A
C - Honeywood Road	42.06	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	210.04	?	?	?	?			N/A	N/A
E - A2 (West)	2.97	?	?	?	?			N/A	N/A

PM Peak - 2022 Proposed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A6	PM Peak	✓	✓	D2,D4,D6,D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	united	Standard Roundabout	A,B,C,D,E	239.32	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	r - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	0.5	12.5	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	14.9	41.0	23.0	
C - Honeywood Road	7.37	7.71	1.6	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/TS)
A - Sandwich Road	None		
B - A2 (East)	Direct		-149.00
C - Honeywood Road	Direct		-108.00
D - A256 Whitfield Hill	Direct		-18.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A - Sandwich Road	0.749	566.401
B - A2 (East)	0.828	509.832
C - Honeywood Road	0.806	500.994
D - A256 Whitfield Hill	0.625	393.500
E - A2 (West)	0.812	571.340

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2022 Proposed	PM	DIRECT	17:00	18:00	60	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 OD data	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
From					
A - Sandwich Road	0.00	0.02	0.05	0.05	0.01
B - A2 (East)	0.02	0.00	0.01	0.04	0.12
C - Honeywood Road	0.04	0.04	0.00	0.07	0.04
D - A256 Whitfield Hill	0.07	0.04	0.00	0.00	0.04
E - A2 (West)	0.02	0.13	0.03	0.04	0.01

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	0	2	0	3
B - A2 (East)	1	0	27	1	24
C - Honeywood Road	2	2	0	0	5
D - A256 Whitfield Hill	1	1	1	0	3
E - A2 (West)	4	12	15	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	0.50	6.99	1.0	?	A	135.25	541.00
B - A2 (East)	0.86	24.31	5.7	?	C	206.25	825.00
C - Honeywood Road	1.15	106.07	43.0	?	F	204.75	819.00
D - A256 Whitfield Hill	1.45	950.87	211.4	?	F	236.50	946.00
E - A2 (West)	0.83	14.51	4.4	?	B	241.00	964.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	146.00	145.00	334.82	296.52	0.492	145.04	137.09	0.0	1.0	5.906	A
B - A2 (East)	213.00	213.00	261.08	246.42	0.864	207.64	218.77	0.0	5.4	20.975	C
C - Honeywood Road	171.00	171.00	312.36	218.69	0.782	167.71	156.38	0.0	3.3	16.724	C
D - A256 Whitfield Hill	238.00	238.00	279.82	193.92	1.227	189.97	200.25	0.0	48.0	126.241	F
E - A2 (West)	226.00	226.00	247.80	336.38	0.672	224.01	221.89	0.0	2.0	7.876	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	129.00	129.00	332.13	288.55	0.432	129.19	139.63	1.0	0.8	5.319	A
B - A2 (East)	224.00	224.00	242.56	259.70	0.863	223.61	218.76	6.4	5.7	24.312	C
C - Honeywood Road	202.00	202.00	319.95	210.76	0.959	194.85	146.23	3.3	10.4	43.640	E
D - A256 Whitfield Hill	254.00	254.00	307.46	175.08	1.451	174.99	207.33	48.0	127.0	445.053	F
E - A2 (West)	223.00	223.00	248.76	335.65	0.664	223.00	233.70	2.0	2.0	7.992	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	130.00	130.00	392.11	269.32	0.503	129.77	144.39	0.8	1.0	6.988	A
B - A2 (East)	196.00	196.00	265.05	243.02	0.807	197.22	246.83	5.7	4.5	20.240	C
C - Honeywood Road	179.00	179.00	305.57	225.29	0.795	185.20	156.70	10.4	4.2	25.040	D
D - A256 Whitfield Hill	226.00	226.00	284.04	192.12	1.176	192.06	206.73	127.0	181.0	704.590	F
E - A2 (West)	273.00	273.00	255.88	330.34	0.826	270.62	220.22	2.0	4.4	14.513	B

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	136.00	136.00	359.04	277.14	0.481	136.02	146.03	1.0	1.0	6.381	A
B - A2 (East)	192.00	192.00	256.25	249.65	0.769	192.98	238.82	4.5	3.5	16.188	C
C - Honeywood Road	287.00	287.00	298.51	231.42	1.154	226.23	150.72	4.2	45.0	106.068	F
D - A256 Whitfield Hill	228.00	228.00	307.39	177.61	1.284	177.58	219.36	161.0	211.4	950.866	F
E - A2 (West)	242.00	242.00	261.71	325.83	0.743	243.96	223.27	4.4	3.0	11.092	B

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.86	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	5.36	?	?	?	?			N/A	N/A
C - Honeywood Road	3.29	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	48.03	?	?	?	?			N/A	N/A
E - A2 (West)	1.99	?	?	?	?			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.77	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	5.74	?	?	?	?			N/A	N/A
C - Honeywood Road	10.44	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	127.04	?	?	?	?			N/A	N/A
E - A2 (West)	1.99	?	?	?	?			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	1.00	?	?	?	?			N/A	N/A
B - A2 (East)	4.52	?	?	?	?			N/A	N/A
C - Honeywood Road	4.24	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	160.97	?	?	?	?			N/A	N/A
E - A2 (West)	4.37	?	?	?	?			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.87	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	3.53	?	?	?	?			N/A	N/A
C - Honeywood Road	43.01	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	211.39	?	?	?	?			N/A	N/A
E - A2 (West)	3.01	?	?	?	?			N/A	N/A

PM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Flow Arm A	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm B	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm C	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm D	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Flow Arm E	Analysis Options	Queue Variations cannot be calculated for the selected traffic profile type.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PM Peak	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	D2,D4,D6,D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	unified	Standard Roundabout	A,B,C,D,E	243.35	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	Sandwich Road	
B	A2 (East)	
C	Honeywood Road	
D	A256 Whitfield Hill	
E	A2 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	E - Entry radius (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A - Sandwich Road	7.46	7.71	12.5	41.0	41.0	24.5	
B - A2 (East)	7.57	9.00	13.2	41.0	41.0	23.0	
C - Honeywood Road	7.37	7.71	18.0	36.1	41.0	18.0	
D - A256 Whitfield Hill	3.65	7.83	10.6	23.4	41.0	35.5	
E - A2 (West)	7.39	8.99	3.3	25.4	41.0	23.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept adjustment (PCU/RS)
A - Sandwich Road	None		
B - A2 (East)	Direct		-140.00
C - Honeywood Road	Direct		-105.00
D - A256 Whitfield Hill	Direct		-18.00
E - A2 (West)	Direct		-57.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/RS)
A - Sandwich Road	0.749	566.401
B - A2 (East)	0.828	509.832
C - Honeywood Road	0.806	500.994
D - A256 Whitfield Hill	0.625	393.500
E - A2 (West)	0.812	571.340

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 period length (min)	Time segment length (min)	Run automatically
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	PM	DIRECT	17:00	18:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A - Sandwich Road		DIRECT		100.000
B - A2 (East)		DIRECT		100.000
C - Honeywood Road		DIRECT		100.000
D - A256 Whitfield Hill		DIRECT		100.000
E - A2 (West)		DIRECT		100.000

Origin-Destination Data

Demand (Veh/7S)

	To			
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill
From				
A - Sandwich Road	0.00	0.02	0.05	0.05
B - A2 (East)	0.02	0.00	0.01	0.04
C - Honeywood Road	0.04	0.04	0.00	0.07
D - A256 Whitfield Hill	0.07	0.04	0.07	0.00
E - A2 (West)	0.02	0.13	0.03	0.04

Vehicle Mix

Heavy Vehicle Percentages

From	To				
	A - Sandwich Road	B - A2 (East)	C - Honeywood Road	D - A256 Whitfield Hill	E - A2 (West)
A - Sandwich Road	0	0	2	0	3
B - A2 (East)	1	0	27	1	24
C - Honeywood Road	2	2	0	0	5
D - A256 Whitfield Hill	1	1	1	0	3
E - A2 (West)	4	12	15	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A - Sandwich Road	0.51	7.08	1.0	?	A	135.25	541.00
B - A2 (East)	0.57	25.95	6.2	?	D	208.00	832.00
C - Honeywood Road	1.16	110.56	44.7	?	F	204.75	819.00
D - A256 Whitfield Hill	1.46	967.96	214.7	?	F	236.50	946.00
E - A2 (West)	0.83	15.04	4.6	?	C	244.00	976.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	146.00	145.00	336.16	295.40	0.494	145.04	137.14	0.0	1.0	5.948	A
B - A2 (East)	215.00	215.00	261.49	246.10	0.874	209.51	219.70	0.0	5.7	21.907	C
C - Honeywood Road	171.00	171.00	314.36	216.30	0.788	167.60	156.45	0.0	3.4	17.238	C
D - A256 Whitfield Hill	238.00	238.00	281.06	193.00	1.233	189.13	200.89	0.0	48.9	128.757	F
E - A2 (West)	228.00	228.00	247.35	336.80	0.677	225.86	222.85	0.0	2.0	7.881	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	129.00	129.00	334.29	286.76	0.435	129.19	139.67	1.0	0.8	5.378	A
B - A2 (East)	226.00	226.00	243.34	259.11	0.872	225.53	220.15	5.7	6.2	25.955	D
C - Honeywood Road	202.00	202.00	322.41	208.58	0.968	194.12	146.45	3.4	11.3	46.529	E
D - A256 Whitfield Hill	254.00	254.00	308.54	174.24	1.458	174.16	207.99	48.9	128.7	453.646	F
E - A2 (West)	226.00	226.00	247.97	336.25	0.672	226.00	234.73	2.0	2.0	8.163	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	130.00	130.00	384.10	256.66	0.507	129.77	144.52	0.8	1.0	7.079	A
B - A2 (East)	198.00	198.00	265.57	242.61	0.816	199.52	248.29	6.2	4.8	21.483	C
C - Honeywood Road	179.00	179.00	308.17	222.98	0.803	185.77	156.72	11.3	4.5	27.312	D
D - A256 Whitfield Hill	226.00	226.00	296.07	190.66	1.185	190.61	207.87	128.7	194.1	720.022	F
E - A2 (West)	276.00	276.00	255.15	330.88	0.854	273.46	221.52	2.0	4.6	15.035	C

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
A - Sandwich Road	136.00	136.00	362.32	274.45	0.486	136.02	146.14	1.0	1.0	6.502	A
B - A2 (East)	193.00	193.00	257.59	248.64	0.776	194.14	240.75	4.8	3.7	16.889	C
C - Honeywood Road	287.00	287.00	300.48	229.71	1.162	226.78	151.25	4.5	44.7	110.556	F
D - A256 Whitfield Hill	228.00	228.00	307.50	177.44	1.285	177.42	219.76	164.1	214.7	967.956	F
E - A2 (West)	246.00	246.00	261.09	326.30	0.754	247.36	223.84	4.6	3.2	11.606	B

Queue Variation Results for each time segment

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.86	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	5.69	?	?	?	?			N/A	N/A
C - Honeywood Road	3.40	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	48.87	?	?	?	?			N/A	N/A
E - A2 (West)	2.04	?	?	?	?			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.78	-1	-1	-1	-1			N/A	N/A
B - A2 (East)	6.16	?	?	?	?			N/A	N/A
C - Honeywood Road	11.28	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	128.71	?	?	?	?			N/A	N/A
E - A2 (West)	2.04	?	?	?	?			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	1.01	?	?	?	?			N/A	N/A
B - A2 (East)	4.84	?	?	?	?			N/A	N/A
C - Honeywood Road	4.51	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	164.10	?	?	?	?			N/A	N/A
E - A2 (West)	4.58	?	?	?	?			N/A	N/A

17:45 - 18:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
A - Sandwich Road	0.99	?	?	?	?			N/A	N/A
B - A2 (East)	3.70	?	?	?	?			N/A	N/A
C - Honeywood Road	44.72	?	?	?	?			N/A	N/A
D - A256 Whitfield Hill	214.68	?	?	?	?			N/A	N/A
E - A2 (West)	3.20	?	?	?	?			N/A	N/A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 (1)
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Filename: 17.06.13 A258 Dover Road_A2(DIRECT).j9

Path: P:\Transport\Projects\16-T129 - Gladman Developments - Dover Road, Walmer (Correspondence 2016-124).4

Calculations\Traffic Models\17.05.25 A258 Dover Road_A2

Report generation date: 15/06/2017 11:47:28

- >>AM Peak - 2017 Observed, AM
- >>AM Peak - 2022 Proposed, AM
- >>AM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 Units), AM
- >>PM Peak - 2017 Observed, PM
- >>PM Peak - 2022 Proposed, PM
- >>PM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Summary of junction performance

		AM		RFC
		Queue (Veh)		
AM Peak - 2017 Observed				
Arm A		16.7		0.99
Arm B		8.5		0.93
Arm C		5.0		0.86
Arm D		6.8		0.89
AM Peak - 2022 Base				
Arm A		76.4		1.16
Arm B		48.8		1.25
Arm C		8.8		0.86
Arm D		14.7		0.97
AM Peak - 2022 Proposed				
Arm A		88.0		1.18
Arm B		51.9		1.26
Arm C		8.8		0.85
Arm D		15.2		0.97
AM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 Units)				
Arm A		106.8		1.22
Arm B		51.4		1.26
Arm C		10.0		0.87
Arm D		16.1		0.97

		PM		RFC
		Queue (Veh)		
PM Peak - 2017 Observed				
Arm A		3.6		0.80
Arm B		12.5		0.96
Arm C		12.9		1.00
Arm D		11.6		0.95
PM Peak - 2022 Base				
Arm A		7.7		0.92
Arm B		66.0		1.09
Arm C		66.3		1.20
Arm D		32.3		1.06
PM Peak - 2022 Proposed				
Arm A		8.6		0.94
Arm B		82.7		1.12
Arm C		67.6		1.20
Arm D		33.6		1.07
PM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)				
Arm A		12.6		0.88
Arm B		95.5		1.13
Arm C		86.0		1.24
Arm D		36.5		1.08

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	A258 Dover Road / A2
Location	
Site number	
Date	13/06/2017
Version	
Status	(new file)
Identifier	
Client	
Job number	
Enumerator	ICENPROJECTS/sgood
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	min	-Min	perMin
5.75					0.85	0.60	20.00

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queuing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (min)	Queue threshold (PCU)
5.75				0.85	0.60	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:00	08:00	60	15	✓
D2	2017 Observed	PM	DIRECT	17:00	18:00	60	15	✓
D3	2022 Base	AM	DIRECT	08:00	08:00	60	15	✓
D4	2022 Base	PM	DIRECT	17:00	18:00	60	15	✓
D5	2022 Proposed	AM	DIRECT	08:00	08:00	60	15	✓
D6	2022 Proposed	PM	DIRECT	17:00	18:00	60	15	✓
D7	2022 Proposed + Speculative Development (Land at Cross Road c. 235 Units)	AM	DIRECT	08:00	08:00	60	15	✓
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 Units)	PM	DIRECT	17:00	18:00	60	15	✓
D9	2022 Development Case (No Committed)	AM	DIRECT	08:00	08:00	60	15	
D10	2022 Development Case (No Committed)	PM	DIRECT	17:00	18:00	60	15	

AM Peak - 2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	AM Peak	✓	✓	D1, D3, D5, D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(Untitled)	Standard Roundabout	A, B, C, D	0.56	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A258 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	19.0	
C	3.67	8.27	17.7	28.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-146.00
B	Direct		-183.00
C	Direct		-90.00
D	Direct		-212.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
A	0.951	613.485
B	0.905	527.539
C	0.733	405.941
D	0.908	497.881

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 period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:00	09:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To			
	A	B	C	D
From A	0.00	0.11	0.06	0.17
From B	0.04	0.00	0.00	0.11
From C	0.04	0.00	0.00	0.08
From D	0.09	0.13	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	D
From A	0	2	3	3
From B	6	54	0	31
From C	1	10	0	3
From D	4	21	3	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	0.99	0.722	16.7	E	289.25	1157.01
B	0.93	0.777	8.5	E	135.75	543.00
C	0.86	0.661	5.0	E	110.00	440.00
D	0.89	0.930	6.8	C	318.25	1275.00

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	272.00	272.00	224.56	366.44	0.742	269.23	132.15	0.0	2.0	0.150	A
B	131.00	131.00	306.02	194.84	0.672	129.04	187.77	0.0	2.0	0.222	B
C	85.00	85.00	263.65	182.60	0.466	84.15	171.41	0.0	0.9	0.151	A
D	297.00	297.00	62.46	401.36	0.740	294.25	285.34	0.0	2.7	0.137	A

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	299.00	299.00	251.21	339.02	0.882	295.41	144.69	2.8	6.4	0.320	C
B	96.00	96.00	338.43	170.54	0.575	98.57	208.18	2.0	1.4	0.210	B
C	122.00	122.00	246.27	200.06	0.610	121.34	190.73	0.9	1.5	0.189	B
D	331.00	331.00	66.73	398.11	0.831	329.17	300.88	2.7	4.6	0.212	B

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	322.00	322.00	263.89	325.97	0.988	311.65	154.64	6.4	16.7	0.722	E
B	139.00	139.00	356.42	157.06	0.885	134.73	219.13	1.4	5.7	0.587	E
C	111.00	111.00	290.55	161.30	0.686	110.45	200.59	1.5	2.1	0.288	C
D	348.00	348.00	72.74	392.68	0.886	345.79	328.25	4.6	6.8	0.304	C

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	264.00	264.00	229.02	361.85	0.730	277.91	156.68	16.7	2.8	0.207	B
B	175.00	175.00	314.35	186.60	0.928	172.12	192.58	5.7	6.5	0.767	E
C	122.00	122.00	311.08	141.05	0.865	119.11	175.40	2.1	5.0	0.613	E
D	297.00	297.00	85.60	381.49	0.779	300.10	344.58	6.8	3.7	0.191	B

AM Peak - 2022 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
AM	AM Peak	✓	D1, D3, D5, D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(united)	Standard Roundabout	A, B, C, D	1.77	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A258 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	19.0	
C	3.67	8.27	17.7	26.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-146.00
B	Direct		-183.00
C	Direct		-90.00
D	Direct		-212.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
A	0.951	613.485
B	0.905	527.539
C	0.733	405.941
D	0.908	497.881

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 period length (min)	Time segment length (min)	Run automatically
D3	2022 Base	AM	DIRECT	08:00	09:00	60	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	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

From	To			
	A	B	C	D
A	0.00	0.11	0.06	0.17
B	0.04	0.00	0.00	0.11
C	0.04	0.00	0.00	0.08
D	0.09	0.13	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	D
A	0	2	3	3
B	6	54	0	31
C	1	10	0	3
D	4	21	3	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	1.116	2.62	76.4	F	321.25	1285.01
B	1.25	3.24	48.8	F	146.00	584.00
C	0.96	0.95	8.8	F	121.00	484.00
D	0.97	0.59	14.7	E	343.50	1374.00

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	302.00	302.00	241.95	348.55	0.866	286.33	142.60	0.0	5.7	0.264	C
B	141.00	141.00	333.94	173.91	0.811	137.26	204.33	0.0	3.7	0.378	C
C	94.00	94.00	295.42	165.30	0.569	92.72	185.78	0.0	1.3	0.203	B
D	321.00	321.00	67.51	387.03	0.808	317.04	310.63	0.0	4.0	0.180	B

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	332.00	332.00	269.30	320.40	1.036	311.88	156.51	5.7	25.8	0.955	F
B	106.00	106.00	359.56	154.71	0.685	107.44	221.62	3.7	2.3	0.326	C
C	134.00	134.00	263.36	166.10	0.720	132.86	203.62	1.3	2.4	0.276	C
D	357.00	357.00	72.94	392.62	0.909	352.87	323.30	4.0	8.1	0.342	C

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	358.00	358.00	281.15	308.21	1.162	307.39	165.22	25.8	76.4	2.615	F
B	149.00	149.00	363.06	152.08	0.980	140.72	225.48	2.3	10.6	0.692	F
C	122.00	122.00	294.41	158.14	0.771	121.33	209.36	2.4	3.1	0.398	C
D	375.00	375.00	77.97	368.23	0.866	368.40	337.77	8.1	14.7	0.588	E

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	293.00	293.00	251.95	338.26	0.866	333.89	160.89	76.4	35.5	2.559	F
B	188.00	188.00	364.87	150.72	1.247	146.79	220.97	10.6	48.8	3.239	F
C	134.00	134.00	316.74	140.29	0.955	128.25	197.93	3.1	8.8	0.948	F
D	321.00	321.00	82.70	394.17	0.836	330.14	362.29	14.7	5.5	0.313	C

AM Peak - 2022 Proposed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	AM Peak	✓	✓	D1, D3, D5, D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(united)	Standard Roundabout	A, B, C, D	2.01	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A258 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	19.0	
C	3.67	8.27	17.7	28.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-146.00
B	Direct		-183.00
C	Direct		-90.00
D	Direct		-212.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
A	0.951	613.485
B	0.905	527.539
C	0.733	405.941
D	0.908	497.881

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 period length (min)	Time segment length (min)	Run automatically
D5	2022 Proposed	AM	DIRECT	08:00	09:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	<input checked="" type="checkbox"/>	Vehicle mix varies over entry	<input checked="" type="checkbox"/>	PCU Factor for a HV (PCU)	2.00
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Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To			
	A	B	C	D
From A	0.00	0.11	0.06	0.17
From B	0.04	0.00	0.00	0.11
From C	0.04	0.00	0.00	0.08
From D	0.09	0.13	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	D
From A	0	2	3	3
From B	6	54	0	31
From C	1	10	0	3
From D	4	21	3	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	1.18	3.19	86.0	F	326.75	1307.01
B	1.26	3.44	51.9	F	147.75	591.00
C	0.95	0.94	8.8	F	121.00	484.00
D	0.97	0.61	15.2	E	344.50	1376.00

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	307.00	307.00	242.65	347.82	0.883	300.63	143.20	0.0	6.4	0.288	C
B	143.00	143.00	337.25	171.43	0.834	138.75	206.04	0.0	4.2	0.417	D
C	94.00	94.00	289.07	162.38	0.579	92.67	186.93	0.0	1.3	0.211	B
D	322.00	322.00	67.89	396.70	0.812	317.96	313.85	0.0	4.0	0.182	B

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	338.00	338.00	289.94	319.74	1.057	313.25	157.07	6.4	31.1	1.098	F
B	107.00	107.00	360.83	153.75	0.696	108.81	222.35	4.2	2.4	0.346	C
C	134.00	134.00	285.44	164.37	0.727	132.84	204.21	1.3	2.5	0.285	C
D	358.00	358.00	73.30	392.50	0.912	353.72	324.89	4.0	8.3	0.351	C

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	364.00	364.00	281.66	307.68	1.183	307.12	165.67	31.1	88.0	3.010	F
B	151.00	151.00	363.16	152.01	0.969	141.79	225.62	2.4	11.6	1.017	F
C	122.00	122.00	295.35	157.28	0.776	121.33	209.60	2.5	3.2	0.407	C
D	376.00	376.00	78.26	387.98	0.969	369.07	338.43	8.3	15.2	0.607	E

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	298.00	298.00	253.04	337.13	0.864	333.35	161.26	86.0	52.7	3.194	F
B	190.00	190.00	365.11	150.54	1.262	149.75	221.28	11.6	51.9	3.442	F
C	134.00	134.00	316.42	140.53	0.954	128.39	196.43	3.2	8.8	0.944	F
D	322.00	322.00	82.73	394.14	0.838	331.57	362.08	15.2	5.7	0.324	C

AM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 Units), AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	AM Peak	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	D1, D5, D5, D7	100.000	100.000

Junction Network

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(unlabeled)	Standard Roundabout	A, B, C, D	2.36	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A258 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	19.0	
C	3.67	8.27	17.7	28.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-146.00
B	Direct		-183.00
C	Direct		-90.00
D	Direct		-212.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A	0.951	613.485
B	0.905	527.539
C	0.733	405.941
D	0.908	497.881

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 (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2022 Proposed + Speculative Development (Land at Cross Road c. 235 Units)	AM	DIRECT	08:00	09:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	<input checked="" type="checkbox"/>	100.000
B		DIRECT	<input checked="" type="checkbox"/>	100.000
C		DIRECT	<input checked="" type="checkbox"/>	100.000
D		DIRECT	<input checked="" type="checkbox"/>	100.000

Origin-Destination Data

Demand (Veh/TS)

From	To			
	A	B	C	D
A	0.00	0.11	0.06	0.17
B	0.04	0.00	0.00	0.11
C	0.04	0.00	0.00	0.08
D	0.09	0.13	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	D
A	0	2	2	2
B	6	54	0	31
C	1	10	0	3
D	4	21	3	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	1.22	4.20	106.8	337.50	1350.00
B	1.26	3.40	51.4	147.75	591.00
C	0.97	1.04	10.0	123.75	495.00
D	0.97	0.64	16.1	345.50	1382.00

Main Results for each time segment

08:00 - 08:15											
Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	317.00	317.00	243.35	349.40	0.907	309.29	143.95	0.0	7.7	0.328	C
B	143.00	143.00	343.49	168.27	0.850	138.37	209.15	0.0	4.6	0.450	D
C	96.00	96.00	293.02	160.63	0.698	94.57	188.85	0.0	1.4	0.223	B
D	323.00	323.00	66.42	396.26	0.815	316.88	319.16	0.0	4.1	0.185	B

08:15 - 08:30											
Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	349.00	349.00	270.51	321.28	1.086	316.87	156.30	7.7	39.8	1.324	F
B	107.00	107.00	363.60	153.23	0.698	109.17	223.78	4.6	2.5	0.355	C
C	137.00	137.00	267.60	183.86	0.745	135.71	205.17	1.4	2.7	0.303	C
D	359.00	359.00	74.35	391.61	0.917	354.46	328.97	4.1	8.7	0.363	C

08:30 - 08:45											
Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	376.00	376.00	282.02	309.35	1.215	309.01	166.81	39.8	106.8	3.629	F
B	151.00	151.00	364.63	152.42	0.991	142.01	226.40	2.5	11.4	1.006	F
C	125.00	125.00	296.52	157.49	0.794	124.25	210.13	2.7	3.5	0.438	D
D	377.00	377.00	79.29	387.11	0.974	369.54	341.48	8.7	16.1	0.636	E

08:45 - 09:00											
Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	398.00	398.00	254.32	339.05	0.911	334.91	162.42	106.8	79.9	4.197	F
B	190.00	190.00	365.87	150.87	1.259	150.05	222.36	11.4	51.4	3.402	F
C	137.00	137.00	317.51	140.88	0.972	130.45	199.41	3.5	10.0	1.039	F
D	323.00	323.00	83.50	393.49	0.842	333.24	364.46	16.1	5.9	0.343	C

PM Peak - 2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PM Peak	✓	✓	D2, D4, D6, D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(unfilled)	Standard Roundabout	A, B, C, D	0.66	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A259 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	18.0	
C	3.67	8.27	17.7	28.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-391.00
B	Direct		-202.50
C	Direct		-50.00
D	Direct		-151.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
A	0.951	368.485
B	0.905	508.039
C	0.733	445.941
D	0.908	558.881

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 period length (min)	Time segment length (min)	Run automatically
D2	2017 Observed	PM	DIRECT	17:00	18:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	<input checked="" type="checkbox"/>	Vehicle mix varies over entry	<input checked="" type="checkbox"/>	PCU Factor for a HV (PCU)	2.00
		HV Percentages			

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To			
	A	B	C	D
From A	0.00	0.05	0.03	0.10
From B	0.13	0.00	0.00	0.18
From C	0.70	0.00	0.00	0.10
From D	0.15	0.08	0.10	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	D
From A	0	3	2	0
From B	1	0	0	22
From C	1	0	0	0
From D	0	23	1	8

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	0.80	0.31	3.6	C	150.25	601.00
B	0.96	0.71	12.5	E	267.00	1068.00
C	1.00	1.17	12.9	F	147.75	591.00
D	0.95	0.53	11.6	D	277.00	1106.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	165.00	165.00	151.04	206.92	0.797	161.45	352.94	0.0	3.6	0.510	C
B	232.00	232.00	200.51	287.39	0.897	228.15	111.96	0.0	3.9	0.240	B
C	154.00	154.00	317.84	189.41	0.813	150.17	110.82	0.0	3.8	0.354	C
D	282.00	282.00	227.08	331.25	0.851	276.90	240.94	0.0	5.1	0.256	C

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	166.00	166.00	138.15	220.35	0.753	166.34	353.40	3.6	3.2	0.280	C
B	279.00	279.00	196.88	290.34	0.961	270.90	107.60	3.9	12.0	0.602	E
C	150.00	150.00	383.31	152.30	0.965	142.46	104.47	3.8	11.3	1.057	F
D	252.00	252.00	238.27	321.55	0.784	253.27	267.52	5.1	3.8	0.224	B

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	134.00	134.00	164.30	193.11	0.694	134.83	372.51	3.2	2.4	0.261	C
B	278.00	278.00	188.66	296.88	0.936	277.48	110.48	12.0	12.5	0.711	E
C	130.00	130.00	352.39	159.61	0.815	136.26	113.75	11.3	5.1	0.732	E
D	309.00	309.00	235.59	323.88	0.954	301.22	253.06	3.8	11.6	0.532	D

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	136.00	136.00	147.57	210.54	0.646	136.49	370.56	2.4	1.9	0.204	B
B	279.00	279.00	180.96	303.43	0.919	279.16	103.50	12.5	12.3	0.641	E
C	157.00	157.00	354.99	157.55	0.996	149.16	104.73	5.1	12.9	1.166	F
D	265.00	265.00	247.58	313.49	0.845	270.54	256.57	11.6	6.1	0.382	C

PM Peak - 2022 Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PM Peak	✓	✓	D2,D4,D6,D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(united)	Standard Roundabout	A,B,C,D	2.53	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A258 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	19.0	
C	3.67	8.27	17.7	26.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-391.00
B	Direct		-202.50
C	Direct		-50.00
D	Direct		-151.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
A	0.951	365.485
B	0.905	506.039
C	0.733	445.941
D	0.908	556.881

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 (H:MM)	Finish time (H:MM)	Time period length (min)	Time segment length (min)	Run automatically
D4	2022 Base	PM	DIRECT	17:00	18:00	60	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	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To			
	A	B	C	D
From A	0.00	0.05	0.03	0.10
From B	0.13	0.00	0.00	0.18
From C	0.70	0.00	0.00	0.10
From D	0.15	0.08	0.10	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	D
From A	0	3	2	0
From B	1	0	0	22
From C	1	0	0	0
From D	0	23	1	8

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	0.92	0.64	7.7	E	165.75	663.00
B	1.09	3.23	66.0	F	287.25	1149.00
C	1.20	5.49	66.3	F	165.25	661.00
D	1.06	1.25	32.3	F	300.25	1201.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	182.00	182.00	160.43	197.14	0.923	174.35	375.03	0.0	7.7	0.546	D
B	250.00	250.00	215.05	275.69	0.907	242.65	119.73	0.0	7.3	0.393	C
C	172.00	172.00	339.51	172.29	0.998	159.51	118.19	0.0	12.5	0.853	F
D	306.00	306.00	241.33	318.81	0.980	294.13	257.70	0.0	11.9	0.479	D

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	183.00	183.00	151.86	206.07	0.888	182.98	366.48	7.7	7.7	0.641	E
B	300.00	300.00	216.51	274.54	1.093	270.51	118.32	7.3	36.8	1.431	F
C	188.00	188.00	372.16	145.81	1.151	144.57	114.86	12.5	35.9	2.792	F
D	273.00	273.00	239.93	320.12	0.853	276.40	276.79	11.9	6.5	0.393	C

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	148.00	148.00	168.65	188.58	0.785	151.67	386.09	7.7	4.0	0.438	D
B	299.00	299.00	203.24	285.16	1.049	283.57	117.09	36.8	62.3	2.609	F
C	145.00	145.00	367.84	147.80	0.981	144.72	118.98	35.9	36.2	3.810	F
D	335.00	335.00	245.55	315.25	1.063	309.20	267.01	6.5	32.3	1.139	F

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	150.00	150.00	165.72	181.63	0.783	150.20	385.81	4.0	3.8	0.366	C
B	300.00	300.00	200.54	287.33	1.044	286.25	115.37	52.3	66.0	3.232	F
C	176.00	176.00	369.69	146.20	1.204	145.91	117.10	36.2	66.3	5.486	F
D	287.00	287.00	247.71	313.38	0.916	303.81	267.89	32.3	15.5	1.248	F

PM Peak - 2022 Proposed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PM Peak	✓	✓	D2, D4, D6, D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(unfilled)	Standard Roundabout	A, B, C, D	2.84	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A259 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	18.0	
C	3.67	8.27	17.7	28.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-391.00
B	Direct		-202.50
C	Direct		-50.00
D	Direct		-151.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
A	0.951	368.485
B	0.905	508.039
C	0.733	445.941
D	0.908	558.881

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 period length (min)	Time segment length (min)	Run automatically
D6	2022 Proposed	PM	DIRECT	17:00	18:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	<input checked="" type="checkbox"/>	Vehicle mix varies over entry	<input checked="" type="checkbox"/>	PCU Factor for a HV (PCU)	2.00
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Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

	To			
	A	B	C	D
From A	0.00	0.05	0.03	0.10
From B	0.13	0.00	0.00	0.18
From C	0.70	0.00	0.00	0.10
From D	0.15	0.08	0.10	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	D
From A	0	2	2	0
From B	1	0	0	22
From C	1	0	0	0
From D	0	23	1	8

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	0.94	0.72	8.6	E	166.50	674.00
B	1.12	3.96	82.7	F	281.00	1164.00
C	1.20	5.62	67.6	F	165.25	661.00
D	1.07	1.33	33.6	F	301.75	1207.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	185.00	185.00	160.83	197.27	0.838	176.50	375.10	0.0	8.5	0.685	E
B	253.00	253.00	216.82	274.27	0.922	244.72	120.51	0.0	8.3	0.429	D
C	172.00	172.00	342.78	169.72	1.013	158.23	118.77	0.0	13.8	0.922	F
D	307.00	307.00	241.08	319.13	0.862	294.85	259.93	0.0	12.1	0.487	D

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	186.00	186.00	152.49	205.97	0.903	185.88	366.42	8.5	8.6	0.722	E
B	304.00	304.00	218.97	272.57	1.115	269.49	119.41	8.3	42.8	1.622	F
C	168.00	168.00	372.76	145.57	1.154	144.37	115.70	13.8	37.4	2.533	F
D	274.00	274.00	239.34	320.63	0.855	279.57	277.79	12.1	6.6	0.400	C

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	150.00	150.00	169.06	188.67	0.795	154.32	385.96	8.6	4.3	0.477	D
B	303.00	303.00	205.38	283.44	1.069	282.44	118.01	42.8	63.3	2.066	F
C	145.00	145.00	388.17	147.67	0.962	144.72	119.64	37.4	37.7	3.622	F
D	337.00	337.00	245.07	315.67	1.068	309.95	267.82	6.6	33.6	1.172	F

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	153.00	153.00	166.71	191.13	0.801	153.10	386.12	4.3	4.2	0.398	C
B	304.00	304.00	203.19	285.21	1.068	284.60	116.62	63.3	92.7	3.978	F
C	176.00	176.00	369.66	146.38	1.202	146.11	118.13	37.7	67.6	5.618	F
D	289.00	289.00	247.19	313.83	0.921	305.63	288.57	33.6	17.0	1.331	F

PM Peak - 2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	PM Peak	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	D2,D4,D6,D8	100.000	100.000

Junction Network

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(unlabeled)	Standard Roundabout	A, B, C, D	3.45	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description
A	A258 (N)	
B	A2 (E)	
C	A258 (S)	
D	A2 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I* - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict angle (deg)	Exit only
A	7.48	10.05	22.7	30.3	31.5	14.5	
B	7.70	9.90	8.9	26.8	31.5	19.0	
C	3.67	8.27	17.7	28.1	31.5	17.0	
D	8.68	9.23	0.7	25.3	31.5	15.5	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
A	Direct		-391.00
B	Direct		-202.50
C	Direct		-50.00
D	Direct		-151.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final Intercept (PCU/TS)
A	0.951	368.485
B	0.905	508.039
C	0.733	445.941
D	0.908	558.881

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 period length (min)	Time segment length (min)	Run automatically
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	PM	DIRECT	17:00	18:00	60	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT		100.000
B		DIRECT		100.000
C		DIRECT		100.000
D		DIRECT		100.000

Origin-Destination Data

Demand (Veh/TS)

From	To			
	A	B	C	D
A	0.00	0.05	0.03	0.10
B	0.13	0.00	0.00	0.18
C	0.70	0.00	0.00	0.10
D	0.15	0.08	0.10	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	D
A	0	2	2	0
B	1	0	0	22
C	1	0	0	0
D	0	23	1	8

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
A	0.88	1.05	12.6	174.75	699.00
B	1.13	4.61	95.5	291.00	1164.00
C	1.24	7.34	88.0	172.00	688.00
D	1.08	1.50	36.5	304.75	1219.00

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	192.00	192.00	161.62	196.44	0.977	180.60	377.14	0.0	11.4	0.712	E
B	253.00	253.00	220.22	271.54	0.832	244.10	122.00	0.0	8.9	0.455	D
C	179.00	179.00	344.44	168.58	1.062	160.10	119.89	0.0	18.9	1.153	F
D	310.00	310.00	242.46	317.93	0.975	296.30	262.08	0.0	13.7	0.529	D

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	193.00	193.00	154.67	203.70	0.947	191.75	367.77	11.4	12.6	1.049	F
B	304.00	304.00	224.42	268.18	1.134	265.67	122.01	8.9	47.2	1.781	F
C	175.00	175.00	372.20	146.35	1.196	145.68	117.89	18.9	48.2	3.705	F
D	277.00	277.00	238.88	321.03	0.863	283.57	279.00	13.7	7.1	0.445	D

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	156.00	156.00	169.42	188.29	0.829	163.05	386.35	12.6	5.6	0.680	E
B	303.00	303.00	211.86	278.22	1.089	277.52	120.59	47.2	72.7	3.382	F
C	151.00	151.00	365.11	148.18	1.019	147.18	121.30	45.2	52.0	5.276	F
D	340.00	340.00	245.17	315.69	1.077	310.61	270.13	7.1	36.5	1.252	F

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	158.00	158.00	165.19	189.57	0.833	158.23	386.69	5.6	5.4	0.488	D
B	304.00	304.00	207.71	281.57	1.080	281.15	116.70	72.7	95.5	4.611	F
C	183.00	183.00	369.06	147.15	1.244	147.01	119.81	52.0	88.0	7.338	F
D	292.00	292.00	246.53	314.40	0.929	308.35	269.53	36.5	20.2	1.495	F

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 (1)
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Filename: 17.05.25 A258 Dover Road_Site Access.j9

Path: P:\Transport\Projects\16-T129 - Gladman Developments - Dover Road, Walmer (Correspondence 2016-124)\4. Calculations\Traffic Models\17.05.25 A258 Dover Road_Site Access

Report generation date: 15/06/2017 16:14:42

- »2022 Proposed, AM
- »2022 Proposed, PM
- »2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), AM
- »2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Summary of junction performance

	AM		PM	
	Queue (Veh)	RFC	Queue (Veh)	RFC
	2022 Proposed			
Stream B-AC	0.1	0.08	0.1	0.12
Stream C-AB	0.0	0.03	0.0	0.05
	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)			
Stream B-AC	0.1	0.09	0.1	0.12
Stream C-AB	0.0	0.03	0.0	0.05

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	A258 Dover Road / Site Access	
Location	Walmer	
Site number		
Date	25/05/2017	
Version		
Status		
Identifier	TG	
Client	Gladman Developments	
Jobnumber	16-T129	
Enumerator	ICENPROJECTS\good	
Description		

Units

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



Analysis Options

Vehicle length (m)	5.75	Calculate Queue Percentiles	Calculate detailed queuing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
					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	2017 Observed	AM	ONE HOUR	07:45	09:15	15	
D2	2017 Observed	PM	ONE HOUR	16:45	18:15	15	
D3	2022 Base	AM	ONE HOUR	07:45	09:15	15	
D4	2022 Base	PM	ONE HOUR	16:45	18:15	15	
D5	2022 Proposed	AM	ONE HOUR	07:45	09:15	15	✓
D6	2022 Proposed	PM	ONE HOUR	16:45	18:15	15	✓
D7	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	AM	ONE HOUR	07:45	09:15	15	✓
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	PM	ONE HOUR	16:45	18:15	15	✓
D9	2022 Development Case (No Committed)	AM	ONE HOUR	07:45	09:15	15	
D10	2022 Development Case (No Committed)	PM	ONE HOUR	16:45	18:15	15	

Analysis Set Details

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

2022 Proposed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arm	Name	Description	Arm type
A	A258 Dover Road (North)		Major
B	Site Access		Minor
C	A258 Dover Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocking queue (PCU)
C	6.00		✓	3.00	200.0	5.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	91	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for AB	Slope for AC	Slope for C-A	Slope for C-B
1	B-A	544	0.099	0.250	0.157	0.358
1	B-C	670	0.103	0.259	-	-
1	C-B	750	0.291	0.291	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted.

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2022 Proposed	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1157	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	707	100.000

Origin-Destination Data

Demand (Veh/hr)	To		
	A	B	C
From A	0	4	1153
From B	4	0	10
From C	697	10	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.08	20.04	0.1	C	13	19
C-AB	0.03	9.86	0.0	A	9	14
C-A					640	959
AB					4	6
AC					1058	1587

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	11	3	354	0.030	10	0.0	0.0	10.464	B
C-AB	8	2	494	0.015	7	0.0	0.0	7.395	A
C-A	525	131			525				
AB	3	0.75			3				
AC	868	217			868				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	13	3	294	0.043	13	0.0	0.0	12.805	B
C-AB	9	2	445	0.020	9	0.0	0.0	8.263	A
C-A	627	157			627				
AB	4	0.90			4				
AC	1037	259			1037				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	15	4	195	0.079	15	0.0	0.1	20.003	C
C-AB	11	3	376	0.029	11	0.0	0.0	9.559	A
C-A	767	192			767				
AB	4	1			4				
AC	1269	317			1269				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	15	4	195	0.079	15	0.1	0.1	20.041	C
C-AB	11	3	376	0.029	11	0.0	0.0	9.861	A
C-A	767	192			767				
AB	4	1			4				
AC	1269	317			1269				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	13	3	294	0.043	13	0.1	0.0	12.829	B
C-AB	9	2	445	0.020	9	0.0	0.0	8.264	A
C-A	627	157			627				
AB	4	0.90			4				
AC	1037	259			1037				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	11	3	354	0.030	11	0.0	0.0	10.476	B
C-AB	8	2	494	0.015	8	0.0	0.0	7.396	A
C-A	525	131			525				
AB	3	0.75			3				
AC	868	217			868				

2022 Proposed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	unfilled	T-Junction	Two-way	0.31	A

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	2022 Proposed	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	565	100.000
B		ONE HOUR	✓	33	100.000
C		ONE HOUR	✓	1281	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	9
B	9	0	24
C	1257	24	0

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	0
B	0	0	0
C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.12	13.31	0.1	B	30	45
C-AB	0.05	6.73	0.0	A	22	33
C-A					1153	1730
AB					8	12
AC					529	793

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	25	6	434	0.057	25	0.0	0.1	8.780	A
C-AB	18	5	621	0.029	18	0.0	0.0	5.971	A
C-A	946	237			946				
AB	7	2			7				
AC	434	108			434				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	30	7	386	0.077	30	0.1	0.1	10.099	B
C-AB	22	5	596	0.036	22	0.0	0.0	6.271	A
C-A	1130	283			1130				
AB	8	2			8				
AC	518	129			518				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	36	9	307	0.118	36	0.1	0.1	13.266	B
C-AB	26	7	561	0.047	26	0.0	0.0	6.735	A
C-A	1384	346			1384				
AB	10	2			10				
AC	634	159			634				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	36	9	307	0.118	36	0.1	0.1	13.266	B
C-AB	26	7	561	0.047	26	0.0	0.0	6.735	A
C-A	1384	346			1384				
AB	10	2			10				
AC	634	159			634				



2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.21	A

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	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	AM	ONE HOUR	07:45	08:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1200	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	723	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	4
	B	4	0
	C	713	10
		0	0

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	0
	B	0	0
	C	2	0
		0	0



17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	30	7	386	0.077	30	0.1	0.1	10,105	B
C-AB	22	5	596	0.036	22	0.0	0.0	6,274	A
C-A	1130	283			1130				
A-B	8	2			8				
AC	518	129			518				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	25	6	434	0.057	25	0.1	0.1	8,792	A
C-AB	18	5	621	0.029	18	0.0	0.0	5,974	A
C-A	946	237			946				
A-B	7	2			7				
AC	434	108			434				

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.09	22.76	0.1	C	13	19
C-AB	0.03	10.25	0.0	B	9	14
C-A					654	981
AB					4	6
AC					1037	1646

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	11	3	344	0.031	10	0.0	0.0	10.791	B
C-AB	8	2	485	0.016	7	0.0	0.0	7.542	A
C-A	537	134			537				
AB	3	0.75			3				
AC	900	225			900				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	13	3	280	0.045	13	0.0	0.0	13.455	B
C-AB	9	2	433	0.021	9	0.0	0.0	8.483	A
C-A	641	160			641				
AB	4	0.90			4				
AC	1075	269			1075				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	15	4	174	0.089	15	0.0	0.1	22.707	C
C-AB	11	3	362	0.030	11	0.0	0.0	10.249	B
C-A	785	196			785				
AB	4	1			4				
AC	1317	329			1317				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	15	4	174	0.089	15	0.1	0.1	22.763	C
C-AB	11	3	362	0.030	11	0.0	0.0	10.251	B
C-A	785	196			785				
AB	4	1			4				
AC	1317	329			1317				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	13	3	280	0.045	13	0.1	0.0	13.483	B
C-AB	9	2	433	0.021	9	0.0	0.0	8.487	A
C-A	641	160			641				
AB	4	0.90			4				
AC	1075	269			1075				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	11	3	344	0.031	11	0.0	0.0	10.804	B
C-AB	8	2	485	0.016	8	0.0	0.0	7.546	A
C-A	537	134			537				
AB	3	0.75			3				
AC	900	225			900				

2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	united	T-Junction	Two-way	0.32	A

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	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	609	100.000
B		ONE HOUR	✓	33	100.000
C		ONE HOUR	✓	1297	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From A	0	9	600
From B	9	0	24
From C	1273	24	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.12	13.97	0.1	B	30	45
C-AB	0.05	6.83	0.0	A	22	33
C-A					1169	1752
AB					8	12
AC					551	826

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	30	6	428	0.058	25	0.0	0.1	8.920	A
C-AB	18	5	615	0.029	18	0.0	0.0	6.024	A
C-A	958	240			958				
AB	7	2			7				
AC	452	113			452				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	30	7	378	0.079	30	0.1	0.1	10.338	B
C-AB	22	5	589	0.037	22	0.0	0.0	6.341	A
C-A	1144	286			1144				
AB	8	2			8				
AC	539	135			539				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	36	9	294	0.124	36	0.1	0.1	13.946	B
C-AB	26	7	553	0.048	26	0.0	0.0	6.534	A
C-A	1402	350			1402				
AB	10	2			10				
AC	661	165			661				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	36	9	294	0.124	36	0.1	0.1	13.969	B
C-AB	26	7	553	0.048	26	0.0	0.0	6.534	A
C-A	1402	350			1402				
AB	10	2			10				
AC	661	165			661				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	30	7	378	0.079	30	0.1	0.1	10.356	B
C-AB	22	5	589	0.037	22	0.0	0.0	6.342	A
C-A	1144	286			1144				
A-B	8	2			8				
A-C	539	135			539				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	25	6	428	0.058	25	0.1	0.1	8.937	A
C-AB	18	5	615	0.029	18	0.0	0.0	6.029	A
C-A	958	240			958				
A-B	7	2			7				
A-C	452	113			452				

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 (1)
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Filename: 17.06.13 Dover Road_Station Road(ODTAB).j9

Path: P:\Transport\Projects\16-T129 - Gladman Developments - Dover Road, Walmer (Correspondence 2016-124)\4. Calculations\Traffic Models\17.06.09 Dover Road_Station Road

Report generation date: 15/06/2017 16:20:39

- »2017 Observed, AM
- »2017 Observed, PM
- »2022 Base, AM
- »2022 Base, PM
- »2022 Proposed, AM
- »2022 Proposed, PM
- »2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), AM
- »2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Summary of junction performance

	AM		PM	
	Queue (Veh)	RFC	Queue (Veh)	RFC
2017 Observed				
Stream B-AC	2.3	0.71	1.5	0.61
Stream C-AB	0.1	0.09	0.2	0.15
2022 Base				
Stream B-AC	23.0	1.12	5.5	0.89
Stream C-AB	0.2	0.13	0.5	0.25
2022 Proposed				
Stream B-AC	23.6	1.13	5.7	0.90
Stream C-AB	0.2	0.13	0.5	0.25
2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)				
Stream B-AC	52.1	1.36	14.7	1.07
Stream C-AB	0.2	0.13	0.5	0.27

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	Dover Road / Station Road
Location	Walmley
Site number	
Date	13/06/2017
Version	
Status	
Identifier	
Client	Gladman
Jobnumber	16-T129
Enumerator	Igood [ICENI-DT18]
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perMin	s	-Min	perMin
5.75							

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queuing 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	Description	Traffic Profile type	Start (HH:mm)	Finish (HH:mm)	Time segment length (min)	Run automatically
D1	2017 Observed	AM		ONE HOUR	07:15	08:45	15	✓
D2	2017 Observed	PM		ONE HOUR	16:15	17:45	15	✓
D3	2022 Base	AM		ONE HOUR	07:15	08:45	15	✓
D4	2022 Base	PM		ONE HOUR	16:15	17:45	15	✓
D5	2022 Proposed	AM		ONE HOUR	07:15	08:45	15	✓
D6	2022 Proposed	PM		ONE HOUR	16:15	17:45	15	✓
D7	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	AM		ONE HOUR	07:15	08:45	15	✓
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	PM		ONE HOUR	16:15	17:45	15	✓
D9	2022 Development Case (No Committed)	AM	2022 Development Case (No Committed)	ONE HOUR	07:15	08:45	15	
D10	2022 Development Case (No Committed)	PM	2022 Development Case (No Committed)	ONE HOUR	16:15	17:45	15	

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
D1	✓	100.000	100.000

2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Dover Road (S)		Major
B	Station Road		Minor
C	Dover Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.44			135.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.91	29	19

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept for (Veh/min)	Slope for AB	Slope for AC	Slope for C-A	Slope for C-B
1	B-A	8.198	0.090	0.202	0.127	0.289
1	B-C	10.503	0.098	0.218	-	-
1	C-B	10.869	0.226	0.226	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2017 Observed	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 (Veh/min)	Scaling Factor (%)
A		ONE HOUR	✓	6.65	100.000
B		ONE HOUR	✓	2.88	100.000
C		ONE HOUR	✓	14.75	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From A	0.00	1.58	7.07
From B	2.17	0.00	0.82
From C	14.08	0.67	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
	A	B	C	0	1
From A	0	9	6		
From B	5	0	2		
From C	1	5	0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)
B-AC	0.71	43.69	2.3	E	2.74	246.38
C-AB	0.09	6.78	0.1	A	0.69	62.55
C-A					12.84	1155.59
AB					1.45	130.76
AC					6.48	593.60

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.25	33.69	5.86	0.384	2.21	0.0	0.6	16.267	C
C-AB	0.54	8.11	9.55	0.057	0.54	0.0	0.1	6.655	A
C-A	10.56	158.45			10.56				
AB	1.19	17.88			1.19				
AC	5.32	79.80			5.32				

07:30 - 07:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.68	40.23	5.35	0.502	2.66	0.6	1.0	22.111	C
C-AB	0.67	10.04	9.56	0.070	0.67	0.1	0.1	6.737	A
C-A	12.59	188.86			12.59				
AB	1.42	21.35			1.42				
AC	6.35	95.29			6.35				

07:45 - 08:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.28	49.27	4.63	0.710	3.21	1.0	2.1	40.170	E
C-AB	0.87	13.12	9.74	0.090	0.87	0.1	0.1	6.773	A
C-A	15.37	230.48			15.37				
AB	1.74	26.15			1.74				
AC	7.78	116.71			7.78				

08:00 - 08:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.28	49.27	4.63	0.710	3.28	2.1	2.3	43.693	E
C-AB	0.87	13.12	9.73	0.090	0.87	0.1	0.1	6.777	A
C-A	15.37	230.48			15.37				
AB	1.74	26.15			1.74				
AC	7.78	116.71			7.78				

08:15 - 08:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.68	40.23	5.35	0.502	2.76	2.3	1.1	23.887	C
C-AB	0.67	10.04	9.56	0.070	0.67	0.1	0.1	6.743	A
C-A	12.59	188.86			12.59				
AB	1.42	21.35			1.42				
AC	6.35	95.29			6.35				

08:30 - 08:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.25	33.69	5.85	0.384	2.27	1.1	0.6	16.880	C
C-AB	0.54	8.11	9.54	0.057	0.54	0.1	0.1	6.663	A
C-A	10.56	158.45			10.56				
AB	1.19	17.88			1.19				
AC	5.32	79.80			5.32				

2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	united	T-Junction	Two-way	3.41	A

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
DZ	2017 Observed	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 (Veh/min)	Scaling Factor (%)
A		ONE HOUR	✓	15.77	100.000
B		ONE HOUR	✓	2.33	100.000
C		ONE HOUR	✓	9.68	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From A	0.00	4.12	11.65
From B	1.50	0.00	0.83
From C	8.75	0.93	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)
B-AC	0.61	35.75	1.5	E	2.14	192.70
C-AB	0.15	8.62	0.2	A	1.00	89.63
C-A					7.89	710.07
AB					3.78	339.98
AC					10.69	982.12

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	1.76	26.35	5.65	0.311	1.73	0.0	0.4	15.197	C
C-AB	0.76	11.41	8.49	0.090	0.75	0.0	0.1	7.751	A
C-A	6.53	97.94			6.53				
AB	3.10	46.49			3.10				
AC	8.77	131.56			8.77				

16:30 - 16:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.10	31.46	5.06	0.414	2.08	0.4	0.7	20.016	C
C-AB	0.95	14.26	8.32	0.114	0.95	0.1	0.1	8.447	A
C-A	7.75	116.31			7.75				
AB	3.70	55.51			3.70				
AC	10.47	157.10			10.47				

16:45 - 17:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.57	38.54	4.23	0.607	2.52	0.7	1.4	34.066	D
C-AB	1.28	19.14	8.24	0.155	1.27	0.1	0.2	8.614	A
C-A	9.39	140.78			9.39				
AB	4.53	67.99			4.53				
AC	12.83	192.40			12.83				

17:00 - 17:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.57	38.54	4.23	0.607	2.57	1.4	1.5	35.746	E
C-AB	1.28	19.14	8.24	0.155	1.28	0.2	0.2	8.625	A
C-A	9.39	140.78			9.39				
AB	4.53	67.99			4.53				
AC	12.83	192.40			12.83				



2022 Base, AM

Data Errors and Warnings
No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	411.13	E

Junction Network Options

Driving side	Left
Lighting	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2022 Base	AM		ONE HOUR	07:15	08:45	15	<input checked="" type="checkbox"/>

Vehicle mix varies over turn	<input checked="" type="checkbox"/>	Vehicle mix varies over entry	<input checked="" type="checkbox"/>	Vehicle mix source	HV Percentages	FCU Factor for a HV (PCU)	2.00
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Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/min)	Scaling Factor (%)
A		ONE HOUR	<input checked="" type="checkbox"/>	9.57	100.000
B		ONE HOUR	<input checked="" type="checkbox"/>	4.46	100.000
C		ONE HOUR	<input checked="" type="checkbox"/>	16.05	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From A	0.00	1.99	7.59
From B	3.07	0.00	1.38
From C	15.13	0.92	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From A	0	8	6
From B	5	0	1
From C	1	4	0



17:15 - 17:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.10	31.46	5.06	0.415	2.15	1.5	0.7	20.920	C
C-AB	0.95	14.26	8.31	0.115	0.96	0.2	0.1	8.165	A
C-A	7.75	116.31			7.75				
AB	3.70	55.51			3.70				
AC	10.47	157.10			10.47				

17:30 - 17:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	1.76	26.35	5.66	0.311	1.77	0.7	0.5	15.572	C
C-AB	0.76	11.41	8.48	0.090	0.76	0.1	0.1	7.772	A
C-A	6.53	97.94			6.53				
AB	3.10	46.49			3.10				
AC	8.77	131.56			8.77				

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Average Demand (Veh/min)	Max LOS	Total Junction Arrivals (Veh)
B-AC	1.12	274.79	23.0	4.08	F	397.50
C-AB	0.13	6.71	0.2	1.01	A	90.64
C-A				13.72		1234.66
AB				1.82		163.79
AC				6.96		626.27

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.35	50.25	5.73	0.585	3.26	0.0	1.3	23.601	C
C-AB	0.77	11.51	9.77	0.079	0.76	0.0	0.1	6.653	A
C-A	11.32	169.73			11.32				
AB	1.49	22.40			1.49				
AC	5.71	85.64			5.71				

07:30 - 07:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	60.01	5.16	0.775	3.90	1.3	2.9	44.210	E
C-AB	0.97	14.48	9.92	0.097	0.96	0.1	0.1	6.705	A
C-A	13.46	201.95			13.46				
AB	1.78	26.74			1.78				
AC	6.82	102.26			6.82				

07:45 - 08:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.90	73.49	4.36	1.125	4.16	2.9	13.9	150.427	F
C-AB	1.30	19.43	10.30	0.126	1.29	0.1	0.2	6.670	A
C-A	16.38	245.64			16.38				
AB	2.18	32.76			2.18				
AC	8.35	125.24			8.35				

08:00 - 08:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.90	73.49	4.36	1.125	4.30	13.9	23.0	274.791	F
C-AB	1.30	19.43	10.29	0.126	1.30	0.2	0.2	6.677	A
C-A	16.38	245.64			16.38				
AB	2.18	32.76			2.18				
AC	8.35	125.24			8.35				

08:15 - 08:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	60.01	5.16	0.775	4.94	23.0	8.8	202.594	F
C-AB	0.97	14.48	9.90	0.097	0.97	0.2	0.1	6.715	A
C-A	13.46	201.95			13.46				
AB	1.78	26.74			1.78				
AC	6.82	102.26			6.82				

08:30 - 08:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.35	50.25	5.72	0.595	3.84	8.8	1.5	38.613	E
C-AB	0.77	11.51	9.77	0.079	0.77	0.1	0.1	6.668	A
C-A	11.32	169.73			11.32				
AB	1.49	22.40			1.49				
AC	5.71	85.64			5.71				

2022 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	united	T-Junction	Two-way	10.93	B

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	2022 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 (Veh/min)	Scaling Factor (%)
A		ONE HOUR	✓	17.65	100.000
B		ONE HOUR	✓	3.05	100.000
C		ONE HOUR	✓	10.87	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From A	0.00	5.10	12.55
From B	1.90	0.00	1.15
From C	9.43	1.43	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From A	0	2	1
From B	5	0	0
From C	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)
B-AC	0.89	106.26	5.5	F	2.80	251.89
C-AB	0.25	8.94	0.5	A	1.68	151.52
C-A					8.29	745.91
AB					4.68	421.19
AC					11.52	1036.45

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.30	34.44	5.39	0.428	2.25	0.0	0.7	18.822	C
C-AB	1.22	18.37	8.71	0.141	1.21	0.0	0.2	7.990	A
C-A	6.96	104.34			6.96				
AB	3.84	57.59			3.84				
AC	9.45	141.72			9.45				

16:30 - 16:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.74	41.13	4.72	0.581	2.70	0.7	1.3	29.159	D
C-AB	1.58	23.66	8.69	0.182	1.57	0.2	0.3	8.431	A
C-A	8.19	122.87			8.19				
AB	4.58	68.77			4.58				
AC	11.28	169.23			11.28				

16:45 - 17:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.36	50.37	3.77	0.892	3.15	1.3	4.5	78.722	F
C-AB	2.25	33.72	8.97	0.251	2.24	0.3	0.5	8.912	A
C-A	9.72	145.74			9.72				
AB	5.62	84.23			5.62				
AC	13.82	207.27			13.82				

17:00 - 17:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.36	50.37	3.76	0.892	3.29	4.5	5.5	106.277	F
C-AB	2.25	33.72	8.97	0.251	2.25	0.5	0.5	8.945	A
C-A	9.72	145.74			9.72				
AB	5.62	84.23			5.62				
AC	13.82	207.27			13.82				

17:15 - 17:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.74	41.13	4.72	0.581	3.01	5.5	1.5	39,292	E
C-AB	1.59	23.66	8.69	0.182	1.59	0.5	0.3	8,476	A
C-A	8.19	122.87			8.19				
AB	4.58	68.77		4.58					
AC	11.28	169.23			11.28				

17:30 - 17:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.30	34.44	5.39	0.426	2.34	1.5	0.8	20,018	C
C-AB	1.22	18.37	8.71	0.141	1.23	0.3	0.2	8,029	A
C-A	6.86	104.34			6.86				
AB	3.84	57.59		3.84					
AC	9.45	141.72			9.45				

2022 Proposed, AM

Data Errors and Warnings
No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	41.38	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
DS	2022 Proposed	AM	ONE HOUR	ONE HOUR	07:15	08:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix sources	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/min)	Scaling Factor (%)
A		ONE HOUR	✓	9.63	100.000
B		ONE HOUR	✓	4.46	100.000
C		ONE HOUR	✓	16.10	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From	A	B	C
A	0.00	1.99	7.65
B	3.07	0.00	1.38
C	15.18	0.92	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	B	C
A	0	8	6
B	5	0	1
C	1	4	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Average Demand (Veh/min)	Max LOS	Total Junction Arrivals (Veh)
B-AC	1.13	281.62	23.6	4.08	F	397.50
C-AB	0.13	6.72	0.2	1.01	A	90.95
C-A				13.76		1238.88
AB	1.49			1.82		163.79
AC	5.76			7.02		631.78

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.35	50.25	5.71	0.587	3.26	0.0	1.3	23.746	C
C-AB	0.77	11.52	9.77	0.079	0.76	0.0	0.1	6.659	A
C-A	11.35	170.29			11.35				
AB	1.49	22.40			1.49				
AC	5.76	86.39			5.76				

07:30 - 07:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	60.01	5.14	0.778	3.90	1.3	2.9	44.723	E
C-AB	0.97	14.49	9.91	0.097	0.96	0.1	0.1	6.710	A
C-A	13.51	202.61			13.51				
AB	1.78	26.74			1.78				
AC	6.88	103.16			6.88				

07:45 - 08:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.90	73.49	4.33	1.131	4.14	2.9	14.2	153.369	F
C-AB	1.30	19.46	10.29	0.126	1.29	0.1	0.2	6.675	A
C-A	16.43	246.44			16.43				
AB	2.18	32.76			2.18				
AC	8.42	126.34			8.42				

08:00 - 08:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.90	73.49	4.33	1.131	4.28	14.2	23.6	281.621	F
C-AB	1.30	19.46	10.28	0.126	1.30	0.2	0.2	6.682	A
C-A	16.43	246.44			16.43				
AB	2.18	32.76			2.18				
AC	8.42	126.34			8.42				

08:15 - 08:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	60.01	5.14	0.778	4.83	23.6	9.6	210.669	F
C-AB	0.97	14.49	9.89	0.098	0.97	0.2	0.1	6.721	A
C-A	13.51	202.61			13.51				
AB	1.78	26.74			1.78				
AC	6.88	103.16			6.88				

08:30 - 08:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.35	50.25	5.71	0.587	3.89	9.6	1.5	40.994	E
C-AB	0.77	11.52	9.76	0.079	0.77	0.1	0.1	6.671	A
C-A	11.35	170.29			11.35				
AB	1.49	22.40			1.49				
AC	5.76	86.39			5.76				

2022 Proposed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	unfilled	T-Junction	Two-way	11.19	B

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	2022 Proposed	PM	ONE HOUR	16:15	17:45	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/min)	Scaling Factor (%)
A		ONE HOUR	✓	17.75	100.000
B		ONE HOUR	✓	3.05	100.000
C		ONE HOUR	✓	11.02	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From A	0.00	5.10	12.65
From B	1.90	0.00	1.15
From C	9.58	1.43	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From A	0	2	1
From B	5	0	0
From C	1	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)
B-AC	0.90	109.50	5.7	F	2.80	251.89
C-AB	0.25	8.93	0.5	A	1.69	152.28
C-A					8.42	757.54
AB					4.68	421.19
AC					11.61	1044.71

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.30	34.44	5.37	0.428	2.25	0.0	0.7	18.943	C
C-AB	1.23	18.42	8.72	0.141	1.22	0.0	0.2	7.991	A
C-A	7.07	105.99			7.07				
AB	3.84	57.59			3.84				
AC	9.92	142.85			9.92				

16:30 - 16:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.74	41.13	4.70	0.584	2.70	0.7	1.3	29.502	D
C-AB	1.58	23.76	8.70	0.182	1.58	0.2	0.3	8.427	A
C-A	8.32	124.80			8.32				
AB	4.58	68.77			4.58				
AC	11.37	170.58			11.37				

16:45 - 17:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.36	50.37	3.73	0.899	3.14	1.3	4.6	60.977	F
C-AB	2.26	33.96	9.00	0.251	2.25	0.3	0.5	8.896	A
C-A	9.87	147.98			9.87				
AB	5.62	84.23			5.62				
AC	13.93	208.92			13.93				

17:00 - 17:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.36	50.37	3.73	0.900	3.29	4.6	5.7	109.503	F
C-AB	2.26	33.96	9.00	0.252	2.26	0.5	0.5	8.930	A
C-A	9.87	147.98			9.87				
AB	5.62	84.23			5.62				
AC	13.93	208.92			13.93				

17:15 - 17:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.74	41.13	4.69	0.584	3.02	5.7	1.5	40.500	E
C-AB	1.59	23.76	8.69	0.182	1.60	0.5	0.3	8.472	A
C-A	8.32	124.80			8.32				
AB	4.58	68.77		4.58					
AC	11.37	170.58			11.37				

17:30 - 17:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.30	34.44	5.37	0.428	2.35	1.5	0.8	20.170	C
C-AB	1.23	18.42	8.71	0.141	1.23	0.3	0.2	8.030	A
C-A	7.07	105.99			7.07				
AB	3.84	57.59			3.84				
AC	9.52	142.85			9.52				

2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	98.20	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
D7	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	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 (Veh/min)	Scaling Factor (%)
A		ONE HOUR	✓	9.90	100.000
B		ONE HOUR	✓	5.22	100.000
C		ONE HOUR	✓	16.13	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From	A	B	C
	0.00	2.25	7.65
	B	3.77	0.00
	C	15.18	0.95
			0.00

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	B	C
	0	7	6
	B	4	0
	C	1	4
			0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Average Demand (Veh/min)	Max LOS	Total Junction Arrivals (Veh)
B-AC	1.36	596.41	52.1	4.79	F	430,822
C-AB	0.13	6.74	0.2	1.06	A	95,033
C-A						1,237.35
AB				2.06		185,822
AC				7.02		631,783

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.83	58.91	5.63	0.697	3.79	0.0	2.1	30.646	D
C-AB	0.80	11.99	9.76	0.082	0.79	0.0	0.1	6.885	A
C-A	11.35	170.20			11.35				
AB	1.69	25.41			1.69				
AC	5.76	86.39			5.76				

07:30 - 07:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.69	70.35	5.06	0.927	4.43	2.1	6.0	74.807	F
C-AB	1.01	15.12	9.32	0.102	1.01	0.1	0.1	6.736	A
C-A	13.50	202.43			13.50				
AB	2.02	30.34			2.02				
AC	6.88	103.16			6.88				

07:45 - 08:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	5.74	86.15	4.24	1.356	4.18	6.0	29.3	281.403	F
C-AB	1.36	20.40	10.33	0.132	1.36	0.1	0.2	6.896	A
C-A	16.40	246.05			16.40				
AB	2.48	37.16			2.48				
AC	8.42	126.34			8.42				

08:00 - 08:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	5.74	86.15	4.24	1.356	4.23	29.3	52.1	562.488	F
C-AB	1.36	20.40	10.32	0.132	1.36	0.2	0.2	6.700	A
C-A	16.40	246.05			16.40				
AB	2.48	37.16			2.48				
AC	8.42	126.34			8.42				

08:15 - 08:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	4.69	70.35	5.05	0.928	4.96	52.1	46.0	596.414	F
C-AB	1.01	15.12	9.80	0.102	1.01	0.2	0.1	6.744	A
C-A	13.50	202.43			13.50				
AB	2.02	30.34			2.02				
AC	6.88	103.16			6.88				

08:30 - 08:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.83	58.91	5.63	0.697	5.52	46.0	24.2	398.324	F
C-AB	0.80	11.99	9.76	0.082	0.80	0.1	0.1	6.688	A
C-A	11.35	170.20			11.35				
AB	1.69	25.41			1.69				
AC	5.76	86.39			5.76				

2022 Proposed + Speculative Development (Land at Cross Road c. 235 units), PM

Data Errors and Warnings
No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	unfilled	T-Junction	Two-way	25.07	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
D8	2022 Proposed + Speculative Development (Land at Cross Road c. 235 units)	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 (Veh/min)	Scaling Factor (%)
A		ONE HOUR	✓	18.42	100.000
B		ONE HOUR	✓	3.47	100.000
C		ONE HOUR	✓	11.10	100.000

Origin-Destination Data

Demand (Veh/min)

	To		
	A	B	C
From A	0.00	5.77	12.65
From B	2.28	0.00	1.18
From C	9.58	1.52	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Average Demand (Veh/min)	Max LOS	Total Junction Arrivals (Veh)
B-AC	1.07	230.45	14.7	3.18	F	286.30
C-AB	0.27	9.14	0.5	1.83	A	164.97
C-A				8.35		751.73
AB				5.29		476.24
AC				11.61		1044.71

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.61	39.15	5.25	0.497	2.55	0.0	0.9	21.734	C
C-AB	1.31	19.70	8.68	0.151	1.30	0.0	0.2	8.120	A
C-A	7.04	105.65			7.04				
AB	4.34	65.12			4.34				
AC	9.52	142.85			9.52				

16:30 - 16:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.12	46.75	4.56	0.684	3.05	0.9	1.9	38.191	E
C-AB	1.71	25.60	8.69	0.196	1.70	0.2	0.3	8.893	A
C-A	8.27	124.08			8.27				
AB	5.18	77.76			5.18				
AC	11.37	170.58			11.37				

16:45 - 17:00

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.82	57.25	3.57	1.069	3.31	1.9	9.5	135.307	F
C-AB	2.48	37.19	9.07	0.273	2.46	0.3	0.5	9.095	A
C-A	9.74	146.13			9.74				
AB	6.35	95.24			6.35				
AC	13.93	208.92			13.93				

17:00 - 17:15

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.82	57.25	3.57	1.069	3.47	9.5	14.7	230.455	F
C-AB	2.48	37.19	9.07	0.273	2.48	0.5	0.5	9.136	A
C-A	9.74	146.13			9.74				
AB	6.35	95.24			6.35				
AC	13.93	208.92			13.93				

A10. TRL CORRESPONDENCE

17:15 - 17:30

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	3.12	46.75	4.55	0.684	3.92	14.7	2.7	116.299	F
C-AB	1.71	25.60	8.68	0.197	1.72	0.5	0.3	8.643	A
C-A	8.27	124.08			8.27				
AB	5.18	77.76			5.18				
AC	11.37	170.58			11.37				

17:30 - 17:45

Stream	Total Demand (Veh/min)	Junction Arrivals (Veh)	Capacity (Veh/min)	RFC	Throughput (Veh/min)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	2.61	39.15	5.25	0.498	2.72	2.7	1.0	24.665	C
C-AB	1.31	19.70	8.68	0.151	1.32	0.3	0.2	8.165	A
C-A	7.04	105.65			7.04				
AB	4.34	65.12			4.34				
AC	9.52	142.85			9.52				

Ed Faldo

Subject: FW: TRL Confirmation on RFC and Queues/Delay

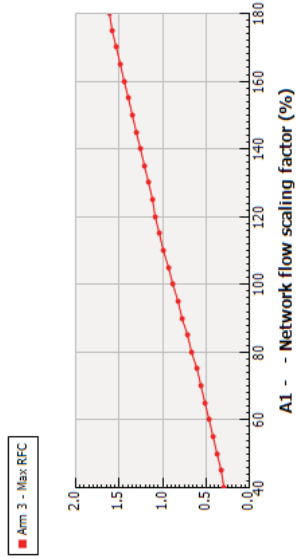
From: Burtenshaw, Graham [<mailto:gburtenshaw@trl.co.uk>]
Sent: 14 June 2017 16:32
To: Mitchell Gregory
Subject: RE: Web Enquiry from Mr Mitchell Gregory

Hi Mitch

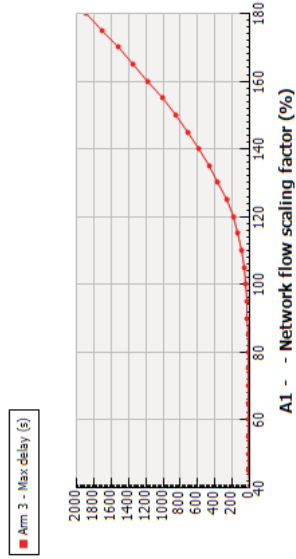
Thanks for your email.

Probably what James meant is that the queue and delay increase very rapidly as the RFC increases above about 0.8. The following graphs (produced using Junctions 9) may help to illustrate:

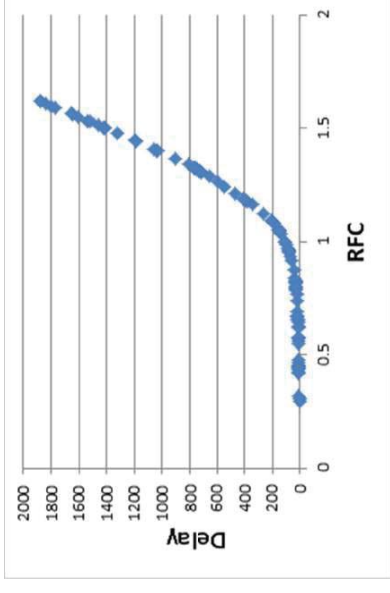
If you make the junction busier by adding more traffic, the RFC increases more or less linearly:



However the delay (and queue) increase exponentially:



Plotting the delay (or queue) against the RFC shows how it increases rapidly as the RFC approaches and exceeds 1.0:



So if you have a low RFC, then the queue and delay will be fairly small and small increases in traffic won't have much effect. But if you have an RFC over about 0.8, then the junction gets much more sensitive to small changes in traffic flows. On a minute-by-minute basis, if the RFC is around 0.8 – 1.2, then there will be times when the queues vary between very short and very long (i.e. very volatile). If the RFC is higher than this then there will pretty much be permanent queueing. The results in ARCADY and PICADY are average values, i.e. what you'd get if you averaged many days. The day-to-day variation is likely to be greatest when the RFC is 0.8 – 1.2. (Less than this and the queues are consistently small; more than this and the queues are predictably high.)

The RFC is the ratio of flow to capacity. If the capacity of a give-way line is constant, then as you increase the flow then the RFC will increase linearly. However if the capacity is decreasing because the roundabout is getting busier and there's more circulating flow, then it may seem like the RFC is increasing more quickly.

I hope this helps – please let me know if you have any questions though.

Best regards
Graham

Graham Burtenshaw
Senior Consultant, Transportation, Software and Networks Group

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From: Mitchell Gregory [<mailto:mgregory@icenprojects.com>]
Sent: 14 June 2017 15:10
To: Burtenshaw, Graham
Cc: Rob Amey, Ed Faldo, Simon Possee
Subject: RE: Web Enquiry from Mr Mitchell Gregory

Hi Graham,
Another quick one, hopefully!

When James came to our offices we had a discussion regarding the accuracy of models as they approach and pass a RFC 1.00. I don't want to put words in James' mouth, as I am not 100% sure I remember the answer correctly but it was my understanding that this is the case, especially as the RFC passes 1.00. In my head we have an exponential graph where there is a RFC 0.00-1.00 window which depending on geometries and flows in located along this graph. So as the RFC approaches and passes 1.00 the step between each RFC step becomes smaller. James said this was along the right lines as the model can't predict drivers pushing out.

Do you have any text available that we can use which explains the RFC relationship as we often have a scenario where once we reach an RFC 1.00, the RFC increases significantly quicker than when it is under 1.00. For example, at an RFC of 0.90, two additional vehicles will increase the RFC by 0.01, but when the RFC is above 1.00, these additional vehicles may increase it by 0.20 or more.

I raise this as sometimes we have junctions that are just over capacity that look significantly over capacity but in fact due to daily fluctuations on the network, may be under or just over capacity.

Hopefully the above makes, I appreciate it is not particularly clear!

Clcets,

Mitch

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Engineer, Transportation

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