

1.0 Introduction

1.1 This Note considers the outstanding items discussed at the meeting held on 14th January with HCC in respect of the above site. These relate to:

- Base traffic flows;
- Trip rates;
- Junction mitigation; and
- Cycle linkages to the site.

2.0 Base Traffic

2.1 HCC requested confirmation of peak traffic flows for the AM peak and PM peak on a Friday used for the assessment. A summary of the peak periods and traffic flows at the Hambledon Road/ Elettra Avenue junction is shown in **Tables 1 and 2**.

Table 1 – AM Peak Traffic Flows Hambledon Road/ Elettra Avenue

Time Period	2017 Base Flow
07:00-08:00	2315
07:15-08:15	2624
07:30-08:30	2860
07:45-08:45	3004
08:00-09:00	3061
08:15-09:15	3063
08:30-09:30	2952
08:45-09:45	2825
09:00-10:00	2652

Table 2 – PM Peak Traffic Flows Hambledon Road/ Elettra Avenue

Time Period	2017 Base Flow
16:00-17:00	3262
16:15-17:15	3268
16:30-17:30	3251
16:45-17:45	3306
17:00-18:00	3274
17:15-18:15	3153
17:30-18:30	3008
17:45-18:45	2835
18:00-19:00	2649

- 2.2 The peak periods are 08:15-09:15 in the morning and 16:45-17:45 in the afternoon. These peak periods have been used for the revised assessment.
- 2.3 The same exercise has been undertaken for the site access junction and the comparison of flows are shown in **Tables 3 and 4**.

Table 3 – AM Peak Traffic Flows Elettra Avenue/ Site Access

Time Period	2017 Base Flow
07:00-08:00	698
07:15-08:15	765
07:30-08:30	831
07:45-08:45	883
08:00-09:00	914
08:15-09:15	928
08:30-09:30	871
08:45-09:45	800
09:00-10:00	701

Table 4 – PM Peak Traffic Flows Elettra Avenue/ Site Access

Time Period	2017 Base Flow
16:00-17:00	892
16:15-17:15	885
16:30-17:30	877
16:45-17:45	897
17:00-18:00	900
17:15-18:15	903
17:30-18:30	875
17:45-18:45	786
18:00-19:00	684

- 2.4 This shows that the peak periods at the site access roundabout are 08:15-09:15 and 17:15-18:15. These peak periods have been used for the revised assessment.
- 2.5 HCC queried whether an uplift of TEMPRO growth was required to a future year of 2023. DTA reviewed the growth rates as part of the earlier response (dated 11th December 2018) which identified that using local TEMPRO growth factors uplifted traffic flow at the Hambledon Road/ Elettra Avenue junction. On this basis, it was agreed at the meeting to apply TEMPRO growth to the 2017 base flows at this junction in lieu of the specific MDA committed development traffic. Future traffic flows at the site access roundabout remain unchanged from the TA.
- 2.6 The revised traffic flows are shown in **Appendix A**.

3.0 Trip Rates

- 3.1 At the meeting HCC queried the use of 'Leisure Park' trip rates for the whole of the leisure floor space noting that the 2015 application considered specific trip rates for individual uses such as a gym, bowling alley, cinema, etc. It is not possible to define the extent of the uses at this stage, however it has been confirmed by the Applicant that the largest floor area for which a gym could realistically be provided on site is 2,325 sqm and this can be controlled within any consent if needed. The trip rates for the gym are



the highest compared to the other leisure uses in the 2015 application and therefore these rates have been used for this floor area. It is appropriate to use the leisure park rates for the remaining floor area (1,675 sqm) as these are higher or similar to the other identifiable uses (i.e. a cinema, bowling alley).

- 3.2 HCC queried the fast food drive-through trip rates as those in the 2015 application were higher. At the meeting DTA explained that these were used a worst case in place of an A5 'hot food takeaway' trip rate due to the limited number of sites in TRICS. The rates within the 2015 application appear high and the source of the rates is questionable as the TRICS output for this use in the appendices displays considerably lower rates. However, the figures in the 2015 report have been applied. The 2015 application did not include rates for a Saturday peak. Fast food trip rates for a Saturday have been derived from TRICS and are included in **Appendix B**.
- 3.3 A review of a limited number of similar sites available within the TRICS database shows lower rates for a gym on a Saturday compared to a weekday PM peak and therefore it is appropriate to apply the PM peak period rates from the 2015 application.
- 3.4 The revised trip rates and trip generation for Plot 2 (Leisure/Retail) are shown in **Table 5** below. The trip generation is included in **Table 6**.

Table 5 – Revised Trip Rates for Plot 2

Time Period	Vehicle Traffic Rates		
	In	Out	Total
Non-Food Retail			
AM Peak (08:00 – 09:00)	0.156	0.026	0.182
PM Peak (17:00 – 18:00)	1.796	2.031	3.827
Saturday (12:00-13:00)	3.942	3.621	7.563
Gym			
AM Peak (08:00 – 09:00)	1.107	0.960	2.067
PM Peak (17:00 – 18:00)	2.467	1.707	4.174
Saturday (12:00-13:00)	2.467	1.707	4.174
Leisure Park			
AM Peak (08:00 – 09:00)	0.610	0.558	1.168
PM Peak (17:00 – 18:00)	2.088	1.474	3.562
Saturday (12:00-13:00)	1.301	1.107	2.408
Fast Food Drive Through			
AM Peak (08:00 – 09:00)	5.940	4.410	10.35
PM Peak (17:00 – 18:00)	10.78	10.49	21.27
Saturday (12:00-13:00)	18.612	20.505	39.117

Table 6 – Revised Trip Generation for Plot 2

Time Period	Vehicle Traffic Rates		
	In	Out	Total
Non-Food Retail – 4,000 sqm			
AM Peak (08:00 – 09:00)	6	1	7
PM Peak (17:00 – 18:00)	72	81	153
Saturday (12:00-13:00)	158	145	303
Gym – 2,325 sqm			
AM Peak (08:00 – 09:00)	26	22	48
PM Peak (17:00 – 18:00)	57	40	97
Saturday (12:00-13:00)	57	40	97
Leisure Park – 1,675 sqm			
AM Peak (08:00 – 09:00)	10	9	20
PM Peak (17:00 – 18:00)	35	25	60
Saturday (12:00-13:00)	22	19	40
Fast Food Drive Through – 334 sqm			
AM Peak (08:00 – 09:00)	20	15	35
PM Peak (17:00 – 18:00)	36	35	71
Saturday (12:00-13:00)	62	68	131

3.5 On this basis, the highest traffic generation for Plot 2 is set out in **Table 7**.

Table 7 – Highest Traffic Generation Plot 2

Time Period	Vehicle Traffic Rates		
	In	Out	Total
Non-Food Retail – 4,000 sqm			
AM Peak (08:00 – 09:00)	6	1	7
PM Peak (17:00 – 18:00)	72	81	153
Saturday (12:00-13:00)	158	145	303
Fast Food Drive Through – 334 sqm			
AM Peak (08:00 – 09:00)	20	15	35
PM Peak (17:00 – 18:00)	36	35	71
Saturday (12:00-13:00)	62	68	131
Totals – Non-Food Retail and Fast Food Drive Through			
AM Peak (08:00 – 09:00)	26	16	42
PM Peak (17:00 – 18:00)	108	116	224
Saturday (12:00-13:00)	220	213	433
Leisure Park and Gym – 1,675 sqm			
AM Peak (08:00 – 09:00)	36	32	68
PM Peak (17:00 – 18:00)	92	64	157
Saturday (12:00-13:00)	79	58	137
Fast Food Drive Through – 334 sqm			
AM Peak (08:00 – 09:00)	20	15	35
PM Peak (17:00 – 18:00)	36	35	71
Saturday (12:00-13:00)	62	68	131
Totals – Leisure and Fast Food Drive Through			
AM Peak (08:00 – 09:00)	56	46	102
PM Peak (17:00 – 18:00)	128	99	228
Saturday (12:00-13:00)	141	127	268

- 3.6 This shows that the peak traffic generators are leisure and fast food drive through in the morning and afternoon peak periods, and non-food retail and fast food drive through on a Saturday. For completeness, the total development traffic across plot 1 and plot 2 is set out in **Table 8**.

Table 8 – Total Site Trip Generation (Worst Case)

Time Period	Plot 1			Plot 2			Total		
	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak (08:00 – 09:00)	72	38	110	56	46	102	128	84	212
PM Peak (17:00 – 18:00)	16	54	70	128	99	228	144	153	297
Saturday (12:00-13:00)	0	0	0	220	213	433	220	213	433

4.0 Traffic Impact

- 4.1 Based on the above, the junction models have been re-run. The full junction results are included in **Appendix C** and a summary is provided in the following tables.

Table 9 – Site Access Junction Modelling Results

2023 Base	Am Peak		Pm Peak		Sat Peak	
	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
Elettra Avenue (E)	0.31	1	0.21	0	0.19	0
Site Access	0.05	0	0.08	0	0.09	0
Elettra Avenue (W)	0.05	0	0.06	0	0.04	0
Waterberry Drive	0.17	0	0.21	0	0.14	0
2023 Base+Dev	Am Peak		Pm Peak		Sat Peak	
	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
Elettra Avenue (E)	0.38	1	0.29	0	0.31	0
Site Access	0.10	0	0.16	0	0.19	0
Elettra Avenue (W)	0.05	0	0.06	0	0.04	0
Waterberry Drive	0.17	0	0.23	0	0.15	0

- 4.2 The site access junction will operate well within capacity in a future year of 2023 with the development traffic in place.

Table 9 – Hambledon Road/ Elettra Avenue Junction Modelling Results

2023 Base	Am Peak		Pm Peak		Sat Peak	
	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
Milton Road	0.81	4	0.53	1	0.65	2
Hambledon Road (S)	0.45	1	0.76	3	0.64	2
Elettra Avenue	0.31	0	0.87	6	0.47	1
Hambledon Road (N)	0.61	2	0.83	5	0.76	3
2023 Base+Dev	Am Peak		Pm Peak		Sat Peak	
	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
Milton Road	0.91	9	0.61	2	0.80	4
Hambledon Road (S)	0.48	1	0.81	4	0.71	3
Elettra Avenue	0.38	1	1.08	67	0.71	2
Hambledon Road (N)	0.64	2	0.90	8	0.86	6

- 4.3 This shows the junction will be operating over capacity on the Elettra Avenue approach in the PM peak in a future year of 2023 with the development traffic in place. Improvements on the Elettra Avenue arm are proposed to mitigate the impact. The scheme is shown in **DTA Drawing 19235-02g**. The junction assessment results following the improvement scheme are summarised in **Table 10**.

Table 10 – Hambledon Road/ Elettra Avenue with Mitigation Junction Modelling Results

2023 Base+Dev	Pm Peak		Sat Peak	
	Max RFC	Queue	Max RFC	Queue
Milton Road	0.63	2	0.80	4
Hambledon Road (S)	0.81	4	0.71	3
Elettra Avenue	0.83	5	0.56	1
Hambledon Road (N)	0.93	10	0.86	6

5.0 Cycle Linkages

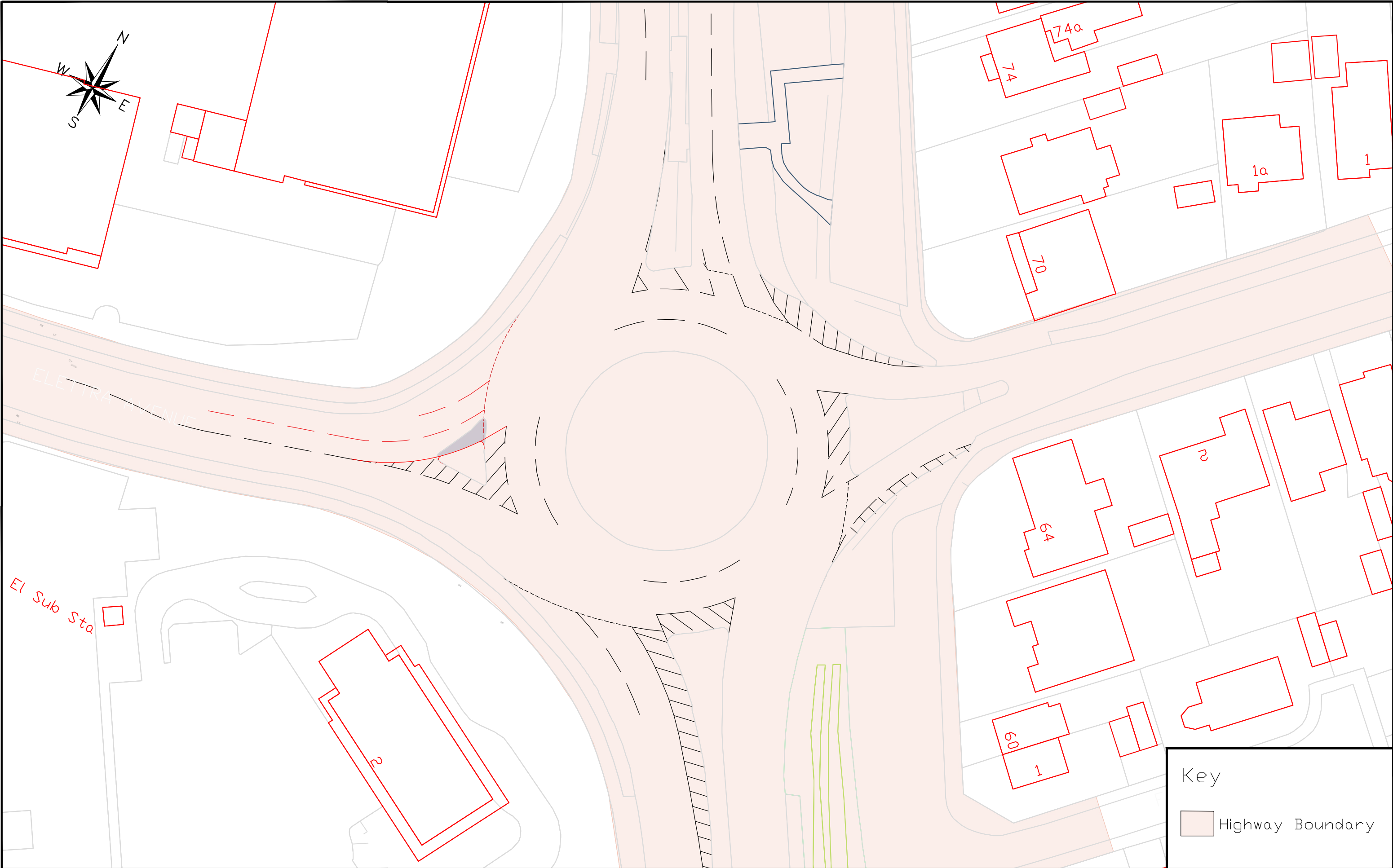
- 5.1 HCC requested that further detailed were provided to demonstrate how the site would be suitably connected to the adjacent network for cyclists.
- 5.2 The sketch attached at **Appendix D** shows the existing shared cycle/footway route near to the site and the potential options for providing improvement. These include the following:
- A link to the south via Silverthorne Way;
 - A link the east onto Hambledon Road;
 - Upgrade the existing pedestrian route to the McDonald's site to provide a shared pedestrian/cycle link; and
 - Widen the existing pedestrian only crossing at the Milton Road approach. The details are shown on **DTA Drawing 19235-03**.
- 5.3 There has historically been a request for S106 contributions from previous schemes for a cycle/pedestrian link to the southern MDA residential site. The plans are included in **Appendix E**. Hargreaves transferred the pedestrian/cycle Link land shown within **Appendix E** under its S106 Planning Agreement for the Lidl development. In the event



HCC has been unable to secure a contribution towards this link, Hargreaves would be prepared to offer a contribution to secure its delivery within the 5 year timeframe specified within the Planning Agreement.



Drawings



Based upon the ORDNANCE SURVEY MAPS with the permission of THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE
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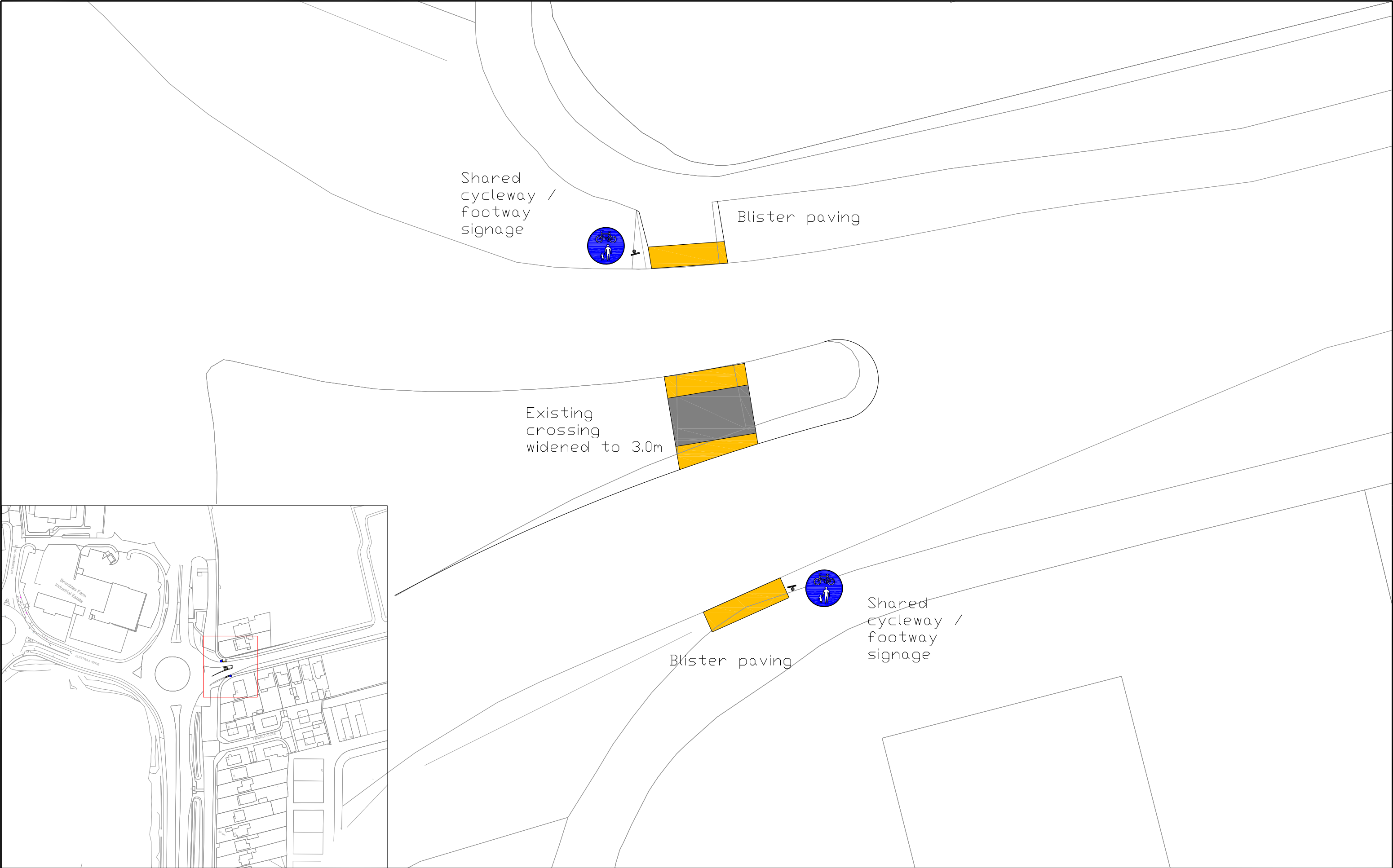
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JOB TITLE		CLIENT	
Elettra Avenue, Waterlooville		Hargreaves	
DRAWING TITLE			
Hambledon Road – Elettra Avenue Roundabout Improvements			
SCALE	DRAWN BY	DATE	REVISION
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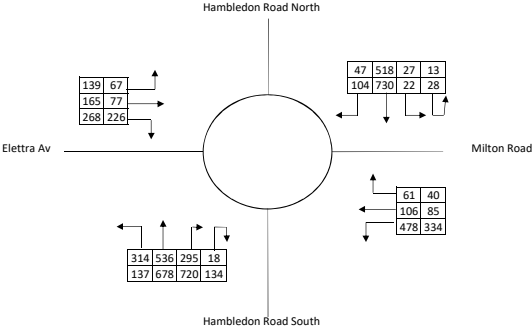




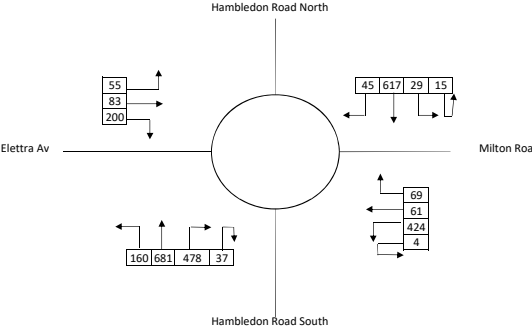
Appendix A

Junction Models - Hambledon Road/ Elettra Avenue Roundabout
2017 Observed Flows
Total vehicles
Friday (08:15-09:15 and 16:45-17:45)

Key
PM AM

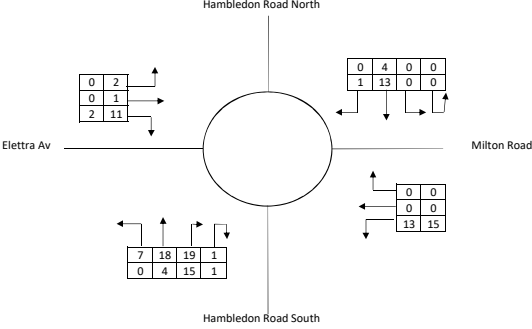


Saturday (11:30-12:30)

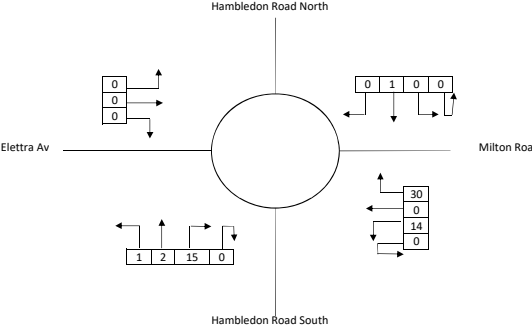


Heavies

Friday (08:15-09:15 and 16:45-17:45)

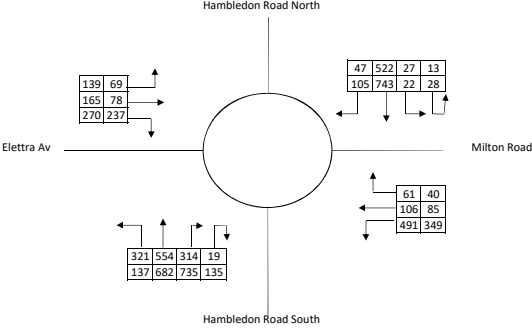


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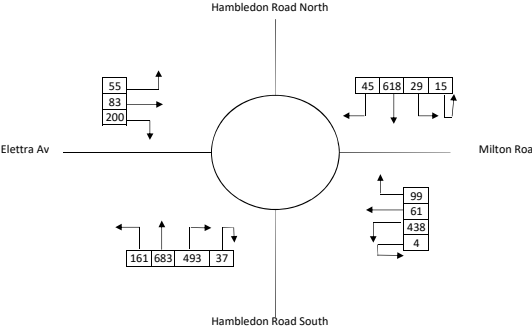


PCUs

Friday (08:15-09:15 and 16:45-17:45)

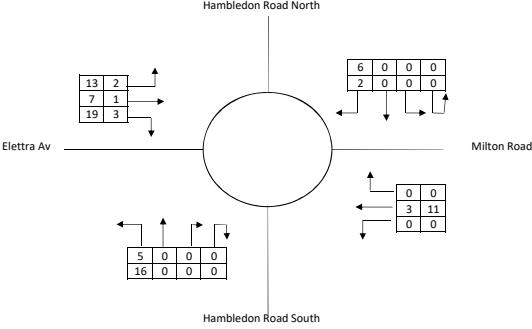


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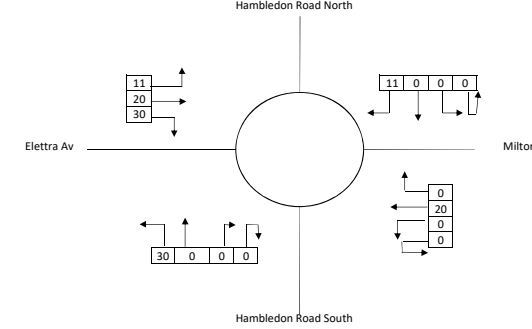
Committed - Lidl

Friday



Committed - Lidl

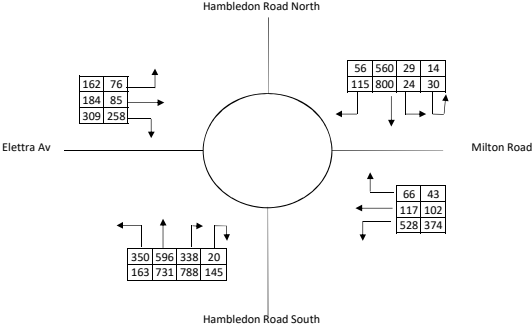
Saturday



2023 Base

Friday

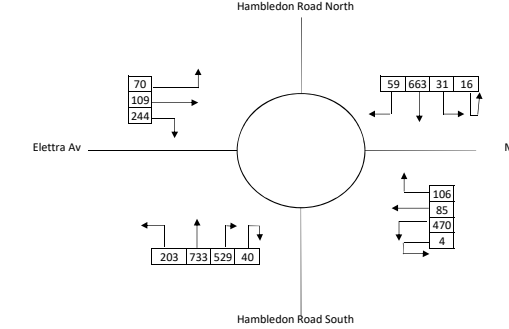
AM 1.0763
PM 1.0723



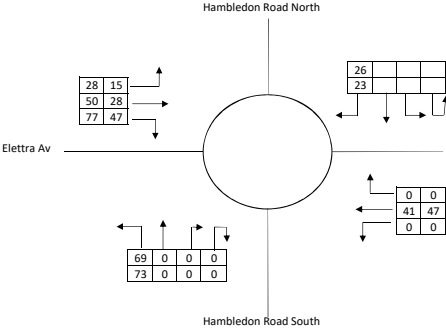
2023 Base

Saturday

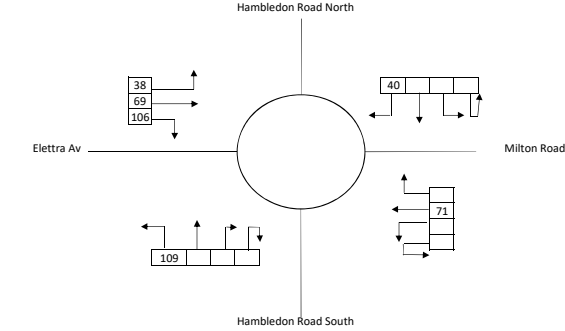
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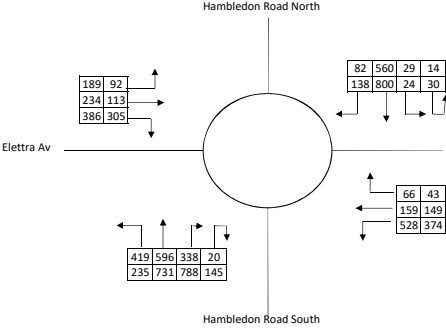
Development Flows
Friday



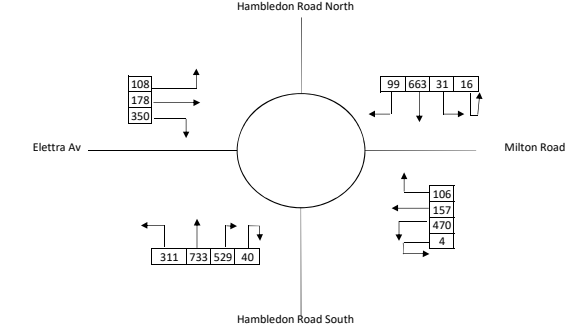
Development Flows
Saturday



2023 Base + Dev
Friday



2023 Base + Dev
Saturday



Junction Models - Site Access/ Elettra Avenue Roundabout

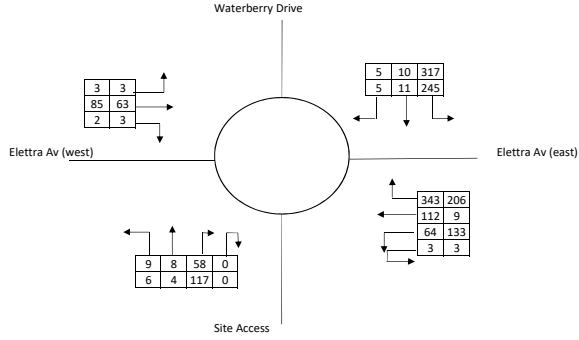
2017 Observed Flows

Total Vehicles

Friday (08:15-09:15 and 17:15-18:15)

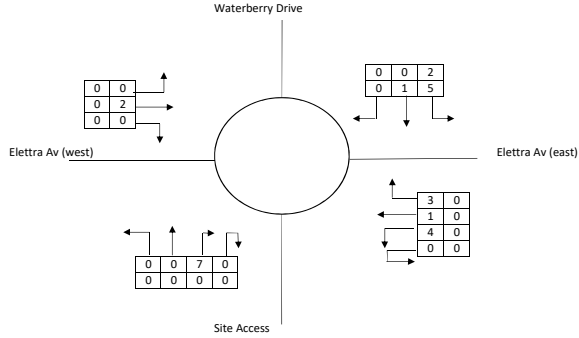
KEY

PM AM



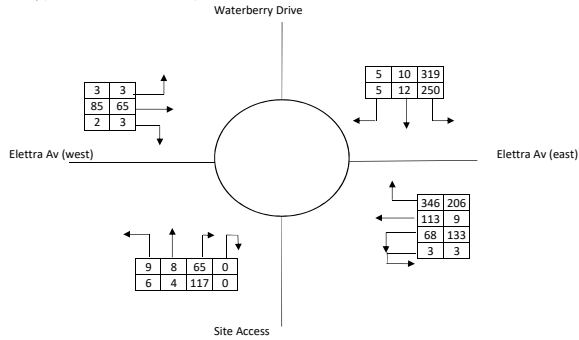
Heavies

Friday (08:15-09:15 and 17:15-18:15)



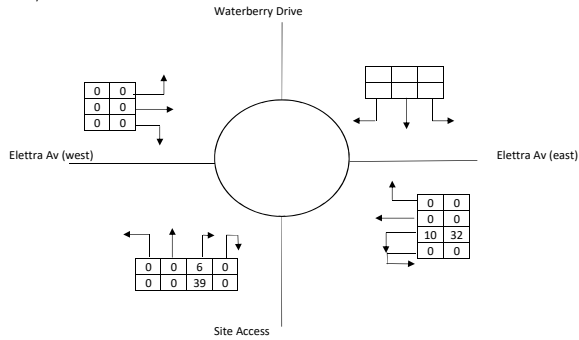
PCUs

Friday (08:15-09:15 and 17:15-18:15)



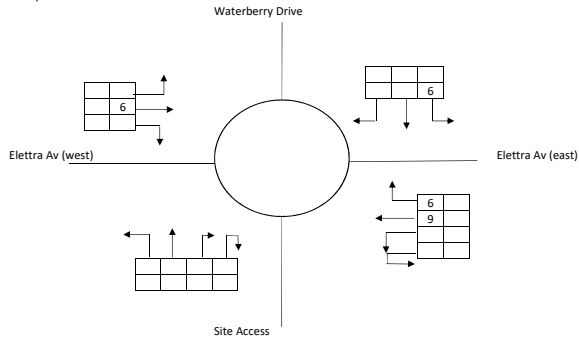
Committed - Lidl

Friday

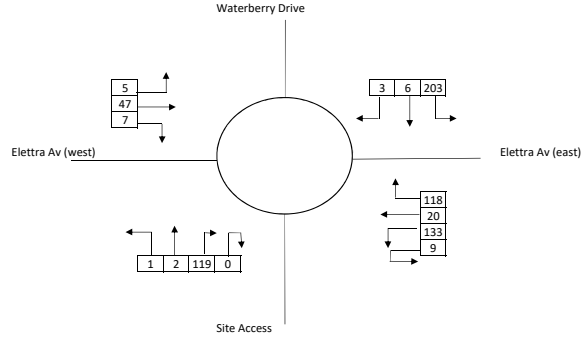


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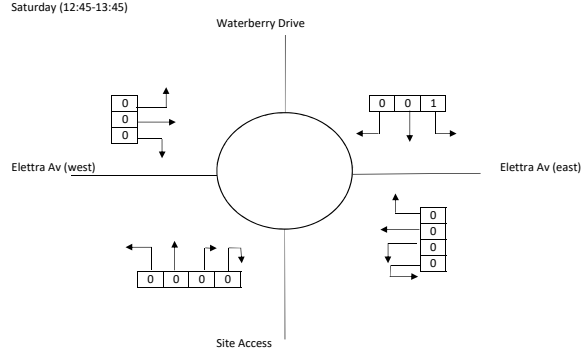
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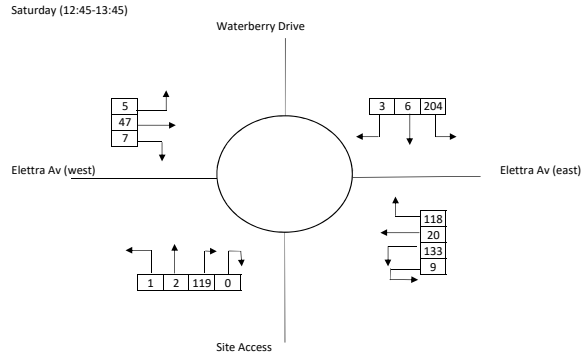
Saturday (12:45-13:45)



Saturday (12:45-13:45)

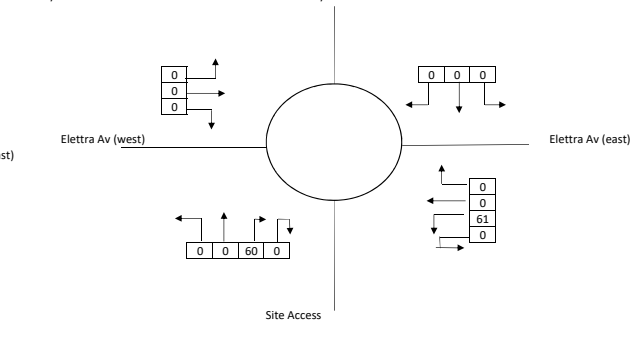


Saturday (12:45-13:45)



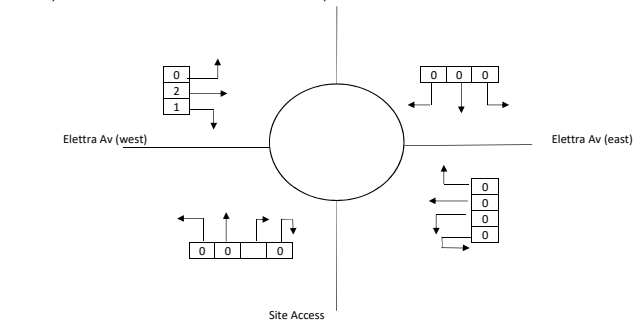
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Saturday

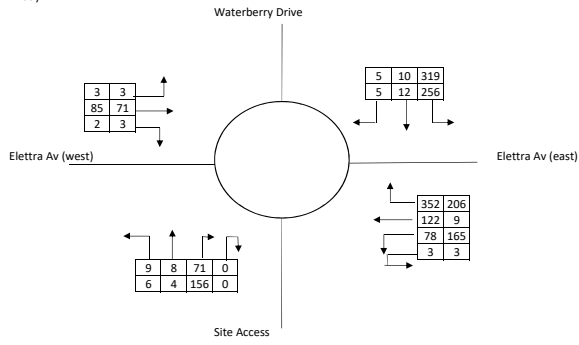


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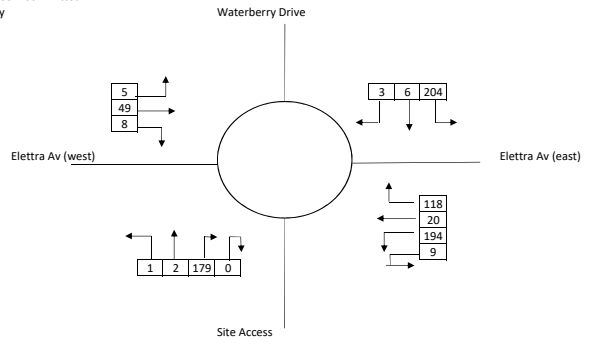
Saturday



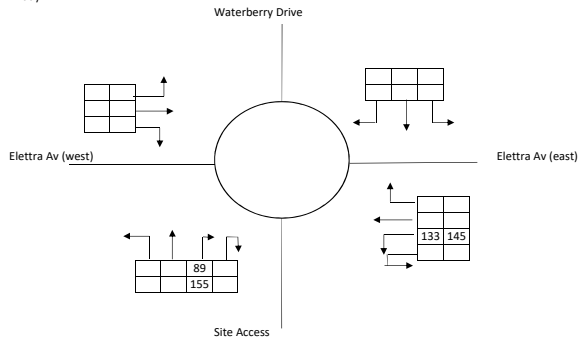
2017 Base + Committed
Friday



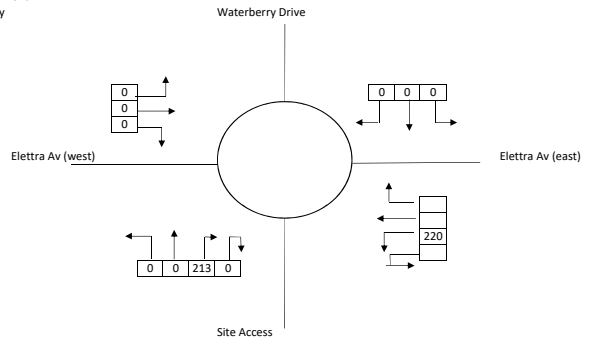
2017 Base + Committed
Saturday



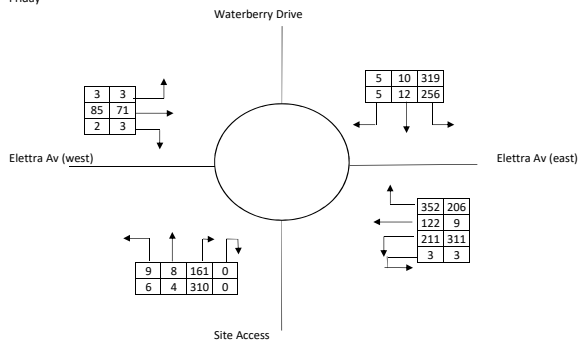
Development
Friday



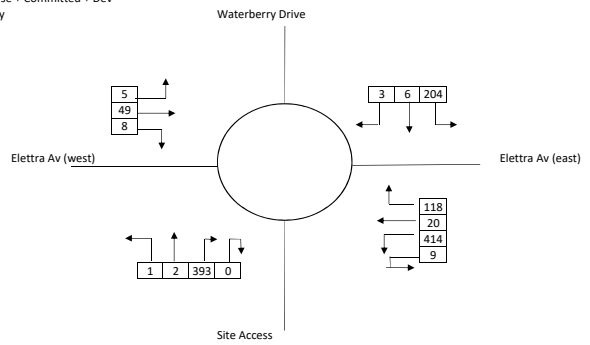
Development
Saturday



2017 Base + Committed + Dev
Friday



2017 Base + Committed + Dev
Saturday





Appendix B

Calculation Reference: AUDIT-623801-190201-0207

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : D - FAST FOOD - DRIVE THROUGH
 VEHICLES

Selected regions and areas:

09 NORTH
 TW TYNE & WEAR 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 317 to 317 (units: sqm)
 Range Selected by User: 210 to 800 (units: sqm)

Parking Spaces Range: Selected: 19 to 151 Actual: 19 to 151

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 19/09/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 1 days
 Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Neighbourhood Centre (PPS6 Local Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Built-Up Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

A3 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

25,001 to 50,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Secondary Filtering selection (Cont.):

Population within 5 miles:

500,001 or More

1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	TW-06-D-01	KFC	TYNE & WEAR
	CLIFFORD STREET		
	NEWCASTLE		
	BYKER		
	Neighbourhood Centre (PPS6 Local Centre)		
	Built-Up Zone		
	Total Gross floor area:	317 sqm	
	Survey date: SATURDAY	14/11/15	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.315	1	317	0.000	1	317	0.315
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.315	1	317	0.315	1	317	0.630
10:00 - 11:00	1	317	2.839	1	317	1.262	1	317	4.101
11:00 - 12:00	1	317	8.202	1	317	6.309	1	317	14.511
12:00 - 13:00	1	317	15.457	1	317	12.934	1	317	28.391
13:00 - 14:00	1	317	18.612	1	317	20.505	1	317	39.117
14:00 - 15:00	1	317	17.981	1	317	19.558	1	317	37.539
15:00 - 16:00	1	317	13.565	1	317	14.511	1	317	28.076
16:00 - 17:00	1	317	14.196	1	317	13.565	1	317	27.761
17:00 - 18:00	1	317	15.773	1	317	15.457	1	317	31.230
18:00 - 19:00	1	317	13.565	1	317	13.565	1	317	27.130
19:00 - 20:00	1	317	14.196	1	317	14.511	1	317	28.707
20:00 - 21:00	1	317	7.571	1	317	9.148	1	317	16.719
21:00 - 22:00	1	317	4.732	1	317	4.732	1	317	9.464
22:00 - 23:00	1	317	4.101	1	317	3.785	1	317	7.886
23:00 - 24:00	1	317	0.000	1	317	1.262	1	317	1.262
Total Rates:			151.420			151.419			302.839

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	317 - 317 (units: sqm)
Survey date date range:	01/01/10 - 19/09/17
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.000	1	317	0.000	1	317	0.000
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.000	1	317	0.000	1	317	0.000
10:00 - 11:00	1	317	0.000	1	317	0.000	1	317	0.000
11:00 - 12:00	1	317	0.315	1	317	0.315	1	317	0.630
12:00 - 13:00	1	317	0.315	1	317	0.315	1	317	0.630
13:00 - 14:00	1	317	0.946	1	317	0.946	1	317	1.892
14:00 - 15:00	1	317	0.315	1	317	0.315	1	317	0.630
15:00 - 16:00	1	317	1.577	1	317	1.262	1	317	2.839
16:00 - 17:00	1	317	0.631	1	317	0.946	1	317	1.577
17:00 - 18:00	1	317	0.000	1	317	0.000	1	317	0.000
18:00 - 19:00	1	317	0.631	1	317	0.315	1	317	0.946
19:00 - 20:00	1	317	0.000	1	317	0.315	1	317	0.315
20:00 - 21:00	1	317	0.000	1	317	0.000	1	317	0.000
21:00 - 22:00	1	317	0.000	1	317	0.000	1	317	0.000
22:00 - 23:00	1	317	0.000	1	317	0.000	1	317	0.000
23:00 - 24:00	1	317	0.000	1	317	0.000	1	317	0.000
Total Rates:			4.730			4.729			9.459

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.000	1	317	0.000	1	317	0.000
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.000	1	317	0.000	1	317	0.000
10:00 - 11:00	1	317	0.000	1	317	0.000	1	317	0.000
11:00 - 12:00	1	317	0.000	1	317	0.000	1	317	0.000
12:00 - 13:00	1	317	0.315	1	317	0.315	1	317	0.630
13:00 - 14:00	1	317	0.000	1	317	0.000	1	317	0.000
14:00 - 15:00	1	317	0.000	1	317	0.000	1	317	0.000
15:00 - 16:00	1	317	0.000	1	317	0.000	1	317	0.000
16:00 - 17:00	1	317	0.000	1	317	0.000	1	317	0.000
17:00 - 18:00	1	317	0.000	1	317	0.000	1	317	0.000
18:00 - 19:00	1	317	0.000	1	317	0.000	1	317	0.000
19:00 - 20:00	1	317	0.000	1	317	0.000	1	317	0.000
20:00 - 21:00	1	317	0.000	1	317	0.000	1	317	0.000
21:00 - 22:00	1	317	0.000	1	317	0.000	1	317	0.000
22:00 - 23:00	1	317	0.000	1	317	0.000	1	317	0.000
23:00 - 24:00	1	317	0.000	1	317	0.000	1	317	0.000
Total Rates:			0.315			0.315			0.630

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.000	1	317	0.000	1	317	0.000
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.315	1	317	0.000	1	317	0.315
10:00 - 11:00	1	317	0.000	1	317	0.315	1	317	0.315
11:00 - 12:00	1	317	0.000	1	317	0.000	1	317	0.000
12:00 - 13:00	1	317	0.000	1	317	0.000	1	317	0.000
13:00 - 14:00	1	317	0.631	1	317	0.000	1	317	0.631
14:00 - 15:00	1	317	0.000	1	317	0.631	1	317	0.631
15:00 - 16:00	1	317	0.000	1	317	0.000	1	317	0.000
16:00 - 17:00	1	317	0.631	1	317	0.631	1	317	1.262
17:00 - 18:00	1	317	0.000	1	317	0.000	1	317	0.000
18:00 - 19:00	1	317	0.315	1	317	0.315	1	317	0.630
19:00 - 20:00	1	317	0.000	1	317	0.000	1	317	0.000
20:00 - 21:00	1	317	0.315	1	317	0.315	1	317	0.630
21:00 - 22:00	1	317	0.000	1	317	0.000	1	317	0.000
22:00 - 23:00	1	317	0.000	1	317	0.000	1	317	0.000
23:00 - 24:00	1	317	0.000	1	317	0.000	1	317	0.000
Total Rates:			2.207			2.207			4.414

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.315	1	317	0.000	1	317	0.315
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.315	1	317	0.315	1	317	0.630
10:00 - 11:00	1	317	2.524	1	317	0.946	1	317	3.470
11:00 - 12:00	1	317	6.940	1	317	5.363	1	317	12.303
12:00 - 13:00	1	317	13.565	1	317	10.726	1	317	24.291
13:00 - 14:00	1	317	15.773	1	317	17.666	1	317	33.439
14:00 - 15:00	1	317	17.666	1	317	19.243	1	317	36.909
15:00 - 16:00	1	317	11.041	1	317	12.934	1	317	23.975
16:00 - 17:00	1	317	12.303	1	317	10.726	1	317	23.029
17:00 - 18:00	1	317	15.773	1	317	15.457	1	317	31.230
18:00 - 19:00	1	317	12.618	1	317	13.249	1	317	25.867
19:00 - 20:00	1	317	12.934	1	317	12.618	1	317	25.552
20:00 - 21:00	1	317	6.625	1	317	8.202	1	317	14.827
21:00 - 22:00	1	317	4.416	1	317	4.416	1	317	8.832
22:00 - 23:00	1	317	3.785	1	317	3.785	1	317	7.570
23:00 - 24:00	1	317	0.000	1	317	0.946	1	317	0.946
Total Rates:			136.593			136.592			273.185

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH

LGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.000	1	317	0.000	1	317	0.000
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.000	1	317	0.000	1	317	0.000
10:00 - 11:00	1	317	0.315	1	317	0.315	1	317	0.630
11:00 - 12:00	1	317	0.946	1	317	0.631	1	317	1.577
12:00 - 13:00	1	317	1.262	1	317	1.577	1	317	2.839
13:00 - 14:00	1	317	1.893	1	317	1.893	1	317	3.786
14:00 - 15:00	1	317	0.000	1	317	0.000	1	317	0.000
15:00 - 16:00	1	317	0.631	1	317	0.000	1	317	0.631
16:00 - 17:00	1	317	1.262	1	317	1.893	1	317	3.155
17:00 - 18:00	1	317	0.000	1	317	0.000	1	317	0.000
18:00 - 19:00	1	317	0.315	1	317	0.000	1	317	0.315
19:00 - 20:00	1	317	1.262	1	317	1.577	1	317	2.839
20:00 - 21:00	1	317	0.946	1	317	0.946	1	317	1.892
21:00 - 22:00	1	317	0.315	1	317	0.315	1	317	0.630
22:00 - 23:00	1	317	0.315	1	317	0.000	1	317	0.315
23:00 - 24:00	1	317	0.000	1	317	0.315	1	317	0.315
Total Rates:			9.462			9.462			18.924

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
MOTOR CYCLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	317	0.000	1	317	0.000	1	317	0.000
08:00 - 09:00	1	317	0.000	1	317	0.000	1	317	0.000
09:00 - 10:00	1	317	0.000	1	317	0.000	1	317	0.000
10:00 - 11:00	1	317	0.000	1	317	0.000	1	317	0.000
11:00 - 12:00	1	317	0.000	1	317	0.000	1	317	0.000
12:00 - 13:00	1	317	0.000	1	317	0.000	1	317	0.000
13:00 - 14:00	1	317	0.000	1	317	0.000	1	317	0.000
14:00 - 15:00	1	317	0.000	1	317	0.000	1	317	0.000
15:00 - 16:00	1	317	0.315	1	317	0.315	1	317	0.630
16:00 - 17:00	1	317	0.000	1	317	0.000	1	317	0.000
17:00 - 18:00	1	317	0.000	1	317	0.000	1	317	0.000
18:00 - 19:00	1	317	0.000	1	317	0.000	1	317	0.000
19:00 - 20:00	1	317	0.000	1	317	0.000	1	317	0.000
20:00 - 21:00	1	317	0.000	1	317	0.000	1	317	0.000
21:00 - 22:00	1	317	0.000	1	317	0.000	1	317	0.000
22:00 - 23:00	1	317	0.000	1	317	0.000	1	317	0.000
23:00 - 24:00	1	317	0.000	1	317	0.000	1	317	0.000
Total Rates:			0.315			0.315			0.630

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.



Appendix C

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.0.2.5947 © Copyright TRL Limited, 2017			
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Filename: Site Access_Elettra Avenue Roundabout_2018_RevB.j9

Path: P:\19000's\19235\Technical\Junction Modelling 2018

Report generation date: 01/02/2019 11:32:34

- »(Default Analysis Set) - 2023 Base , AM
- »(Default Analysis Set) - 2023 Base, PM
- »(Default Analysis Set) - 2023 Base + Dev, AM
- »(Default Analysis Set) - 2023 Base + Dev, PM
- »(Default Analysis Set) - 2023 Base , Sat
- »(Default Analysis Set) - 2023 Base + Dev, Sat

Summary of junction performance

	AM				PM				Sat			
	Q (PCU)	Delay (s)	RFC	LOS	Q (PCU)	Delay (s)	RFC	LOS	Q (PCU)	Delay (s)	RFC	LOS
A1 - 2023 Base												
1 - Elettra Av (east)	0.5	2.66	0.31	A	0.3	2.34	0.21	A	0.2	2.26	0.19	A
2 - Site Access	0.1	1.90	0.05	A	0.1	1.77	0.08	A	0.1	1.73	0.09	A
3 - Elettra Av (west)	0.1	2.37	0.05	A	0.1	2.25	0.06	A	0.0	2.14	0.04	A
4 - Waterberry Drive	0.2	2.55	0.17	A	0.3	2.70	0.21	A	0.2	2.46	0.14	A
A1 - 2023 Base + Dev												
1 - Elettra Av (east)	0.6	2.97	0.38	A	0.4	2.60	0.29	A	0.5	2.66	0.31	A
2 - Site Access	0.1	2.00	0.10	A	0.2	1.93	0.16	A	0.2	1.96	0.19	A
3 - Elettra Av (west)	0.1	2.48	0.05	A	0.1	2.43	0.06	A	0.0	2.38	0.04	A
4 - Waterberry Drive	0.2	2.68	0.17	A	0.3	2.96	0.23	A	0.2	2.76	0.15	A

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle.

File summary

File Description

Title	Site Access_Elettra Avenue_Waterberry Drive
Location	waterlooville
Site number	
Date	14/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	17144
Enumerator	DTA\arcady
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Q Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2023 Base	AM	ONE HOUR	08:00	09:30	15	✓
D6	2023 Base	PM	ONE HOUR	17:00	18:30	15	✓
D7	2023 Base + Dev	AM	ONE HOUR	08:00	09:30	15	✓
D8	2023 Base + Dev	PM	ONE HOUR	17:00	18:30	15	✓
D9	2023 Base	Sat	ONE HOUR	12:30	14:00	15	✓
D10	2023 Base + Dev	Sat	ONE HOUR	12:30	14:00	15	✓

Analysis Set Details

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

(Default Analysis Set) - 2023 Base , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Elettra Av (east) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	2.54	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Elettra Av (east)	
2	Site Access	
3	Elettra Av (west)	
4	Waterberry Drive	

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Exit only
1 - Elettra Av (east)	3.00	7.40	41.5	25.7	44.0	19.5	
2 - Site Access	6.20	9.10	11.1	19.5	44.0	24.0	
3 - Elettra Av (west)	3.60	7.30	27.9	28.5	44.0	15.5	
4 - Waterberry Drive	3.76	7.50	13.4	55.4	44.0	11.5	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Elettra Av (east)	0.703	1994
2 - Site Access	0.775	2403
3 - Elettra Av (west)	0.709	2000
4 - Waterberry Drive	0.699	1903

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2023 Base	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Elettra Av (east)		ONE HOUR	✓	555	100.000
2 - Site Access		ONE HOUR	✓	88	100.000
3 - Elettra Av (west)		ONE HOUR	✓	77	100.000
4 - Waterberry Drive		ONE HOUR	✓	273	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
From	1 - Elettra Av (east)	3	78	122	352
	2 - Site Access	71	0	9	8
	3 - Elettra Av (west)	71	3	0	3
	4 - Waterberry Drive	256	12	5	0

Vehicle Mix

HV %s

	To				
		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
From	1 - Elettra Av (east)	0	0	2	1
	2 - Site Access	0	0	0	0
	3 - Elettra Av (west)	4	0	0	0
	4 - Waterberry Drive	6	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Elettra Av (east)	0.31	2.66	0.5	A	509	764
2 - Site Access	0.05	1.90	0.1	A	81	121
3 - Elettra Av (west)	0.05	2.37	0.1	A	71	106
4 - Waterberry Drive	0.17	2.55	0.2	A	251	376

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	418	104	15	1984	0.211	417	301	0.0	0.3	2.321	A
2 - Site Access	66	17	362	2122	0.031	66	70	0.0	0.0	1.750	A
3 - Elettra Av (west)	58	14	326	1769	0.033	58	102	0.0	0.0	2.181	A
4 - Waterberry Drive	206	51	111	1825	0.113	205	273	0.0	0.1	2.347	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	499	125	18	1982	0.252	499	360	0.3	0.3	2.453	A
2 - Site Access	79	20	433	2067	0.038	79	84	0.0	0.0	1.809	A
3 - Elettra Av (west)	69	17	390	1723	0.040	69	122	0.0	0.0	2.256	A
4 - Waterberry Drive	245	61	133	1810	0.136	245	326	0.1	0.2	2.429	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	611	153	22	1979	0.309	611	441	0.3	0.4	2.659	A
2 - Site Access	97	24	530	1992	0.049	97	102	0.0	0.1	1.898	A
3 - Elettra Av (west)	85	21	478	1661	0.051	85	150	0.0	0.1	2.367	A
4 - Waterberry Drive	301	75	163	1789	0.168	300	399	0.2	0.2	2.553	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	611	153	22	1979	0.309	611	442	0.4	0.5	2.659	A
2 - Site Access	97	24	531	1992	0.049	97	102	0.1	0.1	1.899	A
3 - Elettra Av (west)	85	21	478	1661	0.051	85	150	0.1	0.1	2.367	A
4 - Waterberry Drive	301	75	163	1789	0.168	301	400	0.2	0.2	2.553	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	499	125	18	1982	0.252	499	361	0.5	0.3	2.456	A
2 - Site Access	79	20	434	2067	0.038	79	84	0.1	0.0	1.810	A
3 - Elettra Av (west)	69	17	390	1723	0.040	69	122	0.1	0.0	2.256	A
4 - Waterberry Drive	245	61	133	1810	0.136	246	327	0.2	0.2	2.430	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	418	104	15	1984	0.211	418	302	0.3	0.3	2.323	A
2 - Site Access	66	17	363	2121	0.031	66	70	0.0	0.0	1.750	A
3 - Elettra Av (west)	58	14	327	1768	0.033	58	102	0.0	0.0	2.182	A
4 - Waterberry Drive	206	51	111	1825	0.113	206	273	0.2	0.1	2.347	A

(Default Analysis Set) - 2023 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Elettra Av (east) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	2.36	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	2023 Base	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Elettra Av (east)		ONE HOUR	✓	383	100.000
2 - Site Access		ONE HOUR	✓	166	100.000
3 - Elettra Av (west)		ONE HOUR	✓	90	100.000
4 - Waterberry Drive		ONE HOUR	✓	334	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	3	165	9	206
	2 - Site Access	156	0	6	4
	3 - Elettra Av (west)	85	2	0	3
	4 - Waterberry Drive	319	10	5	0

Vehicle Mix

HV %s

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	0	0	7	2
	2 - Site Access	0	0	0	0
	3 - Elettra Av (west)	1	0	0	0
	4 - Waterberry Drive	1	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Elettra Av (east)	0.21	2.34	0.3	A	351	527
2 - Site Access	0.08	1.77	0.1	A	152	228
3 - Elettra Av (west)	0.06	2.25	0.1	A	83	124
4 - Waterberry Drive	0.21	2.70	0.3	A	306	460

Main Results for each time segment

17:00 - 17:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	288	72	13	1986	0.145	288	423	0.0	0.2	2.145	A
2 - Site Access	125	31	167	2273	0.055	125	133	0.0	0.1	1.675	A
3 - Elettra Av (west)	68	17	277	1803	0.038	68	15	0.0	0.0	2.093	A
4 - Waterberry Drive	251	63	185	1774	0.142	251	160	0.0	0.2	2.385	A

17:15 - 17:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	344	86	15	1984	0.174	344	506	0.2	0.2	2.222	A
2 - Site Access	149	37	200	2247	0.066	149	159	0.1	0.1	1.714	A
3 - Elettra Av (west)	81	20	332	1765	0.046	81	18	0.0	0.0	2.158	A
4 - Waterberry Drive	300	75	221	1748	0.172	300	191	0.2	0.2	2.509	A

17:30 - 17:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	422	105	19	1981	0.213	421	619	0.2	0.3	2.336	A
2 - Site Access	183	46	245	2213	0.083	183	195	0.1	0.1	1.772	A
3 - Elettra Av (west)	99	25	406	1712	0.058	99	22	0.0	0.1	2.253	A
4 - Waterberry Drive	368	92	271	1714	0.215	367	234	0.2	0.3	2.700	A

17:45 - 18:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	422	105	19	1981	0.213	422	620	0.3	0.3	2.336	A
2 - Site Access	183	46	246	2212	0.083	183	195	0.1	0.1	1.772	A
3 - Elettra Av (west)	99	25	406	1712	0.058	99	22	0.1	0.1	2.253	A
4 - Waterberry Drive	368	92	271	1713	0.215	368	235	0.3	0.3	2.700	A

18:00 - 18:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	344	86	15	1984	0.174	345	506	0.3	0.2	2.223	A
2 - Site Access	149	37	201	2247	0.066	149	159	0.1	0.1	1.715	A
3 - Elettra Av (west)	81	20	332	1764	0.046	81	18	0.1	0.0	2.160	A
4 - Waterberry Drive	300	75	221	1748	0.172	301	192	0.3	0.2	2.510	A

18:15 - 18:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	288	72	13	1985	0.145	289	424	0.2	0.2	2.148	A
2 - Site Access	125	31	168	2273	0.055	125	133	0.1	0.1	1.678	A
3 - Elettra Av (west)	68	17	278	1803	0.038	68	15	0.0	0.0	2.094	A
4 - Waterberry Drive	251	63	185	1773	0.142	252	160	0.2	0.2	2.388	A

(Default Analysis Set) - 2023 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Elettra Av (east) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	2.73	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	2023 Base + Dev	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Elettra Av (east)		ONE HOUR	✓	688	100.000
2 - Site Access		ONE HOUR	✓	178	100.000
3 - Elettra Av (west)		ONE HOUR	✓	77	100.000
4 - Waterberry Drive		ONE HOUR	✓	273	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	3	211	122	352
	2 - Site Access	161	0	9	8
	3 - Elettra Av (west)	71	3	0	3
	4 - Waterberry Drive	256	12	5	0

Vehicle Mix

HV %s

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	0	0	2	1
	2 - Site Access	0	0	0	0
	3 - Elettra Av (west)	4	0	0	0
	4 - Waterberry Drive	6	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Elettra Av (east)	0.38	2.97	0.6	A	631	947
2 - Site Access	0.10	2.00	0.1	A	163	245
3 - Elettra Av (west)	0.05	2.48	0.1	A	71	106
4 - Waterberry Drive	0.17	2.68	0.2	A	251	376

Main Results for each time segment

08:00 - 08:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	518	129	15	1984	0.261	517	369	0.0	0.4	2.472	A
2 - Site Access	134	34	362	2122	0.063	134	170	0.0	0.1	1.809	A
3 - Elettra Av (west)	58	14	394	1721	0.034	58	102	0.0	0.0	2.244	A
4 - Waterberry Drive	206	51	179	1778	0.116	205	273	0.0	0.1	2.417	A

08:15 - 08:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	618	155	18	1982	0.312	618	441	0.4	0.5	2.662	A
2 - Site Access	160	40	433	2067	0.077	160	203	0.1	0.1	1.886	A
3 - Elettra Av (west)	69	17	471	1666	0.042	69	122	0.0	0.0	2.337	A
4 - Waterberry Drive	245	61	214	1753	0.140	245	326	0.1	0.2	2.520	A

08:30 - 08:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	758	189	22	1979	0.383	757	540	0.5	0.6	2.969	A
2 - Site Access	196	49	530	1992	0.098	196	249	0.1	0.1	2.004	A
3 - Elettra Av (west)	85	21	576	1591	0.053	85	150	0.0	0.1	2.477	A
4 - Waterberry Drive	301	75	262	1720	0.175	300	399	0.2	0.2	2.678	A

08:45 - 09:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	758	189	22	1979	0.383	757	541	0.6	0.6	2.971	A
2 - Site Access	196	49	531	1992	0.098	196	249	0.1	0.1	2.004	A
3 - Elettra Av (west)	85	21	577	1591	0.053	85	150	0.1	0.1	2.478	A
4 - Waterberry Drive	301	75	262	1720	0.175	301	400	0.2	0.2	2.678	A

09:00 - 09:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	618	155	18	1982	0.312	619	442	0.6	0.5	2.665	A
2 - Site Access	160	40	434	2067	0.077	160	203	0.1	0.1	1.890	A
3 - Elettra Av (west)	69	17	471	1665	0.042	69	122	0.1	0.0	2.338	A
4 - Waterberry Drive	245	61	214	1753	0.140	246	327	0.2	0.2	2.523	A

09:15 - 09:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	518	129	15	1984	0.261	518	370	0.5	0.4	2.479	A
2 - Site Access	134	34	363	2121	0.063	134	170	0.1	0.1	1.813	A
3 - Elettra Av (west)	58	14	395	1720	0.034	58	102	0.0	0.0	2.247	A
4 - Waterberry Drive	206	51	179	1777	0.116	206	273	0.2	0.1	2.418	A

(Default Analysis Set) - 2023 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Elettra Av (east) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	2.51	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	2023 Base + Dev	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Elettra Av (east)		ONE HOUR	✓	529	100.000
2 - Site Access		ONE HOUR	✓	320	100.000
3 - Elettra Av (west)		ONE HOUR	✓	90	100.000
4 - Waterberry Drive		ONE HOUR	✓	334	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	3	311	9	206
	2 - Site Access	310	0	6	4
	3 - Elettra Av (west)	85	2	0	3
	4 - Waterberry Drive	319	10	5	0

Vehicle Mix

HV %s

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	0	0	7	2
	2 - Site Access	0	0	0	0
	3 - Elettra Av (west)	1	0	0	0
	4 - Waterberry Drive	1	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Elettra Av (east)	0.29	2.60	0.4	A	485	728
2 - Site Access	0.16	1.93	0.2	A	294	440
3 - Elettra Av (west)	0.06	2.43	0.1	A	83	124
4 - Waterberry Drive	0.23	2.96	0.3	A	306	460

Main Results for each time segment

17:00 - 17:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	398	100	13	1986	0.201	397	539	0.0	0.3	2.285	A
2 - Site Access	241	60	167	2273	0.106	240	243	0.0	0.1	1.770	A
3 - Elettra Av (west)	68	17	393	1721	0.039	68	15	0.0	0.0	2.197	A
4 - Waterberry Drive	251	63	301	1693	0.149	251	160	0.0	0.2	2.519	A

17:15 - 17:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	476	119	15	1984	0.240	475	644	0.3	0.3	2.407	A
2 - Site Access	288	72	200	2247	0.128	288	290	0.1	0.1	1.836	A
3 - Elettra Av (west)	81	20	470	1666	0.049	81	18	0.0	0.1	2.291	A
4 - Waterberry Drive	300	75	359	1651	0.182	300	191	0.2	0.2	2.689	A

17:30 - 17:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	582	146	19	1981	0.294	582	789	0.3	0.4	2.595	A
2 - Site Access	352	88	245	2213	0.159	352	355	0.1	0.2	1.934	A
3 - Elettra Av (west)	99	25	576	1592	0.062	99	22	0.1	0.1	2.434	A
4 - Waterberry Drive	368	92	440	1595	0.231	367	234	0.2	0.3	2.960	A

17:45 - 18:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	582	146	19	1981	0.294	582	789	0.4	0.4	2.595	A
2 - Site Access	352	88	246	2212	0.159	352	356	0.2	0.2	1.935	A
3 - Elettra Av (west)	99	25	576	1591	0.062	99	22	0.1	0.1	2.434	A
4 - Waterberry Drive	368	92	440	1595	0.231	368	235	0.3	0.3	2.961	A

18:00 - 18:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	476	119	15	1984	0.240	476	645	0.4	0.3	2.408	A
2 - Site Access	288	72	201	2247	0.128	288	291	0.2	0.1	1.836	A
3 - Elettra Av (west)	81	20	470	1666	0.049	81	18	0.1	0.1	2.292	A
4 - Waterberry Drive	300	75	360	1651	0.182	301	192	0.3	0.2	2.690	A

18:15 - 18:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	398	100	13	1985	0.201	399	540	0.3	0.3	2.288	A
2 - Site Access	241	60	168	2273	0.106	241	243	0.1	0.1	1.771	A
3 - Elettra Av (west)	68	17	394	1720	0.039	68	15	0.1	0.0	2.200	A
4 - Waterberry Drive	251	63	301	1692	0.149	252	160	0.2	0.2	2.524	A

(Default Analysis Set) - 2023 Base , Sat

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Elettra Av (east) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	2.19	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
D9	2023 Base	Sat	ONE HOUR	12:30	14:00	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Elettra Av (east)		ONE HOUR	✓	341	100.000
2 - Site Access		ONE HOUR	✓	182	100.000
3 - Elettra Av (west)		ONE HOUR	✓	62	100.000
4 - Waterberry Drive		ONE HOUR	✓	213	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	9	194	20	118
	2 - Site Access	179	0	1	2
	3 - Elettra Av (west)	49	8	0	5
	4 - Waterberry Drive	204	6	3	0

Vehicle Mix

HV %s

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	0	0	7	2
	2 - Site Access	0	0	0	0
	3 - Elettra Av (west)	1	0	0	0
	4 - Waterberry Drive	1	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Elettra Av (east)	0.19	2.26	0.2	A	313	469
2 - Site Access	0.09	1.73	0.1	A	167	251
3 - Elettra Av (west)	0.04	2.14	0.0	A	57	85
4 - Waterberry Drive	0.14	2.46	0.2	A	195	293

Main Results for each time segment

12:30 - 12:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	257	64	13	1986	0.129	256	331	0.0	0.1	2.104	A
2 - Site Access	137	34	113	2315	0.059	137	156	0.0	0.1	1.651	A
3 - Elettra Av (west)	47	12	231	1836	0.025	47	18	0.0	0.0	2.027	A
4 - Waterberry Drive	160	40	184	1774	0.090	160	94	0.0	0.1	2.251	A

12:45 - 13:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	307	77	15	1984	0.155	306	396	0.1	0.2	2.169	A
2 - Site Access	164	41	135	2298	0.071	164	187	0.1	0.1	1.685	A
3 - Elettra Av (west)	56	14	277	1803	0.031	56	22	0.0	0.0	2.075	A
4 - Waterberry Drive	191	48	220	1749	0.109	191	112	0.1	0.1	2.333	A

13:00 - 13:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	375	94	19	1981	0.189	375	485	0.2	0.2	2.265	A
2 - Site Access	200	50	165	2275	0.088	200	229	0.1	0.1	1.734	A
3 - Elettra Av (west)	68	17	339	1759	0.039	68	26	0.0	0.0	2.145	A
4 - Waterberry Drive	235	59	270	1714	0.137	234	138	0.1	0.2	2.455	A

13:15 - 13:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	375	94	19	1981	0.189	375	486	0.2	0.2	2.265	A
2 - Site Access	200	50	165	2275	0.088	200	229	0.1	0.1	1.734	A
3 - Elettra Av (west)	68	17	339	1759	0.039	68	26	0.0	0.0	2.145	A
4 - Waterberry Drive	235	59	270	1714	0.137	235	138	0.2	0.2	2.455	A

13:30 - 13:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	307	77	15	1984	0.155	307	397	0.2	0.2	2.169	A
2 - Site Access	164	41	135	2298	0.071	164	187	0.1	0.1	1.688	A
3 - Elettra Av (west)	56	14	277	1803	0.031	56	22	0.0	0.0	2.077	A
4 - Waterberry Drive	191	48	220	1749	0.110	192	112	0.2	0.1	2.335	A

13:45 - 14:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	257	64	13	1985	0.129	257	332	0.2	0.2	2.106	A
2 - Site Access	137	34	113	2315	0.059	137	157	0.1	0.1	1.652	A
3 - Elettra Av (west)	47	12	232	1835	0.025	47	18	0.0	0.0	2.030	A
4 - Waterberry Drive	160	40	185	1774	0.090	160	94	0.1	0.1	2.254	A

(Default Analysis Set) - 2023 Base + Dev, Sat

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Elettra Av (east) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	2.44	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
D10	2023 Base + Dev	Sat	ONE HOUR	12:30	14:00	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Elettra Av (east)		ONE HOUR	✓	561	100.000
2 - Site Access		ONE HOUR	✓	396	100.000
3 - Elettra Av (west)		ONE HOUR	✓	62	100.000
4 - Waterberry Drive		ONE HOUR	✓	213	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	9	414	20	118
	2 - Site Access	393	0	1	2
	3 - Elettra Av (west)	49	8	0	5
	4 - Waterberry Drive	204	6	3	0

Vehicle Mix

HV %s

	To				
From		1 - Elettra Av (east)	2 - Site Access	3 - Elettra Av (west)	4 - Waterberry Drive
	1 - Elettra Av (east)	0	0	7	2
	2 - Site Access	0	0	0	0
	3 - Elettra Av (west)	1	0	0	0
	4 - Waterberry Drive	1	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Elettra Av (east)	0.31	2.66	0.5	A	515	772
2 - Site Access	0.19	1.96	0.2	A	363	545
3 - Elettra Av (west)	0.04	2.38	0.0	A	57	85
4 - Waterberry Drive	0.15	2.76	0.2	A	195	293

Main Results for each time segment

12:30 - 12:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	422	106	13	1986	0.213	421	492	0.0	0.3	2.315	A
2 - Site Access	298	75	113	2315	0.129	298	321	0.0	0.1	1.783	A
3 - Elettra Av (west)	47	12	392	1722	0.027	47	18	0.0	0.0	2.165	A
4 - Waterberry Drive	160	40	345	1662	0.097	160	94	0.0	0.1	2.420	A

12:45 - 13:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	504	126	15	1984	0.254	504	589	0.3	0.3	2.448	A
2 - Site Access	356	89	135	2298	0.155	356	385	0.1	0.2	1.852	A
3 - Elettra Av (west)	56	14	469	1667	0.033	56	22	0.0	0.0	2.251	A
4 - Waterberry Drive	191	48	412	1614	0.119	191	112	0.1	0.1	2.553	A

13:00 - 13:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	618	154	19	1981	0.312	617	721	0.3	0.5	2.656	A
2 - Site Access	436	109	165	2275	0.192	436	471	0.2	0.2	1.957	A
3 - Elettra Av (west)	68	17	574	1592	0.043	68	26	0.0	0.0	2.380	A
4 - Waterberry Drive	235	59	505	1550	0.151	234	138	0.1	0.2	2.763	A

13:15 - 13:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	618	154	19	1981	0.312	618	721	0.5	0.5	2.656	A
2 - Site Access	436	109	165	2275	0.192	436	471	0.2	0.2	1.957	A
3 - Elettra Av (west)	68	17	575	1592	0.043	68	26	0.0	0.0	2.380	A
4 - Waterberry Drive	235	59	505	1549	0.151	235	138	0.2	0.2	2.763	A

13:30 - 13:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	504	126	15	1984	0.254	505	589	0.5	0.3	2.450	A
2 - Site Access	356	89	135	2298	0.155	356	385	0.2	0.2	1.856	A
3 - Elettra Av (west)	56	14	470	1667	0.033	56	22	0.0	0.0	2.252	A
4 - Waterberry Drive	191	48	413	1614	0.119	192	112	0.2	0.1	2.554	A

13:45 - 14:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Elettra Av (east)	422	106	13	1985	0.213	423	493	0.3	0.3	2.320	A
2 - Site Access	298	75	113	2315	0.129	298	322	0.2	0.1	1.786	A
3 - Elettra Av (west)	47	12	393	1721	0.027	47	18	0.0	0.0	2.166	A
4 - Waterberry Drive	160	40	346	1661	0.097	160	94	0.1	0.1	2.421	A

Junctions 9							
ARCADY 9 - Roundabout Module							
Version: 9.0.2.5947							
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Filename: Hambledon Road_Milton Road_Elettra Av_AM Peak_RevB.j9

Path: P:\19000's\19235\Technical\Junction Modelling 2018

Report generation date: 31/01/2019 10:40:36

»(Default Analysis Set) - 2023 Base, AM

»(Default Analysis Set) - 2023 Base + Dev, AM

Summary of junction performance

	AM			
	Q (PCU)	Delay (s)	RFC	LOS
A1 - 2023 Base				
1 - Milton road	4.2	21.85	0.81	C
2 - Hambledon Road (south)	0.8	2.23	0.45	A
3 - Elettra Avenue	0.4	3.84	0.31	A
4 - Hambledon Road (north)	1.6	5.82	0.61	A
A1 - 2023 Base + Dev				
1 - Milton road	9.1	45.90	0.91	E
2 - Hambledon Road (south)	0.9	2.42	0.48	A
3 - Elettra Avenue	0.6	4.25	0.38	A
4 - Hambledon Road (north)	1.8	6.56	0.64	A

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	07/05/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	17144
Enumerator	DTA\arcady
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Q Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2023 Base	AM	FLAT	08:00	09:00	60	15	✓
D3	2023 Base + Dev	AM	FLAT	08:00	09:00	60	15	✓

Analysis Set Details

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

(Default Analysis Set) - 2023 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	7.55	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Milton road	
2	Hambledon Road (south)	
3	Elettra Avenue	
4	Hambledon Road (north)	

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Exit only
1 - Milton road	3.40	4.20	24.9	21.0	54.0	22.5	
2 - Hambledon Road (south)	7.20	8.20	55.8	54.6	54.0	25.0	
3 - Elettra Avenue	3.30	7.70	127.6	6.0	54.0	22.0	
4 - Hambledon Road (north)	3.60	7.70	127.6	6.0	54.0	22.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.521	1285
2 - Hambledon Road (south)	0.766	2587
3 - Elettra Avenue	0.622	2011
4 - Hambledon Road (north)	0.625	2026

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

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
1 - Milton road	Percentage		135.00
2 - Hambledon Road (south)	Percentage		125.00

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	2023 Base	AM	FLAT	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	711	100.000
2 - Hambledon Road (south)		FLAT	✓	1304	100.000
3 - Elettra Avenue		FLAT	✓	419	100.000
4 - Hambledon Road (north)		FLAT	✓	969	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	528	117	66
	2 - Hambledon Road (south)	338	20	350	596
	3 - Elettra Avenue	85	258	0	76
	4 - Hambledon Road (north)	24	800	115	30

Vehicle Mix

HV %s

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.81	21.85	4.2	C	711	711
2 - Hambledon Road (south)	0.45	2.23	0.8	A	1304	1304
3 - Elettra Avenue	0.31	3.84	0.4	A	419	419
4 - Hambledon Road (north)	0.61	5.82	1.6	A	969	969

Main Results for each time segment

08:00 - 08:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	711	178	1216	880	0.808	696	446	0.0	3.8	18.331	C
2 - Hambledon Road (south)	1304	326	323	2925	0.446	1301	1589	0.0	0.8	2.211	A
3 - Elettra Avenue	419	105	1046	1359	0.308	417	578	0.0	0.4	3.814	A
4 - Hambledon Road (north)	969	242	699	1589	0.610	963	765	0.0	1.5	5.694	A

08:15 - 08:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	711	178	1223	875	0.813	710	447	3.8	4.1	21.536	C
2 - Hambledon Road (south)	1304	326	328	2921	0.446	1304	1605	0.8	0.8	2.226	A
3 - Elettra Avenue	419	105	1050	1357	0.309	419	582	0.4	0.4	3.836	A
4 - Hambledon Road (north)	969	242	701	1588	0.610	969	768	1.5	1.6	5.819	A

08:30 - 08:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	711	178	1223	875	0.813	711	447	4.1	4.2	21.773	C
2 - Hambledon Road (south)	1304	326	328	2921	0.447	1304	1606	0.8	0.8	2.226	A
3 - Elettra Avenue	419	105	1050	1357	0.309	419	582	0.4	0.4	3.836	A
4 - Hambledon Road (north)	969	242	701	1588	0.610	969	768	1.6	1.6	5.819	A

08:45 - 09:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	711	178	1223	875	0.813	711	447	4.2	4.2	21.852	C
2 - Hambledon Road (south)	1304	326	328	2920	0.447	1304	1606	0.8	0.8	2.226	A
3 - Elettra Avenue	419	105	1050	1357	0.309	419	582	0.4	0.4	3.836	A
4 - Hambledon Road (north)	969	242	701	1588	0.610	969	768	1.6	1.6	5.819	A

(Default Analysis Set) - 2023 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	12.83	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 period length (min)	Time segment length (min)	Run automatically
D3	2023 Base + Dev	AM	FLAT	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	753	100.000
2 - Hambledon Road (south)		FLAT	✓	1373	100.000
3 - Elettra Avenue		FLAT	✓	510	100.000
4 - Hambledon Road (north)		FLAT	✓	992	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	528	159	66
	2 - Hambledon Road (south)	338	20	419	596
	3 - Elettra Avenue	113	305	0	92
	4 - Hambledon Road (north)	24	800	138	30

Vehicle Mix

HV %s

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.91	45.90	9.1	E	753	753
2 - Hambledon Road (south)	0.48	2.42	0.9	A	1373	1373
3 - Elettra Avenue	0.38	4.25	0.6	A	510	510
4 - Hambledon Road (north)	0.64	6.56	1.8	A	992	992

Main Results for each time segment

08:00 - 08:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	753	188	1285	831	0.906	726	473	0.0	6.9	29.067	D
2 - Hambledon Road (south)	1373	343	384	2867	0.479	1369	1627	0.0	0.9	2.397	A
3 - Elettra Avenue	510	128	1045	1360	0.375	508	708	0.0	0.6	4.210	A
4 - Hambledon Road (north)	992	248	773	1542	0.643	985	779	0.0	1.8	6.381	A

08:15 - 08:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	753	188	1293	825	0.912	748	475	6.9	8.2	41.816	E
2 - Hambledon Road (south)	1373	343	391	2860	0.480	1373	1649	0.9	0.9	2.421	A
3 - Elettra Avenue	510	128	1050	1357	0.376	510	715	0.6	0.6	4.248	A
4 - Hambledon Road (north)	992	248	776	1541	0.644	992	784	1.8	1.8	6.558	A

08:30 - 08:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	753	188	1293	825	0.912	751	475	8.2	8.8	44.585	E
2 - Hambledon Road (south)	1373	343	392	2859	0.480	1373	1651	0.9	0.9	2.422	A
3 - Elettra Avenue	510	128	1050	1357	0.376	510	715	0.6	0.6	4.249	A
4 - Hambledon Road (north)	992	248	776	1541	0.644	992	784	1.8	1.8	6.561	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	753	188	1293	825	0.912	752	475	8.8	9.1	45.898	E
2 - Hambledon Road (south)	1373	343	393	2859	0.480	1373	1652	0.9	0.9	2.422	A
3 - Elettra Avenue	510	128	1050	1357	0.376	510	716	0.6	0.6	4.249	A
4 - Hambledon Road (north)	992	248	776	1541	0.644	992	784	1.8	1.8	6.561	A

Junctions 9			
ARCADY 9 - Roundabout Module			
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Filename: Hambledon Road_Milton Road_Elettra Av_PM Peak_RevB.j9

Path: P:\19000's\19235\Technical\Junction Modelling 2018

Report generation date: 01/02/2019 11:35:04

- »(Default Analysis Set) - 2023 Base, PM
- »(Default Analysis Set) - 2023 Base, Sat
- »(Default Analysis Set) - 2023 Base + Dev, PM
- »(Default Analysis Set) - 2023 Base + Dev, Sat

Summary of junction performance

	PM				Sat			
	Q (PCU)	Delay (s)	RFC	LOS	Q (PCU)	Delay (s)	RFC	LOS
A1 - 2023 Base								
1 - Milton road	1.1	7.93	0.53	A	1.9	10.25	0.65	B
2 - Hambledon Road (south)	3.1	6.19	0.76	A	1.8	4.22	0.64	A
3 - Elettra Avenue	6.3	36.12	0.87	E	0.9	7.59	0.47	A
4 - Hambledon Road (north)	4.7	26.30	0.83	D	3.1	14.74	0.76	B
A1 - 2023 Base + Dev								
1 - Milton road	1.6	10.14	0.61	B	3.9	19.81	0.80	C
2 - Hambledon Road (south)	4.2	8.13	0.81	A	2.5	5.58	0.71	A
3 - Elettra Avenue	67.1	296.71	1.08	F	2.4	13.65	0.71	B
4 - Hambledon Road (north)	8.2	45.49	0.90	E	5.9	27.40	0.86	D

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 Av. delay per arriving vehicle.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	07/05/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	17144
Enumerator	DTA\arcady
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Q Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2023 Base	PM	FLAT	17:00	18:00	60	15	✓
D4	2023 Base	Sat	FLAT	11:30	12:30	60	15	✓
D6	2023 Base + Dev	PM	FLAT	17:00	18:00	60	15	✓
D8	2023 Base + Dev	Sat	FLAT	11:30	12:30	60	15	✓

Analysis Set Details

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

(Default Analysis Set) - 2023 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	15.41	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Milton road	
2	Hambledon Road (south)	
3	Elettra Avenue	
4	Hambledon Road (north)	

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Exit only
1 - Milton road	3.40	4.20	24.9	21.0	54.0	22.5	
2 - Hambledon Road (south)	7.20	8.20	55.8	54.6	54.0	25.0	
3 - Elettra Avenue	3.30	7.70	127.6	6.0	54.0	22.0	
4 - Hambledon Road (north)	3.60	7.70	127.6	6.0	54.0	22.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Milton road	None		
2 - Hambledon Road (south)	Direct		-416
3 - Elettra Avenue	None		
4 - Hambledon Road (north)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.521	1285
2 - Hambledon Road (south)	0.766	2171
3 - Elettra Avenue	0.622	2011
4 - Hambledon Road (north)	0.625	2026

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

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
1 - Milton road	Percentage		135.00
2 - Hambledon Road (south)	Percentage		120.00
3 - Elettra Avenue	Percentage		80.00
4 - Hambledon Road (north)	Percentage		70.00

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	2023 Base	PM	FLAT	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	519	100.000
2 - Hambledon Road (south)		FLAT	✓	1827	100.000
3 - Elettra Avenue		FLAT	✓	655	100.000
4 - Hambledon Road (north)		FLAT	✓	659	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	374	102	43
	2 - Hambledon Road (south)	788	145	163	731
	3 - Elettra Avenue	184	309	0	162
	4 - Hambledon Road (north)	29	560	56	14

Vehicle Mix

HV %s

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.53	7.93	1.1	A	519	519
2 - Hambledon Road (south)	0.76	6.19	3.1	A	1827	1827
3 - Elettra Avenue	0.87	36.12	6.3	E	655	655
4 - Hambledon Road (north)	0.83	26.30	4.7	D	659	659

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	519	130	1058	991	0.524	515	989	0.0	1.1	7.496	A
2 - Hambledon Road (south)	1827	457	212	2411	0.758	1815	1361	0.0	3.0	5.923	A
3 - Elettra Avenue	655	164	1709	757	0.865	634	318	0.0	5.2	26.054	D
4 - Hambledon Road (north)	659	165	1404	803	0.820	643	939	0.0	4.0	20.748	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	519	130	1081	974	0.533	519	1000	1.1	1.1	7.895	A
2 - Hambledon Road (south)	1827	457	215	2408	0.759	1827	1385	3.0	3.1	6.183	A
3 - Elettra Avenue	655	164	1721	752	0.872	652	321	5.2	5.9	34.379	D
4 - Hambledon Road (north)	659	165	1424	795	0.829	657	949	4.0	4.4	25.537	D

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	519	130	1083	973	0.533	519	1001	1.1	1.1	7.925	A
2 - Hambledon Road (south)	1827	457	215	2408	0.759	1827	1387	3.1	3.1	6.189	A
3 - Elettra Avenue	655	164	1721	751	0.872	654	321	5.9	6.1	35.617	E
4 - Hambledon Road (north)	659	165	1425	794	0.830	658	950	4.4	4.6	26.102	D

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	519	130	1083	973	0.534	519	1001	1.1	1.1	7.933	A
2 - Hambledon Road (south)	1827	457	215	2408	0.759	1827	1387	3.1	3.1	6.190	A
3 - Elettra Avenue	655	164	1721	751	0.872	654	321	6.1	6.3	36.118	E
4 - Hambledon Road (north)	659	165	1426	794	0.830	659	950	4.6	4.7	26.296	D

(Default Analysis Set) - 2023 Base, Sat

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	8.24	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 period length (min)	Time segment length (min)	Run automatically
D4	2023 Base	Sat	FLAT	11:30	12:30	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	665	100.000
2 - Hambledon Road (south)		FLAT	✓	1505	100.000
3 - Elettra Avenue		FLAT	✓	423	100.000
4 - Hambledon Road (north)		FLAT	✓	769	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	4	470	85	106
	2 - Hambledon Road (south)	529	40	203	733
	3 - Elettra Avenue	109	244	0	70
	4 - Hambledon Road (north)	31	663	59	16

Vehicle Mix

HV %s

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.65	10.25	1.9	B	665	665
2 - Hambledon Road (south)	0.64	4.22	1.8	A	1505	1505
3 - Elettra Avenue	0.47	7.59	0.9	A	423	423
4 - Hambledon Road (north)	0.76	14.74	3.1	B	769	769

Main Results for each time segment

11:30 - 11:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	665	166	1009	1025	0.648	658	669	0.0	1.8	9.615	A
2 - Hambledon Road (south)	1505	376	267	2361	0.638	1498	1400	0.0	1.7	4.141	A
3 - Elettra Avenue	423	106	1421	901	0.469	420	344	0.0	0.9	7.423	A
4 - Hambledon Road (north)	769	192	920	1015	0.757	757	920	0.0	2.9	13.409	B

11:45 - 12:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	665	166	1022	1016	0.654	665	673	1.8	1.9	10.224	B
2 - Hambledon Road (south)	1505	376	270	2358	0.638	1505	1416	1.7	1.8	4.221	A
3 - Elettra Avenue	423	106	1428	897	0.471	423	347	0.9	0.9	7.587	A
4 - Hambledon Road (north)	769	192	926	1013	0.759	769	925	2.9	3.0	14.672	B

12:00 - 12:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	665	166	1022	1016	0.654	665	673	1.9	1.9	10.244	B
2 - Hambledon Road (south)	1505	376	270	2358	0.638	1505	1417	1.8	1.8	4.221	A
3 - Elettra Avenue	423	106	1428	897	0.471	423	347	0.9	0.9	7.587	A
4 - Hambledon Road (north)	769	192	926	1013	0.759	769	925	3.0	3.1	14.697	B

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	665	166	1022	1016	0.654	665	673	1.9	1.9	10.249	B
2 - Hambledon Road (south)	1505	376	270	2358	0.638	1505	1417	1.8	1.8	4.221	A
3 - Elettra Avenue	423	106	1428	897	0.471	423	347	0.9	0.9	7.588	A
4 - Hambledon Road (north)	769	192	926	1013	0.759	769	925	3.1	3.1	14.737	B

(Default Analysis Set) - 2023 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	73.85	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 period length (min)	Time segment length (min)	Run automatically
D6	2023 Base + Dev	PM	FLAT	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	566	100.000
2 - Hambledon Road (south)		FLAT	✓	1899	100.000
3 - Elettra Avenue		FLAT	✓	809	100.000
4 - Hambledon Road (north)		FLAT	✓	685	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	374	149	43
	2 - Hambledon Road (south)	788	145	235	731
	3 - Elettra Avenue	234	386	0	189
	4 - Hambledon Road (north)	29	560	82	14

Vehicle Mix

HV %s

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.61	10.14	1.6	B	566	566
2 - Hambledon Road (south)	0.81	8.13	4.2	A	1899	1899
3 - Elettra Avenue	1.08	296.71	67.1	F	809	809
4 - Hambledon Road (north)	0.90	45.49	8.2	E	685	685

Main Results for each time segment

17:00 - 17:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1122	945	0.599	560	1019	0.0	1.5	9.214	A
2 - Hambledon Road (south)	1899	475	283	2346	0.809	1883	1400	0.0	4.1	7.526	A
3 - Elettra Avenue	809	202	1706	759	1.066	725	460	0.0	21.1	66.535	F
4 - Hambledon Road (north)	685	171	1480	770	0.889	661	950	0.0	6.0	28.564	D

17:15 - 17:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1152	925	0.612	566	1032	1.5	1.5	10.010	B
2 - Hambledon Road (south)	1899	475	287	2342	0.811	1899	1430	4.1	4.2	8.099	A
3 - Elettra Avenue	809	202	1720	752	1.076	745	465	21.1	37.0	154.057	F
4 - Hambledon Road (north)	685	171	1504	760	0.901	680	962	6.0	7.3	41.015	E

17:30 - 17:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1156	922	0.614	566	1033	1.5	1.6	10.108	B
2 - Hambledon Road (south)	1899	475	288	2341	0.811	1899	1434	4.2	4.2	8.121	A
3 - Elettra Avenue	809	202	1721	752	1.076	748	466	37.0	52.2	226.186	F
4 - Hambledon Road (north)	685	171	1506	759	0.903	683	963	7.3	7.9	44.046	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1157	921	0.615	566	1034	1.6	1.6	10.141	B
2 - Hambledon Road (south)	1899	475	288	2341	0.811	1899	1435	4.2	4.2	8.128	A
3 - Elettra Avenue	809	202	1721	752	1.077	749	466	52.2	67.1	296.714	F
4 - Hambledon Road (north)	685	171	1507	758	0.903	684	963	7.9	8.2	45.486	E

(Default Analysis Set) - 2023 Base + Dev, Sat

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - Elettra Avenue - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	14.34	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 period length (min)	Time segment length (min)	Run automatically
D8	2023 Base + Dev	Sat	FLAT	11:30	12:30	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	733	100.000
2 - Hambledon Road (south)		FLAT	✓	1613	100.000
3 - Elettra Avenue		FLAT	✓	636	100.000
4 - Hambledon Road (north)		FLAT	✓	809	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	470	157	106
	2 - Hambledon Road (south)	529	40	311	733
	3 - Elettra Avenue	178	350	0	108
	4 - Hambledon Road (north)	31	663	99	16

Vehicle Mix

HV %s

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.80	19.81	3.9	C	733	733
2 - Hambledon Road (south)	0.71	5.58	2.5	A	1613	1613
3 - Elettra Avenue	0.71	13.65	2.4	B	636	636
4 - Hambledon Road (north)	0.86	27.40	5.9	D	809	809

Main Results for each time segment

11:30 - 11:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1143	931	0.788	719	732	0.0	3.4	16.133	C
2 - Hambledon Road (south)	1613	403	370	2266	0.712	1603	1492	0.0	2.4	5.360	A
3 - Elettra Avenue	636	159	1414	904	0.703	627	560	0.0	2.3	12.598	B
4 - Hambledon Road (north)	809	202	1086	943	0.858	789	955	0.0	5.1	21.168	C

11:45 - 12:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1166	915	0.801	732	738	3.4	3.8	19.362	C
2 - Hambledon Road (south)	1613	403	377	2259	0.714	1613	1520	2.4	2.5	5.565	A
3 - Elettra Avenue	636	159	1424	900	0.707	636	566	2.3	2.3	13.602	B
4 - Hambledon Road (north)	809	202	1097	938	0.862	807	963	5.1	5.6	26.560	D

12:00 - 12:15

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1167	914	0.802	733	738	3.8	3.9	19.707	C
2 - Hambledon Road (south)	1613	403	378	2259	0.714	1613	1522	2.5	2.5	5.572	A
3 - Elettra Avenue	636	159	1424	899	0.707	636	567	2.3	2.4	13.641	B
4 - Hambledon Road (north)	809	202	1097	938	0.862	808	963	5.6	5.8	27.168	D

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1168	914	0.802	733	738	3.9	3.9	19.809	C
2 - Hambledon Road (south)	1613	403	378	2259	0.714	1613	1523	2.5	2.5	5.575	A
3 - Elettra Avenue	636	159	1424	899	0.707	636	567	2.4	2.4	13.651	B
4 - Hambledon Road (north)	809	202	1097	938	0.863	809	963	5.8	5.9	27.399	D

Junctions 9							
ARCADY 9 - Roundabout Module							
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Filename: Hambledon Road_Milton Road_Elettra Av_PM Peak_Mitigation2.j9

Path: P:\19000's\19235\Technical\Junction Modelling 2018

Report generation date: 01/02/2019 11:36:06

»(Default Analysis Set) - 2023 Base + Dev, PM

»(Default Analysis Set) - 2023 Base + Dev, Sat

Summary of junction performance

	PM				Sat			
	Q (PCU)	Delay (s)	RFC	LOS	Q (PCU)	Delay (s)	RFC	LOS
A1 - 2023 Base + Dev								
1 - Milton road	1.7	10.72	0.63	B	3.9	19.81	0.80	C
2 - Hambledon Road (south)	4.2	8.13	0.81	A	2.5	5.58	0.71	A
3 - Elettra Avenue	4.8	22.07	0.83	C	1.2	7.08	0.56	A
4 - Hambledon Road (north)	10.4	58.18	0.93	F	5.9	27.41	0.86	D

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 Av. delay per arriving vehicle.

File summary

File Description

Title	Hambledon Road/ Milton Road/ Elettra Avenue
Location	Waterlooville
Site number	
Date	07/05/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	17144
Enumerator	DTA\arcady
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Q Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2023 Base + Dev	PM	FLAT	17:00	18:00	60	15	✓
D8	2023 Base + Dev	Sat	FLAT	11:30	12:30	60	15	✓

Analysis Set Details

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

(Default Analysis Set) - 2023 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	20.01	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Milton road	
2	Hambledon Road (south)	
3	Elettra Avenue	
4	Hambledon Road (north)	

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Exit only
1 - Milton road	3.40	4.20	24.9	21.0	54.0	22.5	
2 - Hambledon Road (south)	7.20	8.20	55.8	54.6	54.0	25.0	
3 - Elettra Avenue	6.00	10.50	13.2	31.5	54.0	35.0	
4 - Hambledon Road (north)	3.60	7.70	127.6	6.0	54.0	22.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Milton road	None		
2 - Hambledon Road (south)	Direct		-416
3 - Elettra Avenue	None		
4 - Hambledon Road (north)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Milton road	0.521	1285
2 - Hambledon Road (south)	0.766	2171
3 - Elettra Avenue	0.731	2471
4 - Hambledon Road (north)	0.625	2026

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

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
1 - Milton road	Percentage		135.00
2 - Hambledon Road (south)	Percentage		120.00
3 - Elettra Avenue	Percentage		80.00
4 - Hambledon Road (north)	Percentage		70.00

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	2023 Base + Dev	PM	FLAT	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	566	100.000
2 - Hambledon Road (south)		FLAT	✓	1899	100.000
3 - Elettra Avenue		FLAT	✓	809	100.000
4 - Hambledon Road (north)		FLAT	✓	685	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	374	149	43
	2 - Hambledon Road (south)	788	145	235	731
	3 - Elettra Avenue	234	386	0	189
	4 - Hambledon Road (north)	29	560	82	14

Vehicle Mix

HV %s

	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
From	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.63	10.72	1.7	B	566	566
2 - Hambledon Road (south)	0.81	8.13	4.2	A	1899	1899
3 - Elettra Avenue	0.83	22.07	4.8	C	809	809
4 - Hambledon Road (north)	0.93	58.18	10.4	F	685	685

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1150	926	0.611	560	1038	0.0	1.5	9.684	A
2 - Hambledon Road (south)	1899	475	282	2347	0.809	1883	1428	0.0	4.1	7.516	A
3 - Elettra Avenue	809	202	1706	979	0.826	792	459	0.0	4.2	17.877	C
4 - Hambledon Road (north)	685	171	1532	748	0.916	656	966	0.0	7.2	32.950	D

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1179	905	0.625	566	1050	1.5	1.6	10.579	B
2 - Hambledon Road (south)	1899	475	287	2342	0.811	1899	1458	4.1	4.2	8.092	A
3 - Elettra Avenue	809	202	1720	971	0.833	807	465	4.2	4.6	21.601	C
4 - Hambledon Road (north)	685	171	1552	739	0.927	678	976	7.2	9.0	50.464	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1183	902	0.627	566	1051	1.6	1.7	10.687	B
2 - Hambledon Road (south)	1899	475	287	2342	0.811	1899	1462	4.2	4.2	8.118	A
3 - Elettra Avenue	809	202	1721	971	0.833	808	466	4.6	4.8	21.950	C
4 - Hambledon Road (north)	685	171	1553	739	0.927	681	977	9.0	9.9	55.528	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	566	142	1185	901	0.628	566	1051	1.7	1.7	10.724	B
2 - Hambledon Road (south)	1899	475	288	2341	0.811	1899	1463	4.2	4.2	8.126	A
3 - Elettra Avenue	809	202	1721	971	0.834	809	466	4.8	4.8	22.065	C
4 - Hambledon Road (north)	685	171	1553	738	0.928	683	977	9.9	10.4	58.175	F

(Default Analysis Set) - 2023 Base + Dev, Sat

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Hambledon Road (south) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Hambledon Road (north) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	13.24	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 period length (min)	Time segment length (min)	Run automatically
D8	2023 Base + Dev	Sat	FLAT	11:30	12:30	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	Av. Demand (PCU/hr)	Scaling Factor (%)
1 - Milton road		FLAT	✓	733	100.000
2 - Hambledon Road (south)		FLAT	✓	1613	100.000
3 - Elettra Avenue		FLAT	✓	636	100.000
4 - Hambledon Road (north)		FLAT	✓	809	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
From		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	470	157	106
	2 - Hambledon Road (south)	529	40	311	733
	3 - Elettra Avenue	178	350	0	108
	4 - Hambledon Road (north)	31	663	99	16

Vehicle Mix

HV %s

From	To				
		1 - Milton road	2 - Hambledon Road (south)	3 - Elettra Avenue	4 - Hambledon Road (north)
	1 - Milton road	0	0	0	0
	2 - Hambledon Road (south)	0	0	0	0
	3 - Elettra Avenue	0	0	0	0
	4 - Hambledon Road (north)	0	0	0	0

Results

Results Summary for whole modelled period

Am	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Milton road	0.80	19.81	3.9	C	733	733
2 - Hambledon Road (south)	0.71	5.58	2.5	A	1613	1613
3 - Elettra Avenue	0.56	7.08	1.2	A	636	636
4 - Hambledon Road (north)	0.86	27.41	5.9	D	809	809

Main Results for each time segment

11:30 - 11:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1145	929	0.789	719	733	0.0	3.4	16.231	C
2 - Hambledon Road (south)	1613	403	370	2266	0.712	1603	1494	0.0	2.4	5.360	A
3 - Elettra Avenue	636	159	1414	1150	0.553	631	560	0.0	1.2	6.874	A
4 - Hambledon Road (north)	809	202	1090	941	0.860	788	955	0.0	5.2	21.326	C

11:45 - 12:00

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1166	915	0.801	732	738	3.4	3.8	19.392	C
2 - Hambledon Road (south)	1613	403	377	2259	0.714	1613	1520	2.4	2.5	5.566	A
3 - Elettra Avenue	636	159	1424	1144	0.556	636	566	1.2	1.2	7.076	A
4 - Hambledon Road (north)	809	202	1097	938	0.862	807	963	5.2	5.7	26.622	D

12:00 - 12:15

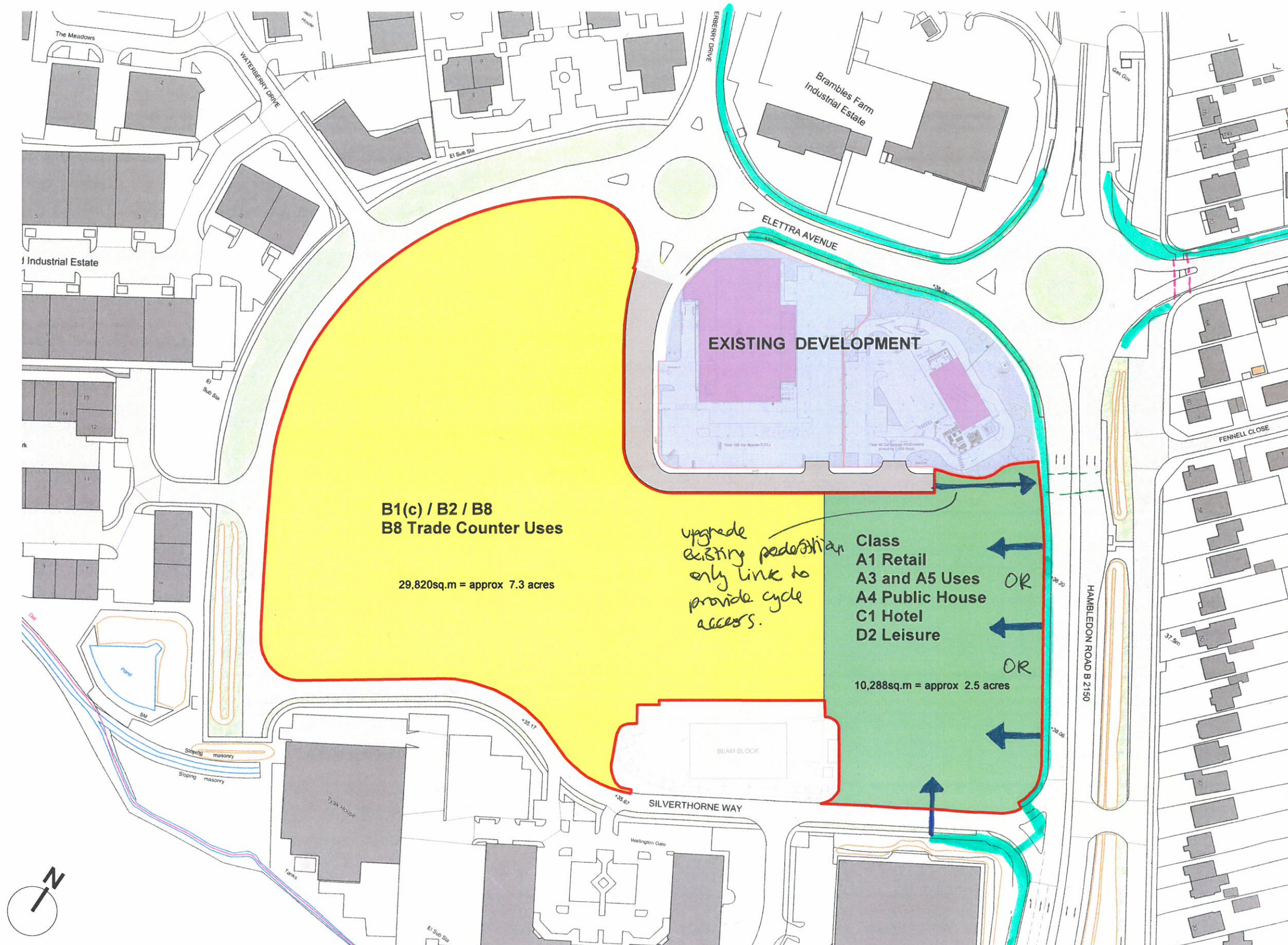
Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1167	914	0.802	733	738	3.8	3.9	19.717	C
2 - Hambledon Road (south)	1613	403	378	2259	0.714	1613	1522	2.5	2.5	5.572	A
3 - Elettra Avenue	636	159	1424	1144	0.556	636	567	1.2	1.2	7.081	A
4 - Hambledon Road (north)	809	202	1097	938	0.863	808	963	5.7	5.8	27.190	D

12:15 - 12:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Milton road	733	183	1168	914	0.802	733	738	3.9	3.9	19.814	C
2 - Hambledon Road (south)	1613	403	378	2259	0.714	1613	1523	2.5	2.5	5.575	A
3 - Elettra Avenue	636	159	1424	1144	0.556	636	567	1.2	1.2	7.082	A
4 - Hambledon Road (north)	809	202	1097	938	0.863	809	963	5.8	5.9	27.410	D



Appendix D



KEY

PROPOSED DEVELOPMENT SITE

B1(c) / B2 / B8
B8 Trade Counter Uses

Class
A1 Retail
A3 and A5 Uses
A4 Public House
C1 Hotel
D2 Leisure

Existing shared footway/cycleway

Potential cycle link to site.

Approximate location of new controlled crossing

Upgrade to cycleway crossing point

C 30-8-18 Use classes updated

B 15-8-18 Key updated

REV.	DATE	DESCRIPTION
1	15-8-18	Key updated

PROJECT
WATERLOO PARK
WATERLOOVILLE
HAMPSHIRE

DRAWING
SITE DEVELOPMENT PLAN
USE CLASSES

CLIENT

H Hargreaves

SCALE
NTS @ A3 1:750 @ A1

DATE August 2018

DRAWING No. 1618-SK35

REVISION C

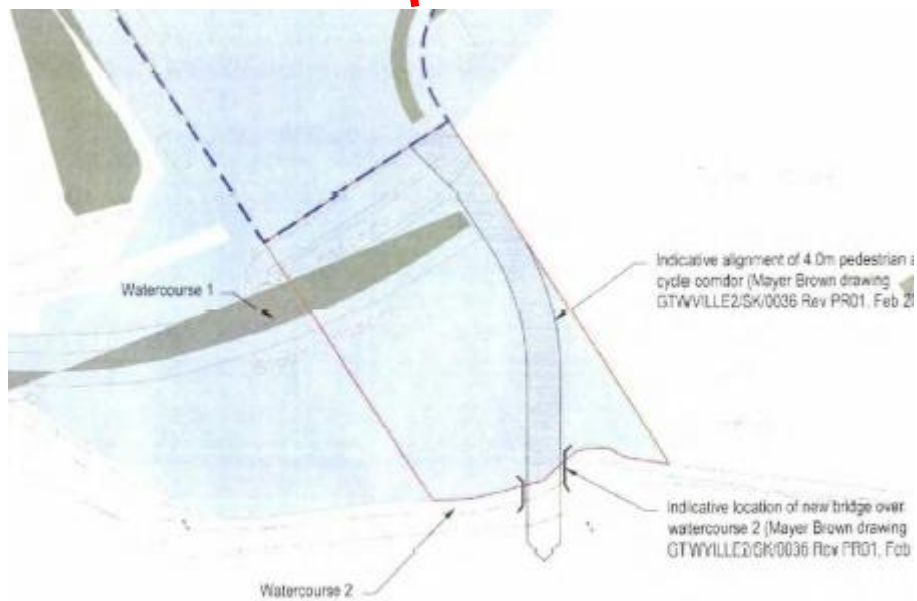
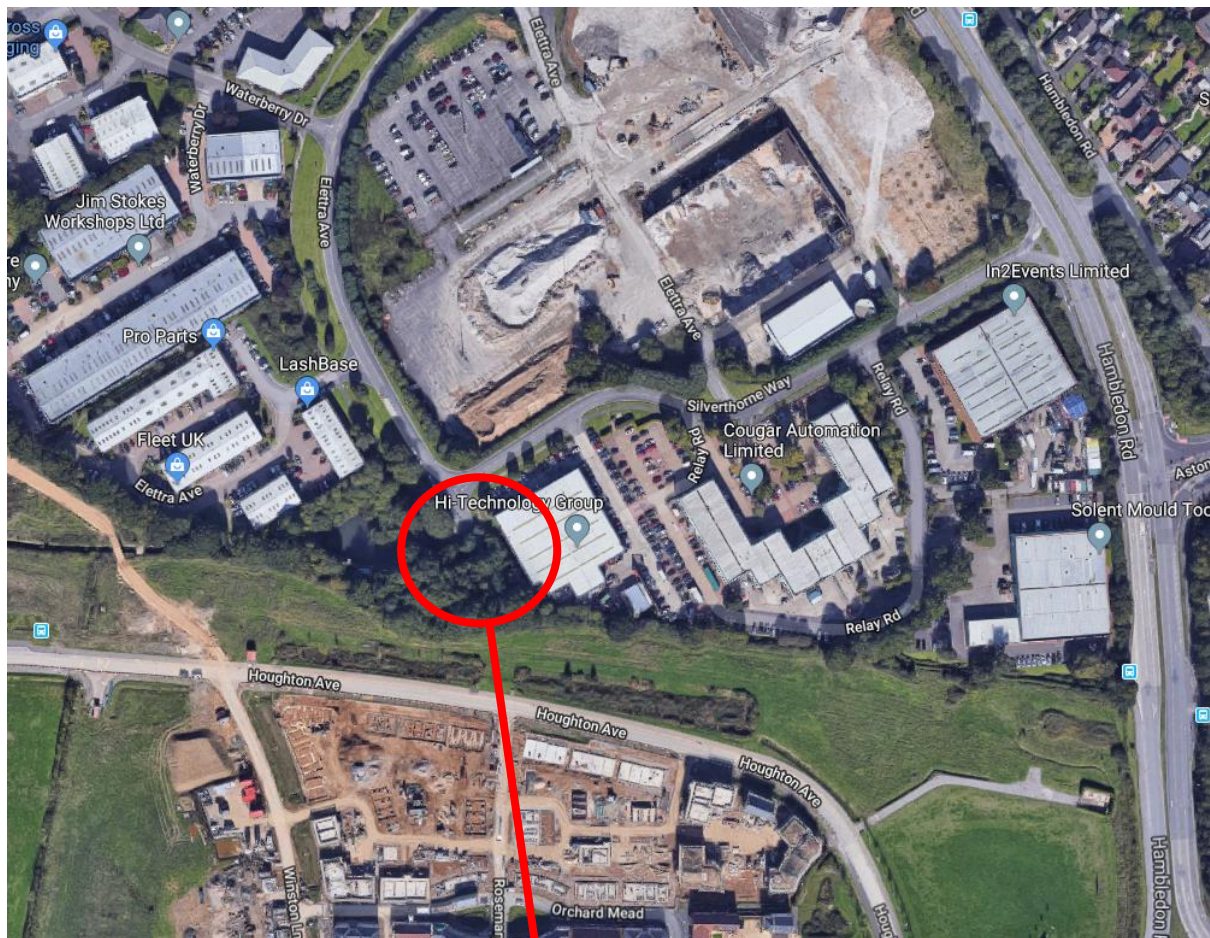
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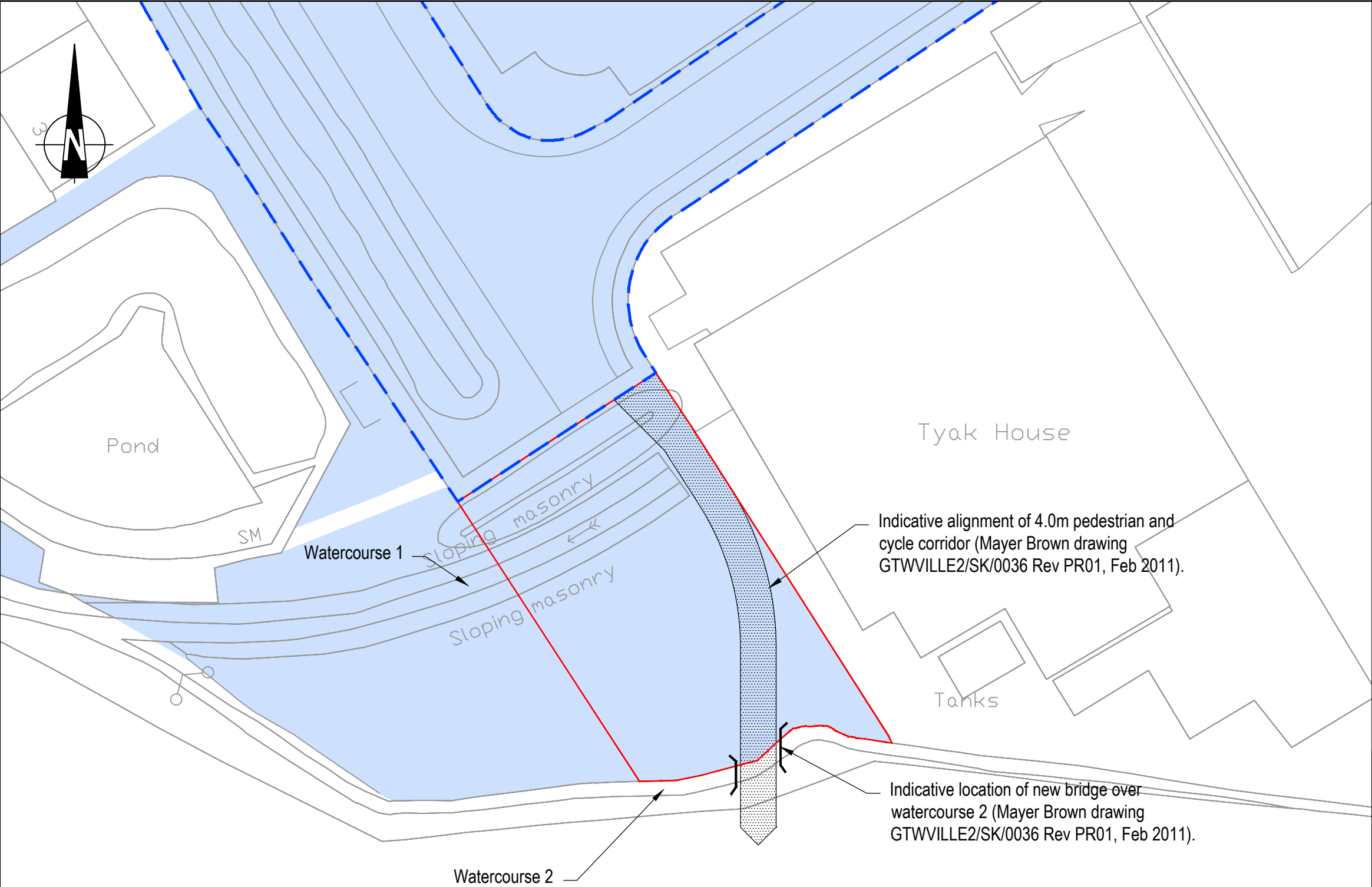
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Appendix E





- KEY:
- Land Title Plan Number HP220402 - BAE Systems Electronics Ltd
 - Area of BAE land to be transferred to HCC
 - Extent of publicly maintainable highway
- Notes:
- Title Plan information for Title Plan HP220402 provide by HGP Architects on 16th August 2012.
 - Title Plan information interpreted by Peter Brett Associates LLP onto Ordnance Survey.
 - Extent of publicly maintainable highway interpreted from plan received from Hampshire County Council dated 11th June 2012.

A	Amended in line with client team comments	PC	10/09/12	NC
Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status

BAE WATERLOOVILLE: LAND TRANSFER TO DELIVER LINK FROM MDA SITE TO BRAMBLES BUSINESS PARK

Client BAE Systems	
Date of 1st Issue 03.09.12	Drawn by PC
A3 Scale 1:500	Checked by NC
Drawing Number 26365/012/002	Revision A

pba
peterbrett

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